

*Yavapai  
College*

**Catalog  
2013-14**

**A**

Academic Advising 16  
Academic Appeal 37  
Academic Calendar 6, 7  
Academic Honors List 35  
Academic Integrity 30  
Academic Load 33  
Academic Probation 38  
Academic Progress 19, 38  
Academic Renewal 39  
Academic Suspension 38  
Academic Warning 38  
Accreditation 2  
Administration 84  
Admissions 1, 2, 8  
    Selective Admission 49  
Adult Basic Education (ABE) 24  
Advanced Placement (AP) 42  
Advising 16  
AGEC (Arizona General Education Curriculum) 55, 75, 76, 77  
Area Studies 51, 52  
Areas of Study Guide 46  
Arizona General Education Curriculum (AGEC) 55  
    AGEC-A 75  
    AGEC-B 76  
    AGEC-S 77  
    Special Awareness Requirements 56, 57, 58  
    Transfer Back Policy 55  
Articulation Agreements 40  
Arts and Humanities Area Studies Course List 53  
Assessment/Testing  
    Math & English Skills Assessment 15  
Assessment of Student Academic Achievement 33  
Attendance Policy 12  
Auditing a Course 35  
Aviation Technology Selective Admission 49

**B**

Behavioral Science Area Studies Course List 54  
Bookstore Purchases 25

**C**

Calendar 6, 7  
Campuses and Centers 2  
Career Services 17  
Certificates 82  
    Arizona General Education Curriculum (AGEC-A) 75  
    Arizona General Education Curriculum (AGEC-B) 76  
    Arizona General Education Curriculum (AGEC-S) 77  
    Requirements 47  
Cheating 30  
Class Delivery Methods 14  
Clubs and Organizations 24

Code of Conduct 30  
College Composition Requirement 51  
College Honors Program (CHP) 40  
College Level Examination Program (CLEP) 40, 43  
College Police 27  
Complaints, Non-Academic 31  
Continuous Enrollment 50  
Copyright Violation 30  
Core Studies 51  
Counseling Services 16  
Crime Reporting 27  
Critical Thinking Core Studies Course List 51  
Custom Training Solutions 45

**D**

Degrees  
    Multiple Degrees 48  
    Pathways 59  
    Requirements 47  
    Selective Admission 49  
Degree Programs  
    Associate of Applied Science 79  
        Requirements 80  
    Associate of Arts (AA) 60  
        Requirements 61  
    Associate of Arts in Elementary Education (AAEE) 62  
        Requirements 63  
    Associate of Arts in Fine Arts (AFA) 64  
        Requirements 65  
    Associate of Business (AB) 67  
        Requirements 68  
    Associate of General Studies (AGS) 69  
        Requirements 70  
    Associate of Science 71  
        Requirements 72  
Digital Filmmaking (DFM) Selective Admission 49  
Directory Information 30  
Disability Resources 22  
Discover Yavapai 8  
District Governing Board  
    Members 3  
Drug Free Environment Policy 32

**E**

Educational Talent Search 23  
Email Accounts, Student 13  
Emeriti Faculty 83  
Employment, Student 19  
English Requirement 51  
Equal Opportunity Statement 2  
ESOL (English for Speakers of Other Languages) 24  
Ethnic, Race & Gender (ERG) Special Awareness Course List 57

## **F**

FERPA [28, 30](#)  
Financial Aid [18](#)  
Food Services [26](#)  
Foundation [4](#)  
    Executive Committee [4](#)  
Foundation Studies [50, 51](#)  
Freeport-McMoRan Mining Selective Admission [49](#)

## **G**

GED (General Educational Development) Study Program [24](#)  
General Education  
    AGEC (Arizona General Education Curriculum) [55, 75, 76, 77](#)  
    AGEC Special Awareness Requirements [56, 57, 58](#)  
    Area Studies [52](#)  
    Arts and Humanities Course List [53](#)  
    Behavioral Science Course List [54](#)  
    Core Studies [51](#)  
    Critical Thinking Course List [51](#)  
    Foundation Studies [51](#)  
    GECCO (General Education Core Curriculum Outcomes) [58](#)  
    Historical Perspective Course List [51](#)  
    Physical and Biological Science Course List [52](#)  
    Social Science Course List [54](#)  
    Values Statement [50](#)  
General Education Core Curriculum Outcomes (GECCO) [58](#)  
General Educational Development (GED) Study Program [24](#)  
Global/International or Historical (GIH) Awareness Course List [58](#)  
Glossary of Terms [85](#)  
Grade Point Average (GPA) Calculation [34](#)  
Grades & Credits [34](#)  
    Appeal [37](#)  
    Auditing a Course [35](#)  
    Grade Changes [36](#)  
    Incomplete Grades [35](#)  
    Repeating a Course [35](#)  
    Satisfactory/Unsatisfactory Grading [34, 36](#)  
Graduation  
    Requirements [32, 47](#)  
    With Honors [48](#)  
Gunsmithing Selective Admission [49](#)

## **H**

Health Information Technology Selective Admission [49](#)  
Historical Perspective Core Studies Course List [51](#)  
Holds [13](#)  
Honors List [35](#)  
Honors Program (CHP) [40](#)  
Housing  
    Deposit [26](#)  
    Meal Plan [26](#)  
    Regulations [26](#)  
    Reservations [25](#)

## **I**

ID Cards [25](#)  
Incoming Transfer Students [11](#)  
Incomplete Grades [35](#)  
Intensive Writing/Critical Inquiry (IWR) Course List [56](#)  
International Baccalaureate (IB) Diploma Programme [44](#)  
International Students [11](#)  
Internet Downloading [32](#)  
Internships [17](#)

## **L**

Learning Centers [22](#)  
Libraries [21](#)  
Locations [2, 48](#)

## **M**

Mail Center [25](#)  
Meal Plans [26](#)  
Military Training and Experience [41](#)  
Misconduct Penalties [31](#)  
Mission Statement [5](#)  
Multiple Degrees [48](#)

## **N**

Non-Academic Complaints [31](#)  
Numeracy (Quantitative Literacy) Requirement [51](#)  
Nursing Selective Admission [49](#)  
Nursing Assistant Selective Admission [49](#)

## **O**

Osher Lifelong Learning Institute (OLLI) [45](#)

## **P**

Paramedicine Selective Admission [49](#)  
Pathways [59](#)  
Payment Plan [20](#)  
Penalties, Misconduct [31](#)  
Pharmacy Technician Selective Admission [50](#)  
Photo and Videotape Policy [32](#)  
Physical and Biological Science Area Studies Course List [52](#)  
Plagiarism [30](#)  
Printing, Student [21](#)  
Police, College [27](#)  
Prior Learning [41](#)  
Programs of Study Guide [46](#)

**R**

Radiologic Technology Selective Admission [50](#)  
Reading Proficiency [15](#)  
Records [28](#)  
Refunds [12](#)  
Registration [11](#)  
    Changes in Registration (Add, Drop & Withdrawal) [12](#)  
Reinstatement [39](#)  
Repeating a Course [35](#)  
Residence Halls [25](#)  
Residency Determination [9](#)

**S**

Satisfactory/Unsatisfactory Grading [34, 36](#)  
Scholarships [20](#)  
Selective Admission Programs [49](#)  
Shared Unique Number (SUN) System [17](#)  
Skills Assessment [15](#)  
Small Business Development Center (SBDC) [45](#)  
Social Science Area Studies Course List [54](#)  
Steps to Become a Student [1](#)  
Strategic Initiatives [5](#)  
Student Clubs and Organizations [24](#)  
Student Employment Services [19](#)  
Student Life [24](#)  
Student Records  
    Disclosure [28](#)  
    Holds [13](#)  
Student Support Services [23](#)  
SUN (Shared Unique Number) System [17](#)

**T**

Tobacco Use Policy [31](#)  
Transcripts [13](#)  
Transfer Students, Incoming [11](#)  
TRIO Grant Programs [23](#)  
    Educational Talent Search [23](#)  
    Student Support Services [23](#)  
    Veterans Upward Bound [23](#)  
Tuition & Fees [12](#)  
    Payment Plan [20](#)  
    Refunds [12](#)

**V**

Veterans  
    Education Benefits [20](#)  
    Veterans Upward Bound [23](#)  
Videotape Policy [32](#)  
Visitors and Guests in Class [13](#)

**W**

Welcome from the President [3](#)  
WEPA (Wireless Everywhere Print Anywhere) [21](#)  
Western Undergraduate Exchange Program (WUE) [11](#)  
Withdrawal Procedures [12](#)

1

### Apply for admission to Yavapai College.

Go to [www.yc.edu/quickstart](http://www.yc.edu/quickstart) to complete an application for admission. You will receive a username and a temporary password. Follow the directions to set up your new permanent password. Your username and password will be needed to log onto your myYC academic portal.

Out of state tuition will be charged unless the student provides proof of citizenship and Arizona state residency. Go to Residency Requirements for more information.

2

### Apply for Financial Aid.

FAFSA: [www.fafsa.ed.gov](http://www.fafsa.ed.gov)  
Yavapai College code: **001079**

YC Scholarships: [www.yc.edu](http://www.yc.edu). Log onto your portal and click on the financial aid tab.

Outside Scholarships: [www.fastweb.com](http://www.fastweb.com)

For information or help, call 928.776.2152 or 928.634.6502

3

### Take the COMPASS Skills Assessment.

Reading Comprehension/Math/English  
Composition Assessment.

**Prescott area:** Bldg 1-225. Call 928.776.2200 to make an appointment.

**Verde Valley area:** Bldg I-123. Call 928.634.6561 to make an appointment.

4

### Request official transcripts.

Applying prior college or university credit to your Yavapai College degree goal is a two-part process.

- A. Transcripts must be sent directly to:  
Yavapai College Enrollment Services  
1100 E. Sheldon, Prescott AZ 86301
- B. Call 928.776.2149 to verify receipt of your transcript.  
If so, request an evaluation.

5

### Academic Advising Online Orientation.

View our Academic Advising Orientation online at [www.yc.edu/advising](http://www.yc.edu/advising).

After viewing, call 928.776.2106 or 928.634.6510 for more information, or to schedule a phone or in-person appointment with an Academic Advisor.

6

### Register for classes.

Go to [www.yc.edu](http://www.yc.edu) and log onto your myYC portal.

Type in your username and password.

Go to My Services, Student Information, then click on Search and Register for classes. For help with the Registration process, view the How to Register video.

7

### Payment Information.

Don't forget to arrange for payment.

Contact the Business Office for information about bills, payments and payment plans: 928.776.2140 or 928.634.6518

8

### Get your Photo ID.

Available after registration. The first one is free.

The catalog does not establish a contractual relationship but it summarizes the total requirements which the student must presently meet before qualifying for a faculty recommendation to the District Governing Board to award a degree or certificate.

Yavapai College reserves the right to change, without notice, any materials, information, requirements, regulations, or fees published in this catalog.



## Yavapai College Locations

### Prescott Campus

1100 East Sheldon Street  
Prescott, AZ 86301  
Switchboard: 928.445.7300

### Prescott Valley Center

6955 Panther Path  
Prescott Valley, AZ 86314  
Reception: 928.717.7911

### Sedona Center for Arts & Technology

4215 Arts Village Drive  
Sedona AZ 86336  
Reception: 928.649.4266

### Verde Valley Campus

601 Black Hills Drive  
Clarkdale, AZ 86324  
Reception: 928.634.7501

### Chino Valley Agribusiness & Science

2275 Old Home Manor Drive  
Chino Valley, AZ 86323  
Reception: 928.717.7720

### Career & Technical Education Center

220 Ruger Road  
Prescott, AZ 86301  
Reception: 928.776.2002

## Affiliation and Accreditation

Yavapai College is accredited by The Higher Learning Commission, [www.ncahlc.org](http://www.ncahlc.org), a commission of the North Central Association of Colleges and Schools (230 South LaSalle Street, Suite 7-500, Chicago, Illinois 60604-1411 Phone: 800.621.7440/312.263.0456).

## Admissions

Admission requirements are listed at [www.yc.edu/admissions/requirements](http://www.yc.edu/admissions/requirements). Inquiries regarding admission to Yavapai College should be emailed to [admissions@yc.edu](mailto:admissions@yc.edu).

## Equal Opportunity Statement

Yavapai Community College District, in compliance with state and federal laws and regulations, does not discriminate on the basis of age, race, color, religion, sex, national origin, disability, or veteran status in our admissions, employment, access to educational programs or activities, as required by Title IX of the Education Amendments of 1972, Title VI, and Title VII of the Civil Rights Acts of 1964 as amended; Section 504 of the Rehabilitation Act of 1973 as amended; the Civil Rights Act of 1991; the American Disabilities Act of 1990; Arizonans with Disabilities Act of 1992; and the Age Discrimination in Employment Act of 1967.

Inquiries regarding Yavapai College's equal opportunity policies may be directed to the Yavapai College Human Resources Director at 928.776.2217. Student inquiries regarding Title IX may be directed to the Dean for Student Services, who serves as Title IX Coordinator at Yavapai College at 928.776.2117.

## Welcome from the President



Let me offer a brief but enthusiastic introduction to our on-line college catalog. This publication forms the actual contract between the College and the public so you know what you can expect of us as you enroll in our classes. It also contains a wealth of information that will help you succeed – and student success is why we're here.

You'll find that our educational programs are rigorous as they prepare students for entering the world of work, transferring to a four-year college, and/or enjoying life-long learning. You can take pride in the fact that the College and many of our individual programs were recently reviewed by outside accrediting associations and received outstanding commendations.

All of us are committed to providing quality higher learning and cultural resources for the diverse populations of Yavapai County. Join us in enhancing your life, improving the quality of life for others, and making a positive difference in the world.

### **Penelope (Penny) H. Wills, Ph.D.**

President, Yavapai College  
928.776.2022  
OfficeOfThePresident@yc.edu

## District Governing Board

- Mr. Raymond B. Sigafos**, Chair
- Dr. Patricia McCarver**, Board Secretary
- Mr. Herald Harrington**, Board Spokesperson
- Dr. Dale Fitzner**, Board Member
- Mr. Robert Oliphant**, Board Member

## College President

- Dr. Penelope (Penny) Wills**  
B.S., University of Cincinnati  
M.Ed., Miami University  
Ph.D., Michigan State University

Yavapai College  
Foundation Office  
Steve Walker,  
Vice President for  
College Development  
and Foundation  
1100 E. Sheldon St.  
Prescott, AZ 86301  
928.776.2025  
foundation@yc.edu

## **Yavapai College Foundation Ensuring Excellence in Education at Yavapai College**

Since 1972 the Yavapai College Foundation (YCF) has been committed to excellence in education and enhancing the opportunities of Yavapai College's students, faculty and local communities. The far-reaching scope of the Foundation is evident through its diverse auxiliary organizations and projects.

**Scholarships** – Over 80 endowed funds benefit hundreds of students each year, with more than \$1 million awarded to deserving undergraduates over the last decade.

**FRIENDS of Yavapai College Art** – Supports students and faculty in the college's Visual Arts department, facilitates construction and management of the Sculpture Garden and supports the Art Gallery and community Art a La Carte Saturday art talk series.

**FRIENDS of Yavapai College Music** – Supports choral and instrumental music programs through fundraising for scholarships and departmental needs, and by raising awareness of concerts and music activities.

**Roughrider Club** – Assists athletes and teams by providing financial aid for travel to out-of-state events, scholarships, tournaments and special construction projects and equipment. They also support area youth through volunteer work and clinics.

**Performing Arts Charitable Endowment (PACE)** – Supports YC Community Events' ability to maintain affordable ticket prices and offer high caliber entertainment and bring artistic programs to county students and special needs audiences.

**Greater Verde Valley Chapter** – Supports campus programs in Cottonwood, Clarkdale, Camp Verde and Sedona.

As Yavapai County and Yavapai College grow, the need for a strong and financially supportive Foundation has never been greater. There are many ways you can help:

- Give a gift today
- Designate a gift to a specific priority
- Name YCF in your planned gift or will
- Become a Foundation/Auxiliary member
- Volunteer
- Donate labor services

For more information, call (928) 776.2025 or visit [www.yc.edu/YCF](http://www.yc.edu/YCF). Gifts are tax deductible.

### **Executive Committee**

**Richard Wright, Ph.D.**, President

**William C. Miller III**, First Vice President

**John E. LaTourette, Ph.D.**, Second Vice President

**Patricia Arntzen**, Secretary

**Howard Moody**, Treasurer

**Oren Thompson**, Immediate Past President

**Penelope Wills, Ph.D.**, Yavapai College President

**Steve Walker**, VP of College Development and Foundation, Ex-Officio



## COLLEGE MISSION

### Vision

Yavapai College exists to provide educational and cultural opportunities to students of all ages. We shall strive to create stronger partnerships and enhance leadership to develop and strengthen our community. Our students will have the abilities to be active participants in the global community.

### Mission

The Mission of Yavapai College is to provide quality higher learning and cultural resources for the diverse populations of Yavapai County.

#### Goals

- Offer Career Education programs that provide the education and training necessary to compete in the global job market.
- Ensure that General Education students can matriculate and continue in other institutions and programs.
- Provide the Community with access to lifelong learning and cultural opportunities.
- Assure the Communities of Yavapai County receive the leadership and encouragement to promote economic development.

### Values

#### Learning

Yavapai College values learning and an environment where students are engaged in their educational endeavors. We take pride in our campuses and centers throughout Yavapai County. Our facilities provide a safe and supportive environment where students can learn, and our community can share in the benefit of a cultural center within reach.

#### Scholarship

Yavapai College values scholarship. We value an educated and experienced faculty and staff who foster and encourage the spirit of inquiry and expression. We value education not merely as a means to an end, but as a lifelong joy and endeavor.

#### Stewardship

Yavapai College values responsible resource management and affordable learning opportunities. We appreciate our obligation to budget and allocate fiscal and human resources in the best interests of our students and community.

#### Diversity

Yavapai College values the diversity within our community and the rich cultures of Yavapai County.

### Strategic Initiatives 2010/2011-2013/2014

1. Student Success and Satisfaction
2. Quality and Effectiveness of Instruction
3. Fiscal Stewardship and Efficiency
4. Employee Development
5. Community Development and Partnerships

**Fall 2013: August 19 – December 9**

Faculty/Staff Development Day .....	August 12
Faculty Activities Week.....	August 12 – 16
Fall Regular Semester Begins .....	August 19
Labor Day Holiday (no classes, offices closed).....	September 2
Veterans Day (no classes, offices closed).....	November 11
Thanksgiving Holiday .....	November 27 – 29
Northern Arizona Regional Training Academy (NARTA) Graduation .....	December 5
Fall Regular Semester Ends .....	December 9
Nursing Commitment & Commencement.....	December 14
Holiday Break (Offices Closed).....	December 19 – January 1

**Spring 2014: January 13 – May 5**

Faculty/Staff Development Day .....	January 8
Faculty Activities Week.....	January 8 – 10
Spring Regular Semester Begins .....	January 13
Martin Luther King Day Holiday (no classes, offices closed).....	January 20
Spring Break (offices closed).....	March 10 – 14
Spring Regular Semester Ends .....	May 5
Northern Arizona Regional Training Academy (NARTA) Graduation .....	May 9
Verde Valley Graduation.....	May 9
Nursing Commitment & Commencement.....	May 10
Prescott Graduation.....	May 10

**Summer 2014: June 2 – July 24**

Summer Session begins.....	June 2
Independence Day Observed (no classes, offices closed) .....	July 3 – 4
Summer Session Ends .....	July 24

**August 2013**

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**September 2013**

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**October 2013**

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**November 2013**

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**December 2013**

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**January 2014**

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**February 2014**

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**March 2014**

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**April 2014**

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**May 2014**

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**June 2014**

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29	30					

**July 2014**

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20	21	22	23	24	25	26
27	28	29	30	31		

# Yavapai College Catalog • 2013/14

## ACADEMIC SUPPORT & STUDENT SERVICES

### Enrollment Services

Prescott Campus  
928.776.2149

Verde Valley Campus  
928.634.6520

### Admissions

Yavapai College is a public community college that encourages all individuals to further their educational interests.

In accordance with Arizona Revised Statute 15-1805.01, Yavapai College may admit:

- A. A person who satisfies one of the following criteria:
  1. Is a graduate of a high school that is regionally accredited or approved by an authorized state educational agency
  2. Has obtained a high school certificate of equivalency
  3. Is 18 years of age or older and demonstrates evidence of potential success in the community college
  4. Is a student transferring from another regionally accredited college or university in good standing (2.00 Cumulative GPA)
- B. A person who is under 18 years of age and has not satisfied the requirements above may be admitted upon achievement of a composite 930 score on the Scholastic Aptitude Test (SAT) or a composite 22 score on the American College Test (ACT).
- C. A person may be admitted on an individual basis if the person meets the established requirements of the courses for which the person intends to enroll and if the College determines that the person's admission is in the best interest of the person and the college.

Yavapai College may limit students under age 18 to six (6) credits or less per term.

Admission to Yavapai College does not guarantee admission to specific programs. Specialized application materials may be required for certain programs (e.g., Nursing and Gunsmithing), from non-citizens of the United States, from students appealing a residency classification, and in related circumstances.

Official high school and college transcripts must be mailed directly from the school/college to: Registrar's Office, 1100 East Sheldon Street, Prescott, AZ 86301. Transfer students should request the Registrar's Office evaluate transcripts for credit equivalency.

Students must be officially accepted for admission before they can be assigned on-campus employment, qualify for financial aid, or participate in athletic practice. Students interested in receiving any Title IV Student Assistance Program funding (PELL Grant and all other federal student assistance programs) are subject to certain federal regulations.

### Discover Yavapai Information Sessions

Discover Yavapai Programs are designed for students and families who are exploring their options for college. The program provides general information about Yavapai College, programs, and services. Sessions begin at 1 pm and conclude approximately at 3 pm. The agenda includes:

- General information sessions about admissions, cost of attendance, degree programs, financial aid, and residence life
- Campus tour led by our Student Leadership Council

This event is reservation only. To sign up for this event please go to [www.yc.edu/discover-yavapai](http://www.yc.edu/discover-yavapai) For questions please contact our Admissions Counselor Office at 928-776-2143 or 800-922-6787 ext. 2143.

Office of the  
Registrar

[www.yc.edu/registrar](http://www.yc.edu/registrar)

## Residency Determination

Classification of state residency for tuition purposes at Yavapai College is governed by state law. The information below establishes the criteria for Arizona residency. Students who are classified as non-residents will be assessed out-of-state fees when registering for classes.

### Definition of Terms

1. "Armed Forces of the United States" means the Army, the Navy, the Air Force, the Marine Corps, the Coast Guard, the commissioned corps of the United States Public Health Service and the National Oceanographic and Atmospheric Association.
2. "Continuous attendance" means enrollment at an educational institution in this state as a full-time student, as such term is defined by the governing body of the educational institution, for a normal academic year since the beginning of the period for which continuous attendance is claimed. Such person need not attend summer sessions in order to maintain continuous attendance.
3. "Domicile" means a person's true, fixed and permanent home and place of habitation. It is the place where he/she intends to remain and to which he/she expects to return when he/she leaves without intending to establish a new domicile elsewhere.
4. "Emancipated person" means a person who is neither under a legal duty of service to his parent nor entitled to the support of such parent under the laws of this state.
5. "Parent" means a person's father or mother, or custodial parent, or if there is no surviving parent or the whereabouts of the parents are unknown, then a guardian of an unemancipated person if there are not circumstances indicating that such guardianship was created primarily for the purpose of conferring the status of an in-state student on such unemancipated person.

### In-State Student Status

- A. Except as otherwise provided in this article no person having a domicile elsewhere than in this state is eligible for classification as an in-state student for tuition purposes.
- B. A person is not entitled to classification as an in-state student until the person is domiciled in this state for one year, except that a person whose domicile is in this state is entitled to classification as an in-state student if the person meets one of the following requirements:
  1. The person's parent's domicile is in this state, and the parent is entitled to claim the person as an exemption for state and federal tax purposes.
  2. The person is an employee of an employer which transferred the person to this state for employment purposes or the person is the spouse of such employee.
  3. The person is an employee of a school district in this state and is under contract to teach on a full-time basis, or is employed as a full-time noncertified classroom aide, at a school within that school district. For purposes of this paragraph, the person is eligible for classification as an in-state student only for courses necessary to complete the requirements for certification by the state board of education to teach in a school district in this state. No member of the person's family is eligible for classification as an in-state student if the person is eligible for classification as an in-state student pursuant to this paragraph.
- C. The domicile of an unemancipated person is that of such person's parent.
- D. Any unemancipated person who remains in this state when such person's parent, who had been domiciled in this state, removes from this state is entitled to classification as an in-state student until attainment of the degree for which currently enrolled, so long as such person maintains continuous attendance.

Office of the  
Registrar

[www.yc.edu/registrar](http://www.yc.edu/registrar)

- E.** A person who is a member of the armed forces of the United States and who is stationed in this state pursuant to military orders or who is the spouse or a dependent child as defined in section 43-1001 of a person who is a member of the armed forces of the United States and who is stationed in this state pursuant to military orders is entitled to classification as an in-state student. The student, while in continuous attendance toward the degree for which currently enrolled, does not lose in-state student classification.
- F.** A person who is a member of the armed forces of the United States stationed in this state pursuant to military orders or the spouse or a dependent as defined in section 43-1001 of a member of the armed forces of the United States is entitled to classification as an in-state student if the member of the armed forces has claimed this state as the person's state of legal residence for at least twelve consecutive months before the member of the armed forces, spouse or dependent enrolls in a university under the jurisdiction of the Arizona board of regents or a community college under the jurisdiction of a community college district governing board. For purposes of this subsection, the requirement that a person be domiciled in this state for one year before enrollment to qualify for in-state student classification does not apply.
- G.** A person who is honorably discharged from the armed forces of the United States shall be granted immediate classification as an in-state student on honorable discharge from the armed forces and, while in continuous attendance toward the degree for which currently enrolled, does not lose in-state student classification if the person has met all of the following requirements:
  - 1. Declared Arizona as the person's legal residence with the person's branch of service at least one year prior to discharge from the armed forces.
  - 2. Demonstrated objective evidence of intent to be a resident of Arizona which, for the purposes of this section, includes at least one of the following:
    - a. An Arizona driver's license
    - b. Arizona motor vehicle registration
    - c. Employment history in Arizona
    - d. Arizona voter registration
    - e. Transfer of major banking services to Arizona
    - f. Change of permanent address on all pertinent records
    - g. Other materials of whatever kind or source relevant to domicile or residency status
  - 3. Filed an Arizona income tax return with the Department of Revenue during the previous tax year.

Please direct any questions regarding residency status to the Registrar's Office.

### **County Residency**

Arizona residents from counties in which there is no established community college district (Apache and Greenlee) may enroll in credit classes with Yavapai College without payment of out-of-county charges, if the student presents a notarized Arizona Out-of-County Affidavit stating that the individual has resided in the county for at least 50 days prior to the 1<sup>st</sup> day of classes. The student still is responsible for payment of regular tuition and fees.

### **Western Undergraduate Exchange Program Reduced Tuition**

Yavapai College participates in the Western Undergraduate Exchange Program (WUE), a program of the Western Interstate Commission for Higher Education (WICHE). Residents of eligible states (currently Alaska, California, Colorado, Hawaii, Idaho, Montana, North Dakota, New Mexico, Nevada, Oregon, South Dakota, Utah, Washington and Wyoming) that enroll in any of Yavapai College's WUE-eligible programs in seven (7) credit hours or more will pay a reduced out-of-state tuition. The Digital Filmmaking certificate programs and the Associate of Applied Science degree in Nursing are not WUE-eligible.

Time enrolled under WUE status does not count toward establishing Arizona residency for tuition purposes.

For additional information, contact Enrollment Services at 928-776-2149.

**For more information regarding international services, Call 928.776.2144**

### **International Students**

To qualify for admission as an international student, one must:

- be a high school graduate
- demonstrate proficiency in the English language with a score of 525 or higher on the paper Test of English as a Foreign Language (TOEFL) exam or a score of 193 on the computer-based TOEFL, or a score of 70 on the internet-based (iBT) TOEFL
- have U.S. health insurance coverage which includes repatriation and medical evacuation clauses (this can be purchased through Yavapai College)
- certify that he/she has adequate financial resources to be self-supporting while attending Yavapai College
- complete application forms and submit in paper form to Admissions, 1100 E. Sheldon St., Prescott, AZ 86301. Visit [www.yc.edu/Registration/InternationalStudents](http://www.yc.edu/Registration/InternationalStudents) for application forms and additional information
- Admitted international students are required to enroll for a full-time course load (minimum of 12 semester credits) each Fall and Spring, as well as meet with an academic advisor each semester

### **Tips for successful registration**

Meet regularly with an academic advisor to plan your program.

Search early for classes at [www.yc.edu](http://www.yc.edu).

Register early for best course selection.

Review the online "[Dates and Deadlines](#)".

Be prepared to pay fees.

Verify your course and section numbers.

**Office of the Registrar**  
[www.yc.edu/registrar](http://www.yc.edu/registrar)

### **Incoming Transfer Students**

Students who have attended prior colleges should indicate this on the admission application, and provide Yavapai College with an official transcript of all work completed. Upon the student's written or verbal request, Office of the Registrar will evaluate transcripts to determine how much credit will be granted for transfer courses toward satisfying Yavapai College degree and certificate requirements.

Yavapai College only accepts credits from regionally accredited institutions on a credit-unit-for-credit-unit basis (adjusted for semester/quarter terms). Course equivalencies are established based on alignment of the course description and learning outcomes. Only courses 100-level or above with a grade of "C" or better will be considered for transfer credit. Yavapai College accepts only transfer credits, no grade point averages.

### **Registering for Classes**

#### **Registration**

The College regards a student's registration in classes as a commitment on his/her part to comply with all College regulations. It is the student's responsibility to read the catalog and understand these regulations.

Students register for classes via myYC portal at [www.yc.edu](http://www.yc.edu). Students who do not have approved financial aid must pay all fees at the time of registration. Detailed information regarding registering (dates, fees, course availability, etc.) is published online each semester.

Degree and certificate seeking students should meet with an academic advisor prior to each semester to review degree requirements, prerequisites, and course selection.

Students must maintain current address and other personal information in myYC portal each semester. It is important to keep a current address on file and it is required for students to monitor their College assigned email address in order to receive all official correspondence.

Yavapai College reserves the right to restrict enrollment in classes and/or programs when educational, contractual, legal, or safety obligations warrant such restrictions.

## **Changes in Registration (Add, Drop & Withdraw)**

### **Add/Drop/Withdrawal Procedures**

Students may add, drop and withdraw from classes during designated periods each term via myYC portal at [www.yc.edu](http://www.yc.edu). For deadlines and effects of changes, refer online at [www.yc.edu](http://www.yc.edu) "Dates & Deadlines".

A student-initiated withdrawal prior to the deadline will result in a "W" posted to the permanent record. An administrative withdrawal will be noted with a "Y."

It is strongly recommended that students see an academic advisor prior to a complete withdrawal from the College.

## **College Tuition, Fees and Fee Refunds**

### **Tuition and Fees**

Tuition and fees are determined annually and are approved by the College Governing Board and State Board of Directors for Community Colleges of Arizona. The cost of attending classes at Yavapai College is based on the number of credit hours to be taken. Tuition and fees are subject to change. Refer to the current semester class schedule for the most up-to-date information or online at [www.yc.edu/tuition](http://www.yc.edu/tuition).

Tuition and fees are generally due at the time of registration. It is not possible to enroll in classes if the student owes money to the college for unpaid tuition and fees or fines (examples: library fines, parking violations, and damage to college property).

### **Refunds**

Refunds will be issued to students who drop classes during the refund period. The refund policy applies to all tuition and fees. Refer online at [www.yc.edu](http://www.yc.edu) "Dates & Deadlines".

### **Attendance Policy**

Yavapai College offers courses in a variety of delivery formats. Students are expected to attend classes and/or actively participate in all credit courses regardless of the delivery method.

All course syllabi will state attendance and class participation requirements. Syllabi will also define any consequences for not adhering to attendance and/or participation requirements.

The course calendar must identify assignments that require student participation in class activities or due dates for course assignments.

### **Student Responsibilities**

A student who will be absent for any reason must contact the instructor. A student who expects to be absent for athletic travel, a field trip, or any other activity scheduled in advance must make prior arrangements with the instructor concerning makeup work.



### **Visitors and Guests in Class**

An enrolled student may occasionally bring a guest to class, upon permission of the instructor. Guests who wish to visit frequently will be denied entrance to the class unless they register officially for credit or audit. Safety considerations or disruption of instruction may require that guests not be permitted to attend a class.

### **Student E-Mail Accounts**

Yavapai College requires enrolled students to have an e-mail address to which official College communications can be sent. In the best interest of effective communications management, this address will reside on the College maintained e-mail system. Students may elect to forward their e-mail to an address different from their official Yavapai College account, but these students assume full responsibility for reading e-mail at the forwarded location. Students are expected to check their Yavapai College e-mail account, or the account to which their Yavapai College e-mail is forwarded, prior to the first class meeting and at least once a week during the semester. If you have questions regarding your student e-mail account, contact the Yavapai College Help Desk at 928.776.2168 or 800.922.6787 X2168.

### **Transcripts**

Transcripts are permanent academic records. They are considered confidential, and are released only by written consent (including signature) of the student.

**Sending a Yavapai College transcript:** Students may request official transcripts and pay the applicable fee:

- online at [www.getmytranscript.com](http://www.getmytranscript.com); cost \$7.25 per transcript payable by credit card.
- in person at the Prescott or Verde campus; cost \$10.00 per transcript payable by cash, check, money order or credit card.
- by postal mail with written/signed request; cost \$10.00 per transcript payable by check or money order; send to Office of the Registrar, 1100 E. Sheldon St., Prescott, AZ 86301.

**Requesting a transcript from other schools:** Students who have completed work at other institutions and wish to apply credits toward their Yavapai College degree or certificate, must have official transcripts sent to Office of the Registrar, 1100 E. Sheldon St., Prescott, AZ 86301. These records will be evaluated for transfer credit only upon request. It is recommended that students who are transferring credit from another institution meet with an academic advisor to achieve maximum benefit when establishing their educational plan.

### **Student Holds**

Holds may be placed on student records for outstanding obligations to the college. A student may not be able to enroll in classes, obtain grade reports, obtain official transcripts, or receive an earned degree or certificate until any holds placed on the record have been cleared. Examples of student holds are:

- Academic probation or suspension
- Bad or returned check
- Unpaid fees such as library fines
- Disciplinary holds for student misconduct
- Financial aid or student loan holds

Students can determine the originator of the hold via myYC, portal or by contacting Enrollment Services via email at [registration@yc.edu](mailto:registration@yc.edu).

## ACADEMIC SUPPORT & STUDENT SERVICES

### Methods of Class Delivery

Yavapai College offers a variety of class delivery and learning strategies to meet the needs of a diverse student population, as described below:

<b>Delivery Types</b>	<b>Description</b>
<b>Regular Session</b>	Semester-length classes which last 15 weeks. Courses are taught through a variety of delivery types including lecture, laboratory, applied experiences, and others. Two full length semesters are offered each academic year (Fall and Spring), and one abbreviated semester is offered in the summer.
<b>Open Entry Classes</b>	Classes which are usually taught in an open lab setting, and in which students work at their own pace. Students may register at specified times beyond the regular registration period. Delivery types may vary.
<b>Video Conferencing</b>	Traditional Yavapai College courses held in a classroom equipped with closed-circuit TV cameras, screens and microphones. Students can see, hear and interact with one another as if they were in the same room.
<b>Online Courses</b>	Courses are delivered entirely on the web and have no in-person meetings. Some online classes may require proctored exams. Additional fees may be charged for proctored exams. Blackboard is the official delivery system for online courses at Yavapai College. Students communicate with the instructor through discussion boards, chat rooms and e-mail. Students can access their course material and assignments by logging into their portal.
<b>Independent Study Classes</b>	Supervised special project which is undertaken with the direction of an assigned faculty member. Certain requirements must be met. Consult with an academic advisor for more information.
<b>Internships</b>	Structured field experiences within specific academic disciplines or technical areas. These experiences enable students to explore potential careers and apply knowledge gained in the classroom while refining the technical skills and gaining relevant experience in the workplace.
<b>Classroom and Web</b>	A classroom and web course is a blend of face-to-face instruction with online learning. In a hybrid course, a significant part of the course learning is online and as a result, the amount of classroom seat-time is reduced.
<b>Individually Paced Instruction (IPI)</b>	Classes in which students, with faculty guidance, work at their own pace to complete course requirements. Students are expected to exhibit weekly progress and to follow the start/end dates specified on the class schedule.

### **Student Success: A Shared Responsibility**

Becoming a successful student involves taking responsibility for your own experience at Yavapai College. Your college success can be measured not only in terms of acquiring skills and knowledge, but also through personal growth and development. Certain factors will contribute to your success, such as:

- Having clearly defined goals
- Knowing your skill levels
- Being aware of campus resources to support your efforts
- Recognizing that you are continually changing and growing as a person

Student Services staff shares in the responsibility for your success by fostering an environment where your needs in each of these areas can be addressed. Working with our team of support personnel and other college resources, you will get the maximum benefit from your experience at Yavapai College. Establish your relationships with Student Services staff members early in your college career. We are committed to sharing in the responsibility for your success.

### **Skills Assessment, Advisement and Placement Policy**

Yavapai College believes correct course placement is a powerful factor in student retention and success. Therefore, the college requires individualized academic advisement and assessment of competency in reading, writing and mathematics.

#### **Skills Assessment**

We want students to be successful at Yavapai College. Enrolling in courses that are appropriate to the student's level of preparation is an important step on the road to success.

The skills assessment helps students to identify strengths as well as where development is required to provide a strong foundation prior to enrolling in college-level courses. The results will guide students in the right direction to complete their educational goals without taking courses which they don't need, and/or taking courses for which they are not prepared.

The skills assessment is not an admissions test. When students meet with their academic advisor, they will also review other evidence of college readiness, such as high school transcripts, ACT or SAT scores, and copies of transcripts from other colleges/universities that the student has attended.

#### **Reading Proficiency**

All students enrolling in any course on the General Education Course list or any course that has designated the prerequisite of Reading Proficiency must demonstrate proficiency in reading by scoring at least 70 on the COMPASS reading placement assessment, scoring at least 17 on the ACT reading assessment, or at least 400 on the SAT critical reading assessment. Students scoring below these levels will be required to complete ENG 083 before enrolling in these courses. It is strongly recommended that students enroll in ENG 140 if they score between 70 and 84 on the COMPASS reading placement assessment.

#### **Math and English Skills Assessment**

Students who intend to take English, math or a general education course for the first time are required to take the English and math skills assessment prior to enrollment. Students should begin in the course(s) in which they place in their first semester and continue to enroll in the course in which they qualify until the college requirements are satisfied. See specific degrees for applicable course sequencing.

**For information about English and math skills assessment, CLEP testing, test proctoring, or GED testing, call:**

Prescott Campus  
Testing Center  
928.776.2106

Verde Valley Campus  
Testing Center  
928.634.6561

Chino Valley Campus  
928.717.7720

Career & Technical  
Education Center  
(CTEC)  
928.776.2002

Prescott Valley Campus  
928.717.7885

## ACADEMIC SUPPORT & STUDENT SERVICES

For certificate or  
degree information  
call Academic  
Advising:

Prescott Campus  
928.776.2106

Verde Valley Campus  
928.634.6510

### Academic Advising

By meeting regularly with an academic advisor, a student has the opportunity to connect with a member of the college community who is knowledgeable about college resources, degree requirements, and transferability of courses. The advisor is someone who genuinely cares about the student's success! The college requires academic advisement for certain students (see below) to insure that students attain their individualized educational goals.

**Academic Advising is required for students who meet any of the following criteria:**

- Student athletes
- International students
- Majors in gunsmithing, nursing, paramedicine, aviation, radiologic technology, health information technology
- Financial aid recipients who have met the maximum fundable credit hours
- On academic probation
- Seeking to take more than 18 credits in any one semester

Students in these categories who wish to register must first consult with an academic advisor. Students can request an appointment with an academic advisor by calling one of the numbers listed on this page. Students can also phone or e-mail their advisor directly. See the Academic Advising website at [www.yc.edu/advising](http://www.yc.edu/advising) for current advisor specialties, phone numbers, and e-mail addresses. Advising services are available by appointment at the Career and Technical Education Center, the Chino Valley Campus and the Prescott Valley Campus.

### Academic Advising is:

- A shared responsibility between the student and advisor
- Assistance with planning for a particular career or college major
- Provided by professional academic advisors and selected faculty
- Assistance with course and program selection
- Monitoring of progress toward attainment of degree requirements
- An on-going process, in which the student meets with the advisor several times throughout the semester to discuss career and academic goals
- An opportunity to discuss problems and concerns related to college adjustment
- Mentoring on study skills and use of college resources

### Counseling Services

Students sometimes find it difficult adjusting to being in college, whether they are a commuter or residence hall student. When problems arise, it is difficult to concentrate on academic goals. Students who experience these challenges are encouraged to talk with a personal counselor, who will listen, suggest problem-solving strategies, and make referrals to community mental health professionals and other community services as needed. Please call any of the phone numbers on this page to connect to a personal counselor.

### **Career Services**

It is very common for students to come to college undecided about their choice of major or career. Resources are available to assist students in making these decisions. The following are available for students to help them reach their goals:

- Individual career counseling
- Career assessment testing
- Workshops and seminars
- Internships
- Job market and occupational information
- Resume, cover letter and job search resources
- Career Cruising, an online interactive career guidance and information system

Students can utilize the resources available on the Career Services web page at [www.yc.edu/careers](http://www.yc.edu/careers), take one of the Career Exploration classes (STU 110/111) or meet with a counselor. For further information on the Prescott Campus, call 928.776.2106 or on the Verde Valley Campus, 928.634.6510.

### **Internships**

Internships facilitate learning beyond the classroom through supervised field experiences within specific academic disciplines or technical areas. These experiences enable students to explore potential careers and apply knowledge gained in the classroom while refining the technical skills and gaining relevant experience in the workplace.

Specific requirements must be met before students are approved for internships. See [www.yc.edu/internships](http://www.yc.edu/internships) for requirement information. Unless noted otherwise, internships are graded as S/U only.

### **SUN (Shared Unique Number) System**

Arizona students planning a community college to university transfer now have an easier way to locate and enroll in courses with direct equivalency. The new Shared Unique Number (SUN) course numbering system clearly identifies courses that transfer, apples to apples, among Arizona's public community colleges and the three state universities. The SUN System launched in January 2012 and includes 82 of the most commonly transferred courses statewide for its introductory year.

- SUN courses are identified by a three-letter prefix, four-digit course number, and a SUN icon. SUN courses are labeled in university and community college catalogs, schedules, and websites, making it easy and immediate for students to find transferable courses.
- SUN courses are a subset of the tens of thousands of college courses that transfer among Arizona's colleges and universities. These courses and their equivalencies can be found in the searchable Course Equivalency Guide on [AZTransfer.com](http://AZTransfer.com).

Because each student has a unique academic plan, they are encouraged to consult with an academic advisor prior to enrollment. For more information about SUN, including a list of SUN courses, visit [www.azsunsystem.com](http://www.azsunsystem.com).

## ACADEMIC SUPPORT & STUDENT SERVICES

### How to contact the Financial Aid Office:

Prescott Campus  
928.776.2152

Verde Valley Campus  
928.634.6502

Toll Free  
800.922.6787

**Apply Online  
It's Faster**  
[www.fafsa.ed.gov](http://www.fafsa.ed.gov)

### 5 Tips for Federal Financial Aid Applicants

1. Complete and submit a FAFSA form starting in January for the fall semester.
2. Review your Student Aid Report (SAR) and make any corrections if needed.
3. Complete your financial aid as soon as possible.
4. Notify the Financial Aid Office of any other outside scholarships or grants you are receiving.
5. Use your financial aid to pay registration fees.

## Financial Aid

### Types of Aid

Our Financial Aid Office offers many opportunities from a variety of sources to help our students with their educational expenses. Federal aid from the Department of Education, like the Pell Grant, is the greatest source of aid. In addition, Yavapai College offers scholarships (separate application required). Details about federal and state aid, and YC Institutional and Foundation Scholarship programs can be found on the web at [www.yc.edu/financialaid](http://www.yc.edu/financialaid).

### Ways to classify different types of financial aid:

Financial Aid you don't have to repay:

- Federal and State Grants
- YC Institutional Scholarships
- YC Foundation Scholarships
- Private and Corporate Scholarships
- Student Employment
- Native American Tribal Grants
- Veteran's Education Benefits

Financial Aid you **do** repay:

- Federal Perkins Loan
- Federal Subsidized and Unsubsidized Direct Student Loan
- Federal Direct Parent Loan for Undergraduate Students
- Interest-free Online Payment Plan
- Private/Alternative Student Loans

## General Eligibility Requirements for Federal Financial Aid

### Eligibility requirements necessitate that you:

- Be a U.S. citizen or eligible non-citizen with a valid Social Security Number
- Demonstrate that you are qualified to obtain a postsecondary education by having a high school diploma, a General Education Development (GED) Certificate or home-schooled completion equivalent
- Enroll in an eligible program as a regular student seeking a degree or certificate
- Register (or have registered) with the Selective Service if you're a male between 18 and 25
- Be making satisfactory academic progress
- Cannot be convicted of a drug related felony while receiving financial aid

## ACADEMIC SUPPORT & STUDENT SERVICES

### Federal Financial Aid Title IV Student Assistance Programs

Federal Pell Grant (Pell)

Federal Supplemental  
Educational Opportunity  
Grant (SEOG)

Federal Perkins Loan  
(Perkins)

Federal Work Study  
(FWS)

Federal Direct Loan  
Programs (Student  
and Parent)

### How to Apply for Federal Aid

The college uses the Free Application for Federal Student Aid (FAFSA) as its application for federal financial aid programs.

#### The Process

- Apply for a FAFSA Pin at: [www.pin.ed.gov](http://www.pin.ed.gov)
- Complete and submit the FAFSA (to the Department of Education). It's available online ([www.fafsa.ed.gov](http://www.fafsa.ed.gov)) January 1st. Be sure to include the Yavapai College code: 001079.
- Complete, sign and mail all additional documents requested by the Yavapai College Financial Aid Department.
- Have a completed and reviewed financial aid file.
- Have an award posted on your portal stating how much aid per semester, if any, that you will receive.
- The award amount is applied to any outstanding funds you may still owe the college, you'll then get a check for the difference.

### Satisfactory Academic Progress Required for Federal Aid Recipients

Federal regulations require that financial aid students maintain Satisfactory Academic Progress (SAP) toward an eligible degree or certificate program. SAP is reviewed at the end of each semester to determine financial aid eligibility for the upcoming semester. SAP is evaluated on a student's entire academic history regardless of whether financial aid was received elsewhere. Please visit the Financial Aid website at: [www.yc.edu/v4content/financial-aid/finaid/eligibility.htm](http://www.yc.edu/v4content/financial-aid/finaid/eligibility.htm) or check your student portal for details regarding SAP requirements.

### Withdrawal/Repayment Policy for Federal Financial Aid Recipients

Students who withdraw from school prior to completing 60 percent of the semester must repay the unearned portion of their federal financial aid award. Please note that this repayment calculation will be determined for students who follow official withdrawal procedures as well as for students who stop attending classes. Consult your financial aid advisor and/or the Withdrawal/Repayment Policy for Federal Financial Aid for further details.

### Student Employment Services

With Student Employment Services, student employees will gain crucial preparation for the competitive job market through career-enhancing opportunities. Student employment is the key to a student's future of work and achievement no matter where their YC education takes them.

With access into Neogov, our web-based job listing system, students can find jobs on-campus and opportunities for community service positions in area schools. Special Community Service Federal Work-Study jobs off-campus give students an opportunity to earn money and valuable skills in a number of career-related environments.

To apply for on-campus jobs, students must be currently enrolled in at least six credit hours and must complete a FAFSA application.

For more information regarding Student Employment e-mail us at: [studentemployment@yc.edu](mailto:studentemployment@yc.edu) or visit: [www.yc.edu/studentjobs](http://www.yc.edu/studentjobs) or contact the job office at 928.776.2100.

## ACADEMIC SUPPORT & STUDENT SERVICES

For more information  
on Yavapai College  
Veteran Services:

Visit our website at:  
[www.yc.edu/veterans](http://www.yc.edu/veterans)

Prescott/Verde:  
928.717.7613

Toll free: 800.922.6787

For more information  
on VA Education  
Benefits:

Visit the VA's website at:  
[www.gjbill.va.gov](http://www.gjbill.va.gov)

### Veterans Education Benefits

Veterans, reservists, or dependents eligible to receive Veterans Administration (VA) education benefits must complete and submit all required VA and Yavapai College documents to the Financial Aid/Veteran Services Office. Instructions are available at [www.yc.edu/veterans](http://www.yc.edu/veterans) - select New Applicants. Processing can take up to eight weeks, so early planning and registration is highly recommended. Students who have submitted the required documents are eligible to interest-free payment plans to defer the cost of tuition, fees and textbooks. Students eligible for VA education benefits may also be eligible for other types of financial aid (Pell Grants, scholarships, etc.) and are encouraged to apply.

Once start-up requirements have been met, VA benefits must be formally requested each semester with the Benefits Request form available at [www.yc.edu/veterans](http://www.yc.edu/veterans). To remain eligible for benefits, students must:

- **Pursue an eligible program of study** at Yavapai College. VA educational benefits are only applicable to classes which satisfy declared program requirements.
- **Request official transcripts** from all post-secondary training previously attended, including military training, be sent directly to Yavapai College Veteran's Services Office, 1100 E. Sheldon Street, Prescott, Arizona, 86301.
- **Maintain good academic standing** at Yavapai College in accordance with the College's Standards of Academic Progress.
- **Notify the Veteran Services office immediately of any enrollment changes** to avoid overpayment of benefits.
- **Remember that standard-length (15 week) semester credits are weighed differently** from credits which are in session for different periods (including open entry, independent study, and accelerated or short-term classes). Students should speak with a Veteran Services Advisor to determine how a change in classes will affect their benefit payments.

### Yavapai College Scholarship Opportunities

Yavapai College offers a wide variety of scholarships based on athletics, academic performance, ethnic background, financial need, area of study, or other criteria. Scholarship awards range from \$100 to \$4000. To apply for the majority of scholarships, only one application form is required. Application is available on the student portal at [www.myyc.edu](http://www.myyc.edu). Sign in and click on My Financial Aid. The deadline is April 1. For detailed information regarding Yavapai College and other scholarship opportunities, students may visit our website at [www.yc.edu/financialaid](http://www.yc.edu/financialaid).

Search for private  
scholarship  
information at:

[www.yc.edu/financialaid](http://www.yc.edu/financialaid)  
-or-  
[www.fastweb.com](http://www.fastweb.com)

### Payment Plan

Yavapai College offers an interest-free, automated monthly payment option with Nelnet Business Solutions to help you meet your educational expenses. There is a non-refundable \$25 application fee required per semester. Payments can be set up through automatic withdrawals from your checking or savings account or can be charged to a credit card account. This is available at [www.yc.edu/businessoffice](http://www.yc.edu/businessoffice). A Yavapai College ID and PIN are required. Contact the Business Office or Financial Aid Office for additional details.



# Yavapai College Catalog • 2013/14

## ACADEMIC SUPPORT & STUDENT SERVICES

### Prescott Campus Library Building 19

Reference Desk  
928.776.2261

Circulation Desk  
928.776.2260

### Verde Valley Campus Library "M" Building

Reference Desk  
928.634.6540

Circulation Desk  
928.634.6541

[www.yc.edu/library](http://www.yc.edu/library)

### Library Services

Library services are provided for all college students, faculty and staff of Yavapai College as well as Yavapai county residents and the public. The libraries support all YC-related classes. Yavapai College students can access library services, resources, hours of operation and more at our website ([www.yc.edu/library](http://www.yc.edu/library)). Library staff assistance is available in person, by phone at 928-776-2261 (Prescott campus) and 928-634-6541 (Verde Valley campus) or through our Ask a Librarian service available from our website.

Physical libraries are located on the Prescott and Verde Valley campuses. Both libraries are members of the Yavapai Library Network. Yavapai College students have access to more than one million items through the 40+ member Yavapai county libraries.

### Other services and resources:

- Computers and printers
- Laptops for in-library use (Prescott only)
- Wireless access
- More than 80,000 full-text e-books
- 20+ article databases
- 24/7 access to millions of online magazine and newspaper articles
- Individual and class support for research projects
- Study rooms for individual and group use
- Friends of the Library Booksale Room (Prescott only)
- Quiet study space
- Individual and group media viewing facilities
- Interlibrary loan services
- Government documents (Prescott campus only)

### Borrowing Information:

- YC students can obtain a library card by presenting a photo ID and proof of current enrollment at Yavapai College or present their YC student ID for activation as a library card
- YC faculty and staff can obtain a library card by presenting a photo ID and proof of current employment at Yavapai College or make their YC ID their library card
- Community patrons can obtain a library card by presenting a photo ID that includes their current Yavapai county address or a photo ID with proper paperwork confirming Yavapai County Residency.

### Student Printing at Yavapai College

Yavapai College offers a pay-for-print solution called WEPA (Wireless Everywhere Print Anywhere). With these cloud-based WEPA printing kiosks, you can print from anywhere in a variety of ways. YC lab and library computers are set-up to print to the WEPA kiosks, you can also download the print driver onto your personal computer/laptop or tablet devices, upload your files via the web, or you can print your files from a flash drive. You have several options to pay for printing at these kiosks including using your YC flexi card, uploading funds to your WEPA account, credit/debit cards or WEPA Print Cards. For more information, please see the YC WEPA website at: <http://www.yc.edu/v4content/printing-services/wepa.htm>.

# Yavapai College Catalog • 2013/14

## ACADEMIC SUPPORT & STUDENT SERVICES

### Learning Centers:

Prescott Campus  
Building 1, Room 207  
928.776.2085

Verde Valley Campus  
Building M, Room 122  
928.634.6562

[www.yc.edu/learningcenter](http://www.yc.edu/learningcenter)

### Learning Centers

The Learning Centers provide a variety of resources, services, and programs designed to promote the academic success of all students by providing:

- Drop-in tutoring for students enrolled in math, biology, chemistry, physics, Spanish and English courses as well as any course requiring writing assignments. Tutoring for other subjects may be available on request
- Online services include: an Online Writing Tutor, Ask-A-Tutor email tutoring service, and Skype a tutor
- Computer stations with networked software programs for completing academic course-work
- Adaptive computers and equipment for students with disabilities
- Private and group study areas available by reservation
- Course resources, current textbooks, calculators, and headphones available for use while in the centers
- A variety of workshops on test-taking tips, study skills and targeted study groups available throughout the semester
- WEPA print stations

Visit the Learning Center website and Facebook pages for details on hours of operation, tutoring and workshop schedules, directions on how to access online tutoring services, study tips, and other resources. [www.yc.edu/learningcenter](http://www.yc.edu/learningcenter).

### Disability Resources Coordinator

Prescott Campus  
Building 1, Room 207  
928.776.2085

[www.yc.edu/  
disabilityresources](http://www.yc.edu/disabilityresources)

### Disability Resources

The Mission of Disability Resources is to ensure qualified persons with disabilities equal access and reasonable accommodations in all Yavapai College's academic programs and activities.

Disability Resources provides services to students who qualify under the American's with Disabilities Act, ADA Amendment Act 2008, and Section 504 of the Rehabilitation Act of 1973.

Students must self-identify and register with the Disability Resources office and provide required documentation verifying the nature and extent of their disability. The Disability Resources office is responsible for evaluating documentation and determining accommodation eligibility. All situations shall be considered on an individual, case-by-case basis.

Student's requesting reasonable accommodations must do so by registering with Disability Resources in a timely manner, usually four to six weeks prior to the start of the semester. Without four to six weeks' notice, we cannot assure the timely availability of accommodations. The process of determining reasonable accommodations is collaborative among the student, Disability Resources staff and other college staff and faculty when necessary.

Assistance is available on all Yavapai College's campuses. Please visit our website at [www.yc.edu/  
disabilityresources](http://www.yc.edu/disabilityresources) or call us at 928-776-2085 for more information.

## TRiO

TRiO is a set of 100% federally-funded college opportunity programs designed to motivate and support eligible students and veterans from disadvantaged backgrounds in their pursuit of a college education. Of nearly 3,000 programs in the nation, Yavapai College is the fortunate recipient of three Federal TRiO Programs including Student Support Services, Educational Talent Search, and Veterans Upward Bound.

### **Student Support Services - TRiO Grant Program**

The SSS-TRiO Grant Program helps eligible students stay in college, graduate, and transfer to a four-year university. The SSS-TRiO mission is to encourage and assist eligible students in reaching their educational goals. The program serves students who may be under-represented in post-secondary education because of income, family educational background or disability.

#### **Free services offered to students accepted into the program included:**

- Individualized tutoring
- Assistance with financial aid and scholarships
- Additional time for academic advising
- University field trips and transfer counseling
- Specialized workshops
- Cultural enrichment activities
- Advocacy for students with disabilities
- Peer mentoring

For more information call 928.776.2084 (Prescott) or 928.634.6596 (Verde), email [sss@yc.edu](mailto:sss@yc.edu). Visit online at [www.yc.edu/sss](http://www.yc.edu/sss).

### **Educational Talent Search – TRiO Grant Program (ETS-TRiO)**

Another federally-funded TRiO program at Yavapai College is ETS-TRiO which serves students, grades six through twelve, in four school districts in Yavapai County. The purpose of this early intervention program is to increase enrollment in post-secondary education among traditionally under-represented groups including students who will likely qualify for federal financial aid programs and whose parents have not earned a bachelor's degree.

#### **Free comprehensive support services provided ETS-TRiO instructors/counselors to eligible students in their schools include:**

- Academic counseling
- Goal-setting
- Career awareness
- Tutoring/mentoring
- Technology enrichment
- Exposure to college campuses and cultural events
- Assistance with college admissions
- Information and assistance in completing financial aid and scholarship applications

For more information call 928.717.7655, email [ets@yc.edu](mailto:ets@yc.edu). Program details can also found online at [www.yc.edu/ets](http://www.yc.edu/ets).

### **Veterans Upward Bound - TRiO Grant Program (VUB-TRiO)**

The primary mission of the VUB-TRiO Grant Program is to prepare eligible college bound veterans for successful enrollment and completion of their post-secondary education (university, community college, and vocational/technical programs). Program advisors and instructors are trained to assist eligible veterans in basic mathematics through pre-calculus, computers, composition, literature and more. Assistance also includes securing support services from local resources such as the Vet Center, Veterans Administration, state veterans agencies, veteran associations, and other local and state agencies serving veterans.

#### **Additional VUB-TRiO services include:**

- College Testing & Assessment
- College preparatory courses - Workshops - Tutorial services
- Information on postsecondary education opportunities
- Assistance in completing college admissions and financial aid applications

All services, including instruction, textbooks, advising, and supplies are FREE to eligible veterans.

For more information call 928.717.7686 or email [vub@yc.edu](mailto:vub@yc.edu). Additional information about the VUB-TRiO program can be online at [www.yc.edu/vub](http://www.yc.edu/vub), [www.facebook.com/NAZVUB](http://www.facebook.com/NAZVUB) or [www.nazvubonline.blogspot.com](http://www.nazvubonline.blogspot.com).

# Yavapai College Catalog • 2013/14

## ACADEMIC SUPPORT & STUDENT SERVICES

**ABE classes** are held on the Prescott, Prescott Valley, Chino Valley and the Verde Valley Campuses, as well as other locations in Yavapai County.

For more information about the ABE program or to sign up for the next orientation, please call: 928.776.2320 -or- 928.634.6544

[www.yc.edu/GED](http://www.yc.edu/GED)

### Adult Basic Education Program

ABE (Adult Basic Education) provides adults with an opportunity to improve basic skills necessary to:

- Obtain a GED
- Pursue further education
- Get or keep a job
- Help their children achieve in school
- Participate more effectively in the community
- Learn English as a second language

Free ABE classes, funded by the Arizona Department of Education, are open to adults age 16 or older. The following classes are available:

- **GED Study Program:** GED stands for General Educational Development and is a way for adults to earn a high school equivalency diploma.
- **Basic Skills Enhancement:** Sometimes adults who have a high school diploma find that they need to learn new reading, writing, or math skills.
- **ESOL:** English for Speakers of Other Languages is for immigrants and refugees who are permanent residents of the United States. Classroom activities are designed to help adults adapt to a new culture and improve their English skills in the areas of speaking, listening, reading and writing.

### ABE Transitions Program

The ABE Transitions Program serves students enrolled in the college's Adult Basic Education (ABE) program. Specialized services designed to help students transition into college or career training programs are offered. The program is open to all current or former GED and ESOL students. Components of the program include:

- Assistance with the college admissions and application process
- Academic advising and course registration assistance
- Workshops and trainings focusing on career exploration, goal setting, financial aid, and technology enrichment
- Field trips to Arizona colleges and universities
- Scholarships based on special eligibility

For more information, call 928.776.2094.

### Student Life

Prescott Campus  
Activities Coordinator  
928.776.2148

### Student Life

*The mission of Student Life is to support the ongoing development of all students through diverse out-of-class opportunities. Student Life complements academic programs by providing students the opportunity to engage in social, cultural, educational, self-help, recreational, leadership and governance programs.*

The Student Life department has primary responsibility for district student activities, clubs and special events that enhance the quality of student life, promote student development, and student engagement with the College.

For information regarding Clubs and Organizations, upcoming student activities, and leadership opportunities, please visit our website at <http://www.yc.edu/v4content/student-services/student-life/default.htm> or contact our office at 928-776-2148. We are located on the Prescott Campus on the lower level of Building 1.

Student Life  
1100 E. Sheldon St, Prescott, AZ 86301  
Mon-Thurs: 8am-5pm, Fri: 9:30am-5pm  
PH: (928) 776-2148  
FAX: (928) 717-7878

### **Student ID Cards**

The Yavapai College OneCard is your multipurpose student ID card. Photo ID cards may be obtained at the Prescott or Verde Valley Campuses, as well as the Prescott Valley, Chino Valley, CTEC and Sedona sites. The ID card is valid for the duration of a student's enrollment, so you will not need a new one each semester. If you are a new student, enroll in classes for the current semester and bring proof of registration and a current photo ID to any campus enrollment office to receive your ID. If you are a continuing student, obtain a new semester validation sticker, at no charge, by presenting your previous student ID card and your current semester schedule. Report lost or stolen cards immediately to the OneCard Office to avoid misuse of the card. The fee for replacement cards is \$10.

#### **Photo ID cards are required for:**

- Residence Hall access, meal plan privileges, flexi-cash debit card privileges, and certain PHE classes
- Checking out library materials in lieu of the Yavapai Library Network card

### **Mail Center**

The Mail Center is located in Building 7, Room 101B and offers shipping services via US Mail (including stamps), UPS, and FedEx. Faxing services and limited shipping supplies are also available. Residence Hall students are provided with an on-campus mailbox free of charge. For more information: [www.yc.edu/mailcenter](http://www.yc.edu/mailcenter).

### **Bookstore Purchases**

Students can purchase required textbooks, reference materials, supplies, greeting cards, Yavapai College clothing and gifts at the Yavapai College Bookstore. Students may use personal checks with proper identification, Visa, MasterCard, Discover and American Express to make their purchases. Textbooks can also be purchased online at [www.cbamatthews.com/yavcol/](http://www.cbamatthews.com/yavcol/). Course textbook information is subject to change up to the start of classes. For the most current information, contact the Yavapai College Bookstore. If you purchase your textbooks from a source other than the Yavapai College Bookstore, buyback and return procedures must be arranged with the company from which you purchased your texts. For more information: [www.yc.edu/bookstore](http://www.yc.edu/bookstore).

### **Housing**

Yavapai College has three residence halls on the Prescott Campus. Students live in either two-person rooms or four-person suites. Each unit has a private bath and the bedrooms have wall-to-wall carpeting, cable and high speed internet services. All students who apply for housing should refer to the Standards of Residence online for the rules and regulations that govern residence hall living.

#### **Housing Reservations**

##### **Steps for securing on-campus housing:**

1. APPLY EARLY! Housing is limited
2. Submit completed application with deposit
3. Housing applications are obtained online at [www.yc.edu/residencelife](http://www.yc.edu/residencelife)
4. Include photocopy of immunization records with dates of required immunizations for MMR and meningococcal meningitis
5. Initial housing assignments are on a first come, first served basis

##### **Returning students:**

- Have the first option on rooms
- Must keep their housing application and deposit current
- Must pay any outstanding college charge

### **Housing Deposit**

Reservations are made by the Residence Life Office upon receipt of all required materials, providing rooms are still available. Deposits received after all spaces are filled will result in students being notified of their placement on a waiting list. Students who do not want to be on a waiting list may cancel their request and receive a full refund.

**The housing deposit has two purposes:**

1. Indication of a commitment to occupy a space in the residence hall
2. To insure against damages and loss of college property and expenses

**The housing deposit is refundable upon completion of the contract minus any damage fees (if applicable). All details can be found on the housing contract.**

### **Housing Regulations**

- Students must be enrolled in at least twelve credit-hours per semester.
- All residents are subject to the rules and regulations governing residence hall life as listed in the Standards of Residence and Student Code of Conduct.
- The Residence Life Office reserves the right to change, deny or to cancel the room reservation, either before or while the student occupies the room, if such action is believed to be in the best interest of the student and of the college.
- The college reserves the right (subject to the approval of the Yavapai College Governing Board) to increase the room charges as deemed necessary.
- Except for animals providing disability assistance, animals are prohibited in residence halls.
- Family housing is not available.
- Students in housing are expected to maintain a minimum 2.0 grade point average.

### **Food Services for Residence Hall Students**

Yavapai College food service offers a wide variety of meals based on a food court concept and is prepared fresh when ordered. Meals and snacks are available to both board students and off-campus students. Residence Hall students are required to purchase a meal plan. Meal plans guarantee a specific number of meals each week for the student. Roughrider Dollars are also available to supplement the meal plan. Meal plans and prices are subject to change. For further information regarding rates or plans, consult the Residence Life website at [www.yc.edu/residencelife](http://www.yc.edu/residencelife) or call 928.776.2220.

### **Meal Plan Refund Policy**

1. Downgrades in the meal plan will not be permitted after the first week of the meal plan. Meal plan cycles begin on Friday and end on Thursday.
2. Meal plan refunds are given on a weekly pro-rated basis.

Emergency 911 Non-emergency 311  
**Any campus phone**  
(except Chino Valley Campus)

Prescott Campus  
Prescott Valley Campus  
Chino Valley Campus  
**24 hour phone number**  
**928.776.2185**

Verde Valley Campus  
Sedona Center for  
Arts & Technology  
**928.634.6599**

## College Police

Arizona Revised Statutes recognize Yavapai College Police Department (YCPD) officers as peace officers, providing them with full enforcement authority in the State of Arizona. YCPD officers are commissioned under the authority of the Yavapai College District Governing Board with jurisdiction of all campuses and property owned and/or utilized for educational purposes by Yavapai College approved by the District Governing Board.

### Yavapai College Police Department (YCPD) services include:

- Responding to emergencies on campus
- Investigating traffic accidents
- Investigating crimes and violations of college policy
- Delivering emergency messages
- Assisting victims of crime
- Patrolling and monitoring the campus grounds for intrusion, fire, criminal activity and hazardous conditions
- Traffic control and sign placement
- Providing security consultation to the campus community
- Monitoring fire alarms
- Maintaining lost and found
- Serving as a central location for campus safety information
- Providing crime prevention seminars and programs
- Assisting with requested door locks/unlocks

## Campus Crime Reporting

The Yavapai College Police Department provides crime statistics for all campuses. These statistics can be obtained from the College Police Office, Student Affairs Office or on the **College Police website**.

Notification of college crime statistics is either mailed in post card format or sent by e-mail each year to currently enrolled students, faculty and staff. Prospective students are advised of the availability of the crime statistics through recruiters and also through the **College Police website**. Federal law, through the Department of Education, mandates that Yavapai College provide the college community with this information annually. The annual report is available on the **College Police website**, and also available for distribution at the College Police Department.

# Yavapai College Catalog • 2013/14

## STUDENT RIGHTS & RESPONSIBILITIES

Office of the  
Registrar

[www.yc.edu/registrar](http://www.yc.edu/registrar)

### Student Records Disclosure

The Family Educational Rights and Privacy act of 1974 (FERPA) affords eligible students certain rights with respect to their education records. (An "eligible student" under FERPA is a student who is 18 years of age or older or who attends a postsecondary institution.) These rights include:

1. The right to inspect and review the student's education records within 45 days of the day Yavapai College receives a request for access. A student should submit to the registrar, dean, head of the academic department, or other appropriate official, a written request that identifies the record(s) they wish to inspect. The College official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the school official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education records that the student believes is inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA.

A student who wishes to ask the College to amend a record should write the school official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed.

If the College decides not to amend the record as requested, the College will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to provide written consent before the College discloses personally identifiable information (PII) from the student's education records, except to the extent that FERPA authorizes disclosure without consent.

The College discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by the College in an administrative, supervisory, academic, research or support staff position (including law enforcement unit personnel and health staff); a person serving on the board of trustees; or a student serving on an official committee, such as a disciplinary or grievance committee. A school official also may include a volunteer or contractor outside of the College who performs an institutional service or function for which the school would otherwise use its own employees and who is under the direct control of the school with respect to the use and maintenance of PII from education records, such as an attorney, auditor, or collection agent or a student volunteering to assist another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for the College.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Yavapai College to comply with the requirements of FERPA. The name and address of the Office that administers FERPA are:

**Family Compliance Office**  
U.S. Department of Education  
400 Maryland AVE S.W.  
Washington, DC 20202-5901



Office of the  
Registrar

[www.yc.edu/registrar](http://www.yc.edu/registrar)

### **Student Records Disclosure (con't)**

FERPA permits the disclosure of PII from students' education records, without consent of the student, if the disclosure meets certain conditions found in 99.31 of the FERPA regulations. Except for disclosures to school officials, disclosures related to some judicial orders or lawfully issued subpoenas, disclosures of directory information, and disclosures to the student, 99.32 of FERPA regulations requires the institution to record the disclosure. Eligible students have a right to inspect and review the record of disclosures. A postsecondary institution may disclose PII from the education records without obtaining prior written consent of the student—

- To other school officials, including teachers, with the College whom the school has determined to have legitimate educational interests. This includes contractors, consultants, volunteers, or other parties to whom the school has outsourced institutional services or functions, provided that the conditions listed in 99.31 (a)(1)(i)(B)(1)-(a)(1)(i)(B)(2) are met. (99.31(a)(1))
- To officials of another school where the student seeks or intends to enroll, or where the student is already enrolled if the disclosure is for the purposes related to the student's enrollment or transfer, subject to the requirements of 99.34. (99.31(a)(2))
- To authorized representatives of the U.S. Comptroller General, the U. S. Attorney General, the U.S. Secretary of Education, or State and local educational authorities, such as a State postsecondary authority that is responsible for supervising the university's State-supported education programs. Disclosures under this provision may be made, subject to the requirements of 99.35, in connection with an audit or evaluation of Federal- or State-supported education programs, or for the enforcement of or compliance with Federal legal requirements that relate to those programs. These entities may make further disclosures of PII to outside entities that are designated by them as their authorized representatives to conduct any audit, evaluation, or enforcement or compliance activity on their behalf. (99.31(a)(3) and 99.35)
- In connection with financial aid for which the student has applied or which the student has received, if the information is necessary to determine eligibility for the aid, determine the amount of the aid, determine the conditions of the aid, or enforce the terms and conditions of the aid. (99.31(a)(4))
- To organizations conducting studies for, or on behalf of, the school, in order to: (a) develop, validate, or administer predictive tests; (b) administer student aid programs; or (c) improve instruction. (99.31(a)(6))
- To accrediting organizations to carry out their accrediting functions. ((99.31(a)(7))
- To parents of an eligible student if the student is a dependent for IRS tax purposes. (99.31(a)(8))
- To comply with a judicial order or lawfully issued subpoena. (99.31(a)(9))
- To appropriate officials in connection with a health or safety emergency, subject to 99.36. (99.31(a)(10))
- Information the school has designated as "directory information" under 99.37. (99.31(a)(11))
- To a victim of an alleged perpetrator of a crime of violence or a non-forcible sex offense, subject to the requirements of 99.39. The disclosure may only include the final results of the disciplinary proceeding with respect to that alleged crime or offense, regardless of the finding.(99.31(a)(13))
- To the general public, the final results of a disciplinary proceeding, subject to the requirements of 99.39, if the school determines the student is an alleged perpetrator of a crime of violence or non-forcible sex offense and the student has committed a violation of the school's rules or policies with respect to the allegation made against him or her. (99.31(a)(14))

# Yavapai College Catalog • 2013/14

## STUDENT RIGHTS & RESPONSIBILITIES

Office of the Registrar

[www.yc.edu/registrar](http://www.yc.edu/registrar)

### Student Records Disclosure (con't)

- To the parents of any student regarding the student's violation of any Federal, State, or local law, or of any rule or policy of the school, governing the use or possession of alcohol or a controlled substance if the school determines the student committed a disciplinary violation and the student is under the age of 21. (99.31(a)(15))

### Directory Information

In compliance with FERPA, Yavapai College designates the following personally identifiable information about a student as directory information. Unless restricted by a student, directory information may be released to the public without the prior consent of the student. The student may request a privacy hold ("confidentiality hold") in person or in writing through Enrollment Services. These requests remain in effect until revoked in person or in writing. Directory information includes: name, address, telephone number, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of athletic team members, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended, photographs, email address, and grade level.

### Code of Conduct

[www.yc.edu/conduct](http://www.yc.edu/conduct)

### Code of Conduct

Yavapai College strives to create an atmosphere which supports the academic mission of the institution. Students should be able to learn in an environment which is orderly, peaceful, and free of disturbances. Respect for the rights of others and for the college and its property are essential expectations for each Yavapai College student. The purpose of the Code of Conduct is to outline behavioral expectations, and to provide an explanation of the process involved for responding to allegations of student misconduct.

### Academic Integrity

Honesty in academic work is a central element of the learning environment. The presentation of another individual's work as one's own or the act of seeking unfair academic advantage through cheating, plagiarism or other dishonest means are violations of the College's "Code of Conduct." Failure to abide by the terms and conditions of the "Code of Conduct" will result in disciplinary action, up to and including dismissal from the College.

### Plagiarism

Plagiarism is defined as submitting any academic work which is not entirely the work of the student, deliberately or accidentally. This can include, but is not limited to, such practices as not giving proper credit to a source, expanding someone else's work without giving proper credit, adopting another's work as one's own (including the copying of print or electronic media), directly using someone else's ideas without giving proper credit, and deliberately changing selective words to misrepresent someone else's work as one's own.

### Cheating

Cheating is defined as submitting assignments, examinations, or other work which is based on deception or misrepresentation of the individual's own work. Cheating includes the furnishing of materials to another person for purposes of aiding that person to gain unfair academic advantage.

### Violation of Copyright

The unauthorized reproduction or use of copyrighted material, whether print or electronic media, is unacceptable and considered an act of academic dishonesty. In addition, the violator may be subject to legal penalty since such practice is illegal.

Each student is responsible for the academic integrity of all work completed for a given course.

### **Penalties**

The following penalties may be applied in instances of misconduct (e.g. academic dishonesty, unacceptable behavior in the learning environment, or disrespectful communication):

- 1. Removal from Class:** an instructor may dismiss a student from a class meeting or learning environment for misconduct. This action shall be immediately reported to the supervising instructional Dean. The student must confer with the instructor and the supervising instructional Dean before being readmitted to class. In extreme cases, the student may be dropped from class.
- 2. A grade of "F" (failure)** may be awarded for the assignment or activity in which misconduct occurred or for the entire course regardless of the length of time the student has been in attendance. The grade of "F" will override or supersede any student-initiated withdrawal from the course.
- 3. Referral to the Code of Conduct Judicial System:** if the student's conduct is deemed in need of action beyond academic recourse by the supervising instructional Dean, the student will be referred to the college judicial system. Sanctions may include suspension, expulsion, and/or revocation of degree and/or certificate. Once the case has been referred to the College judicial process, procedures for appeals will follow the guidelines provided in Section 2-3.
- 4. Legal measures** may be taken by Yavapai College, including referral to law enforcement or civil action.

### **Tobacco Use Policy**

Yavapai College is committed to limiting exposure to the harmful effects of primary and secondary smoke to campus students, visitors, and employees. In order to reduce the harmful effects of tobacco use and maintain a healthful working and learning environment, the district prohibits the use of tobacco except in specific areas. Tobacco use on college property is defined as lighted pipes, cigars, cigarettes, and the use of snuff and smokeless tobacco in any form.

[www.yc.edu/  
studentservices](http://www.yc.edu/studentservices)

### **Non-Academic Complaints**

The Yavapai College process for non-academic complaints is to be used for issues other than disciplinary or academic matters and provides students protection against unwarranted infringement of their rights. A non-academic student complaint may concern an alleged violation of college policies, infringement of student rights, and other such problems dealing with students, college staff and faculty, and authorized college activities.

The following procedures will be followed to insure an appropriate resolution of a student non-academic complaint at the lowest possible level:

- 1.** The student will attempt to rectify the complaint with the person or party directly involved in the alleged violation within ten (10) college business days. For the purpose of this policy, a "business day" shall be a weekday during which regular classes are being held at the college. Every effort will be made to resolve the complaint at the lowest possible level.
- 2.** Where resolution is impossible or unsatisfactory to either party, the student should appeal to the appropriate supervisor within ten (10) college business days. The supervisor will informally discuss the matter with the student in an effort to resolve the complaint.
- 3.** If the student feels the complaint has not been resolved, they may submit a written complaint to the Dean of Student Services within ten (10) college working days from the time the complaint was filed at the previous level. The Dean will work with all parties involved to mediate the complaint in a timely manner. In order to mediate the complaint, the Dean may engage faculty or staff members relevant to the complaint in an informal discussion. The decision of the Dean of Student Services regarding a non-academic complaint is final.

### **Drug Free Environment Policy**

Yavapai College's policy is to provide an environment free of drugs and alcohol. The use of illegal drugs and the abuse of alcohol pose significant threats to health and can be detrimental to the physical, psychological, and social well-being of the user and the entire Yavapai College community.

Yavapai College has a responsibility as part of its educational mission to provide students, faculty, and staff with knowledge about the dangers of substance abuse and to help them develop a healthy approach to life. We intend to create and sustain an atmosphere that promotes healthy lifestyles free from the abuse of alcohol and other drugs.

To address the serious nature of alcohol and drug use at Yavapai College and in keeping with the Drug-Free Schools and Communities Act, Yavapai College has adopted a Drug-Free Workplace Policy. The policy prohibits the unlawful possession, use, or distribution of drugs and alcohol by students and employees.

Information regarding: 1) the laws governing the distribution, use and possession of drugs and alcohol; 2) the health risks associated with substance abuse, and; 3) education and prevention services and programs may be found in the "Student Right to Know" pamphlet available at the following locations:

- College Police Office on the Prescott Campus
- Associate Dean for Student Services Office on the Prescott Campus
- Admissions, Registration & Records Office on the Prescott Campus
- Human Resources on the Prescott Campus
- Student Enrollment & Advising Center on the Verde Valley Campus
- Chino Valley Campus
- Prescott Valley Campus
- Sedona Center for Arts and Technology

### **College Photo and Videotape Policy**

Yavapai College takes photos and videotapes of students throughout the year. These photographs often include students in classrooms, study areas, residence halls, athletic events and so forth. Yavapai College reserves the right to use these photographs as part of its publicity and marketing efforts. Students who enroll at Yavapai College do so with the understanding that these photographs might include them and might be used in college publications and for publicity.

### **Internet Downloading**

Yavapai College technological equipment and resources must be used in accordance with the Copyright Guidelines. Use of Yavapai College technological equipment and resources to illegally copy, download, access, print or store copyrighted material is strictly prohibited. For example, file swapping of copyrighted material such as music or movies is strictly prohibited. Users found to violate this policy will have their privileges to use Yavapai College technological equipment and resources revoked.

### **Academic Requirements**

The college has established academic requirements which must be met before a degree or certificate is granted. Faculty, academic advisors, division assistant deans and deans are available to help the student understand and meet these requirements, but the student is responsible for fulfilling them. At the end of a student's course of study, if requirements for graduation have not been satisfied, the degree or certificate will not be granted. For this reason, it is important for the student to be acquainted with all requirements, to remain currently informed of all requirements and to be responsible for completing the requirements. Courses, programs, and requirements described in the catalog may be suspended, deleted, restricted, supplemented or changed at any time at the discretion of the Yavapai College District Governing Board.

### **Assessment of Student Academic Achievement**

As part of its stated mission regarding excellence in education, Yavapai College is committed to assessing student academic achievement. The purpose of assessment is to measure the degree to which students attain the educational goals and outcomes as prescribed by the individual academic units of the college. In order to verify that these goals are being met, the faculty and staff of the college may require students to participate in research that will help the college determine the extent to which these goals are being met. This research may include, but is not limited to: classroom assessment projects, portfolio project review, nationally normed examinations, focus interviews and faculty developed exit examinations.

The college will use data obtained from the research to improve instruction and restructure curriculum and programs within the college; the college will not use this data to determine the graduation status of students.

### **Academic Load**

Classes routinely require two to three hours of outside preparation for each hour spent in class. Some specialized academic programs may require additional outside preparation. To ensure that students have every opportunity for success in courses, academic loads must be carefully planned.

Full-time student status is defined as 12 credit hours per semester. A typical academic load for many programs is 15-16 credit hours per semester; the maximum academic load is generally 18 credit hours. Ordinarily, only a student with a grade point average of 3.00 or better of full-time work is allowed to carry more than the maximum load. A student not qualifying may petition the Director of Academic Advising District for permission to carry an overload.

Students who are employed or who undertake many extracurricular activities will find it advisable to reduce their academic loads accordingly.

# Yavapai College Catalog • 2013/14

## ACADEMIC INFORMATION & STANDARDS

### Grades and Credits

Instructors will evaluate student achievement of course learning outcomes, and students will be regularly informed of their progress. Evaluation measures will be clearly set forth by the instructor in the course syllabus. A variety of evaluation methods relevant to the learning outcomes may be used.

### Grades and Credits

Grades		
Letters	Grades	Grade Points
A	Excellent	4 grade points per semester hour
B	Good	3 grade points per semester hour
C	Average	2 grade points per semester hour
S	Satisfactory	not computed in GPA (equivalent to C grade)
<i>A course completed with a grade of A, B, C or S fulfills the prerequisite requirement for another course. A maximum of 12 credit hours of S grades may be applied to a degree or certificate program. Grades of S are not an option towards completion of an AGEC (Arizona General Education Curriculum) certificate.</i>		
D	Unsatisfactory	1 grade points per semester hour
F	Failure	0 grade points per semester hour
U	Unsatisfactory	not computed in GPA
<i>A course completed with a grade of D, F or U does not fulfill the prerequisite requirement for another course and may not be applied to a degree or certificate requirement.</i>		
I	Incomplete	not computed in GPA
W	Withdrawal	not computed in GPA
Y	Administrative Withdrawal	not computed in GPA
AU	Audit (no credit)	not computed in GPA

#### To calculate the Grade Point Average (GPA) for the semester:

1. Multiply the points assigned to the letter grade by the number of credit hours earned in each class
2. Add the points of all classes together
3. Divide by the total number of credits

#### Sample Grade Point Average (GPA) Calculation

CRS. #	Course Title	Grade Letter=(Points)	Credit Hours	Total Grade Points
ENG 101	College Comp 1	A (4)	x 3	= 12
FRE 101	Beginning French 1	B (3)	x 4	= 12
<b>Totals</b>			<b>7</b>	<b>24</b>
<b>Total Grade Points (24) divided by Total Credit Hours (7)=3.4 GPA</b>				

**Office of the  
Registrar**

[www.yc.edu/registrar](http://www.yc.edu/registrar)

### **Academic Honors List**

An honor bestowed upon students who demonstrate exemplary performance. To be eligible, a student must complete 12 or more credits in that semester with a grade point average of 3.5 or higher.

### **Auditing a Course**

A student wishing exposure to a course may elect to audit. Regular attendance at all class meetings is the responsibility of the student, but writing assignments and examinations are not mandatory. A grade of "AU" will be awarded for satisfactory attendance. Courses audited carry no credit toward the grade point average, toward graduation, or toward meeting professional requirements. Audit units do not count toward determining the eligibility for financial aid purposes. Audits may be repeated for credit. Once a student registers for and completes a class as an auditor, the audit on the permanent record may not be changed to a credit-earning grade. Students enrolling for credit will have priority over auditors until the first class day of the course, at which time auditors may enroll on a space available basis. An additional fee is assessed to audited courses. Go to [www.yc.edu/tuition](http://www.yc.edu/tuition) for current fee.

### **Repeating a Course**

A student may repeat any course offered by Yavapai College in order to improve a grade, or gain additional knowledge, experience, or other benefit, limited only by the following conditions:

- The credit earned in repeated courses will only be counted one time for completion of degree/certificate requirements unless otherwise noted in the course description
- A student may enroll in concurrent sections of a course only if the course is numbered 000-099
- Repeated courses may not be eligible for federal Financial Aid funding
- An individual student's repeat enrollments in specific courses may be restricted if it is determined to be in the best interest of the student or College

All grades appear on the permanent transcript. Included in the cumulative grade point average is the highest single grade earned in a course and all applicable grades earned in repeatable courses.

### **Incomplete Grades**

A grade of "I" may be requested by a student and will be posted to the student's permanent record only at the end of a semester in which the student has done the following:

1. Has completed a significant majority of the work required for the course while maintaining a "C" average for work submitted and is capable of completing the remainder of the required work for this course
2. Experienced extenuating circumstances which prevent completion of the course requirements

It is the exclusive responsibility of each student receiving an Incomplete to be in communication with the instructor and complete the course(s) by the deadline established by the instructor; the maximum of which can be 90 days. The instructor will then initiate a Change of Grade form. If the instructor is no longer available, the student should contact the supervising instructional division dean. If the work required is not completed by the deadline established by the instructor, the grade specified by the instructor will be posted to the permanent record.

**Office of the Registrar**

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**Satisfactory (S)/Unsatisfactory (U) Grades**

Yavapai College encourages each student to explore areas of study outside the major field of study. The S/U grading option is one way the College stimulates this exploration.

The "S" grade is defined as equivalent to a grade of "C" or better on the conventional grading scale of A-F. A course completed with an "S" grade indicates appropriate subject area knowledge to satisfy the prerequisite requirement of a related higher-level course.

Specified courses are graded only S/U. Students who prefer the S/U grading option must notify the class instructor. Conditions of Satisfactory/Unsatisfactory (S/U) grading:

- Since some college and universities limit the number of credits completed with S/U grading that will transfer, or restrict the way that such credits may be applied to degree requirements, it is recommended that students preparing to transfer select the S/U grading option only for elective courses.
- A maximum of twelve (12) hours of "S" credit from 100- and 200-level courses may be applied toward Yavapai College graduation requirements.
- S/U grading is not an option for courses applied to the Arizona General Education Curriculum (AGEC).
- S/U grades are not computed in the student's Yavapai College grade point average.

**Change of Final Grade**

In case of clerical error, students may request a grade change no later than 120 days after the official notification date. Once the grade for a course has been officially recorded by the Registrar, the instructor may change the grade because of one of the following:

1. An error occurred in the computing and/or recording of the grade
  2. An incomplete grade (I) or an in-progress (IP) grade was originally recorded
- If the instructor of the course is no longer available, the student may submit a written request to change the grade to the supervising instructional division dean. Such request must provide documented reasons why a change should be made.



### **Student Appeal of Academic or Instructional Decisions by Faculty**

Students may appeal an academic or instructional decision by faculty if they deem the decision is incorrect or unfair. The appeal must be made in a timely manner in accordance with established procedures. Issues that may be appealed include, but are not limited to, assignment of grades and course requirements.

#### **Process**

Students must represent themselves in the appeal process. Students may contact their academic advisor for assistance.

- 1.** The first step in the appeal process is for the student to contact the faculty member who made the academic or instructional decision. This contact must be initiated within 120 calendar days of the official notification date of the decision.
- 2.** In the event that a satisfactory solution is not reached by the faculty member and the student, or in the event the faculty member and student are unable to address the appeal, the student may then appeal in writing to the appropriate instructional dean or designee (hereafter referred to as supervisor).

The supervisor will review the student's appeal and make a decision based on its merits. The supervisor's investigation and decision must be concluded within 30 calendar days of the date the student appealed the decision to the supervisor. The supervisor will provide written documentation of the decision to the student and faculty member.

- 3.** In the event the student is dissatisfied with the decision of the supervisor, a further appeal may be made to the Academic Vice President or designee. Such appeal must be made in writing within 30 calendar days of the date the student received notification of the results of the secondary appeal.

This formal, written appeal must contain information and documentation supporting the reason for requesting review of the initial academic or instructional decision. This written appeal should succinctly describe the issues involved, including relevant conditions, evidence, perceived inaccuracies/inequities, and other pertinent information.

The Academic Vice President or designee will conduct a formal review of the appeal as presented by the student, including review of relevant policy, considering information from the faculty member, and reviewing the decision of the dean.

The formal review and decision must be completed within 30 calendar days of the Academic Vice President receiving the student's written appeal. The Academic Vice President's decision must be communicated in writing to all involved parties within 30 calendar days. The decision of the Academic Vice President is considered final.

Office of the  
Registrar  
[www.yc.edu/registrar](http://www.yc.edu/registrar)

### **Standards of Academic Progress**

The College has a process by which a student who experiences academic difficulty may receive assistance to improve academic performance and progress toward educational goals. Unsatisfactory academic progress is indicated by academic warning, academic probation, and academic suspension.

In order to plan a program of study and create an awareness of College resources which will assist a student's return to satisfactory academic standing, a student who has made unsatisfactory academic progress must meet with an academic advisor. Academic advisors may limit the number of credit hours a student may enroll in, require developmental classes, or recommend other resources that may assist the student.

In order for a student to be removed from academic warning or probationary status, the student must attain academic good standing (2.00 Cumulative GPA). A student's academic status will be determined at the end of each semester. The student who has made unsatisfactory academic progress will receive written notification at the end of the semester.

The academic standards categories and resulting status of students are listed below.

#### **Academic Warning:**

A student who has attempted 12 credits or more and earned a cumulative GPA of less than 2.0 is placed on Academic Warning (AW).

A student on academic warning (AW) may continue attending school as long as the student maintains a semester GPA equal to or greater than 2.0, based on attempted credits.

The academic warning (AW) standing will remain in effect until the cumulative GPA meets or exceeds 2.0, at which time the academic warning (AW) standing is removed.

#### **Academic Probation:**

If a student on academic warning (AW) earns less than 2.0 semester GPA in the subsequent semester, based on attempted credits, the academic warning (AW) standing converts to academic probation (AP).

A student on academic probation (AP) may continue attending school for up to two subsequent semesters. During the first semester on academic probation (AP), the student must achieve a semester GPA of 2.0 or above. During the second semester of academic probation (AP), the student must achieve a cumulative GPA of 2.0 or above.

#### **Academic Suspension:**

If the student on academic probation (AP) does not meet the above requirements, the academic standing converts to academic suspension (AS) and the student will be suspended from Yavapai College.

### **Petition for Reinstatement**

A student who has been placed on academic suspension may petition to the Dean for Student Services (or designee) in writing, stating the reasons why the academic status and stated restrictions should be waived or changed. A petition will be considered after a minimum one semester waiting period. The petition is to be submitted at least one week prior to the semester for which enrollment is requested. If reinstatement is approved, the student will be placed on academic probation (AP) and progress will be reviewed at the end of each semester. The decision of the Dean for Student Services (or designee) is final.

### **Academic Renewal**

Academic Renewal allows a student who experienced academic difficulties during earlier attendance at Yavapai College to have grades for a particular period of time excluded from the calculation of the grade point average. All courses and grades remain on the student's permanent academic record.

#### **Conditions:**

- Before applying for Academic Renewal the student must complete at least twelve credit hours of academic course work with a grade of "C" or better in each course.
- Application for Academic Renewal may be made after a two-year waiting period from the last semester to be considered for renewal.
- Academic Renewal is granted on a semester basis, not on a per course selection basis. The student may have a maximum of four consecutive semesters (including summer) of course work disregarded in calculations regarding academic standing, grade-point average, and eligibility for degree or certificate completion.
- Academic Renewal may be granted only once during a student's academic career at Yavapai College and may not extend to other institutions.
- If a student's application for Academic Renewal is approved, the student's permanent record will be annotated to indicate that no work completed during the disregarded semester(s) or term(s), even if satisfactory, may be calculated in the grade-point average or applied to completion of certificate/degree requirements. Academic Renewal is not available to students who have already completed requirements for a certificate or degree. Since the student's complete record (before and after Academic Renewal) remains on the transcript, other institutions may consider all course work when a student transfers or applies to professional or graduate-level programs.

#### **Procedures:**

1. The student application for Academic Renewal must be obtained from an academic advisor.
2. The student's academic advisor must sign the form and attach a copy of the student's transcript and forward to the Office of the Registrar.
3. The application must be approved by the Registrar. If approved, the Registrar will update the student's transcript.

### **College Honors Program**

Each year the college accepts approximately twenty-five students into its Honors Program. The program offers educational enrichment through travel, special events, lectures, and honors classes. Students enroll in a one-credit class (“The Honors Colloquium”) each semester. The Honors Colloquium, when successfully completed three semesters, fulfills the Yavapai College Critical Thinking requirement. Most years, students in the program are expected to participate in an extensive college-sponsored trip to a location selected for its cultural interest.

Admission to the program is through a competitive application process and is based on academic achievement and a demonstrated ability to think critically and independently. Entering freshmen must have a cumulative grade point average of at least 3.50 on a 4 point scale, or have scored at least 650 on a High School Equivalence Diploma, be at least 17 years old by the start of their first semester in the program, have completed no more than 13 credit hours of 100-level or higher college coursework (with a minimum 3.50 GPA for any completed credits). Continuing students who have completed 14-48 hours of Yavapai College credit (in courses numbered 100 or above) with a grade point average of at least 3.50 may also apply for admission.

Required application materials include transcripts, letters of recommendation, a Yavapai College academic plan (continuing students only), SAT or ACT scores (incoming freshmen only) and an essay on an assigned topic. Updated application instructions are available on the Honors Program website ([www.yc.edu/chp](http://www.yc.edu/chp)) in late December. The deadline for application is March 1.

Once admitted, students must complete a minimum of 13 credit hours per semester, make satisfactory progress toward a Yavapai College Associate degree, maintain a minimum grade point average of 3.50, and participate fully in Honors Program activities in order to remain in the program.

#### **Benefits to College Honors Program Students:**

- Scholarships of \$1,000 per semester
- Tuition waivers for 13 - 16 credit hours per semester
- Up to 4 semesters of eligibility for students admitted as incoming freshmen
- Admission to honors classes
- Opportunities to interact with other academically gifted students
- Opportunities for intellectual and cultural growth and enrichment experiences, including travel
- Advisement and other activities designed to clarify long-range career and academic plans
- Assistance in applying for scholarships and admission to honors programs at universities where students intend to complete baccalaureate study
- Special recognition upon graduation

More information about the program is available on the Honors Program website ([www.yc.edu/chp](http://www.yc.edu/chp)).

### **Articulation Agreements**

Articulation and transfer agreements specify which courses are equivalents from another institution. Your advisor will be able to tell you if such an agreement exists, and for which specific courses. Related information is available at University Transfer Information/Resources found at [www.yc.edu/advising](http://www.yc.edu/advising).

### **College Level Equivalency Exams**

College Level Examination Program examinations (CLEP) are administered by the Assessment and Testing Center. For information about the specific examinations administered and accepted by Yavapai College and fees involved, call 928.776.2200. For CLEP course titles and outlines of each course, go to <http://www.collegeboard.com/student/testing/clep/about.html>.

### **Military Training and Experience:**

ACE Military Registry Transcripts including AARTS (Army); SMART (Navy and Marine Corp); CCAF (Air Force); and CARTS (Coast Guard) can be considered. The student must request that the transcript be sent to Enrollment Services or electronically to: [electronicreceipts@yc.edu](mailto:electronicreceipts@yc.edu). For more information: consult <http://aarts.army.mil/> (check the information on "Related Links/Referrals" for other military branches of service).

- Credit awarded is not necessarily transferable to other institutions, and may impact financial aid awards. Students should meet with a financial aid advisor prior to pursuing assessment of military training.

### **Office of the Registrar**

[www.yc.edu/registrar](http://www.yc.edu/registrar)

### **Prior Learning**

Yavapai College recognizes that learning experiences take place in a variety of settings. Many students have significant, demonstrable learning that has come from educational experiences outside the traditional academic environment. Students may be awarded college credit for prior or extra-institutional learning based on established assessment methods including articulation agreements, credit by evaluation, and college-level equivalency examinations. All assessment methods used by the College require faculty review and oversight to determine that learning outcomes have been accomplished by determining acceptable test scores, appropriate equivalencies, special program requirements, or other academic considerations.

### **Additional Information:**

- A maximum of 30 credit hours by any combination of examination, special articulation agreement, or evaluation will be accepted.
- A student must successfully complete at least one credit course at Yavapai College before any credit for prior learning will be documented on the College transcript.
- Duplicate credit will not be awarded for prior learning in subject matter for which the student has already received credit.
- Assessment for prior learning will not be administered for equivalency of courses numbered below 100.
- Credit will not be granted for more elementary course work or for a prerequisite to a course in which the student is enrolled or for which the student has already received credit.
- An official transcript or documentation of test scores must be sent directly to the Registrar from the administering agency or testing company prior to assessing eligibility for credit.
- The Yavapai College transcript will document only that credit for prior learning has been granted and the number of credits awarded. No letter grade will be assigned for any assessment of prior learning and no record will be made of unsuccessful assessments.
- While Yavapai College will award credit for prior learning in accordance with institutional policies and procedures, the credit is not necessarily transferable to other colleges and universities. Therefore, students are strongly advised to meet with a program advisor at the college or university they plan to attend.
- Credit for prior learning may impact financial aid awards. Therefore, students are strongly advised to meet with a financial aid advisor prior to pursuing assessment of prior learning.
- The student must pay any fees and adhere to approved administrative procedures for the prior learning assessment method selected. All fees are non-refundable.

## ACADEMIC INFORMATION & STANDARDS

Students who have taken a college board advanced placement course in their secondary school may be eligible to receive YC credit. Listed are the AP subject areas accepted by Yavapai College, the score required, the credit awarded and the recommended YC equivalent. Students should have their scores sent directly to the YC Registrar's office.

### Advanced Placement (AP) Table

Exam	Score	Credits	YC Equivalent
Art History	3	3	ART 200 or ART 201
	4/5	6	ART 200 & ART 201
Biology*	3	4	BIO 100
	4/5	8	BIO 181 & 182
Calculus AB*	3/4/5	5	MAT 220
Calculus BC*	3	5	MAT 220
	4/5	10	MAT 220 & MAT 230
Chemistry*	4/5	5	CHM 151
Economics: Macro	4/5	3	BSA 235
Economics: Micro	4/5	3	BSA 236
English Language & Composition	4/5	3	ENG 101
English Literature	4/5	6	ENG 101 & Elective#
European History	4/5	6	HIS 201 & HIS 202
Government & Politics: US	4/5	3	POS 110
Government & Politics, Comp.	4/5	3	Elective Credit
Music Theory	4/5	4	MUS 131
Physics B*	4	4	PHY 141
Physics B*	5	8	PHY 141 & 142
Physics C* Part I (Mechanics)	3/4/5	4	PHY 141
Physics C* Part II (Elect. & Magnetism)	3/4/5	4	PHY 142
Psychology*	4/5	3	PSY 101
Spanish Language	3/4/5	16	SPA 101, 102, 201 & 202
Spanish Literature	3/4/5	16	SPA 101, 102, 201 & 202
Statistics*	3/4/5	3	MAT 167
Studio Art: Drawing	4/5	3	ART 110**
Studio Art: 2D Design	4/5	3	ART 112**
Studio Art: 3D Design	4/5	3	ART 113**
US History*	4/5	6	HIS 131 & 132

\*These areas of study represent the Advanced Placement Standards set by the state of Arizona's Articulation Task Forces and approved by the Academic Program Articulation Steering Committee.

\*\*To receive credit, student must submit their portfolio to the Visual and Performing Arts Division Dean for approval.

#Students are eligible to enroll in ENG 104

# Yavapai College Catalog • 2013/14

## ACADEMIC INFORMATION & STANDARDS

Students may earn credit by successfully completing CLEP examinations. Listed across are the CLEP subject areas accepted by Yavapai College, the credit awarded and the recommended Yavapai College equivalent. Only CLEP scores of 50 or better will be awarded credit (scoring exceptions are listed for the Spanish exam). CLEP scores are not transferred to Yavapai College from another school's transcript. CLEP scores must be sent directly to the YC Registrar's Office.

### College Level Examination Program (CLEP) Table

Name of Exam	Credits	Equivalency
<b>Business</b>		
Information Systems & Computer Applications	3	CSA 110
Introductory Business Law	3	BSA 238
Financial Accounting	3	Elective Credit
Principles of Macroeconomics	3	BSA 235
Principles of Microeconomics	3	BSA 236
Principles of Management	3	BSA 220
Principles of Marketing	3	BSA 230
<b>Composition &amp; Literature</b>		
College Composition Modular	6	TBD
<b>History &amp; Social Science</b>		
American Government	3	POS 110
History of the U.S. I	3	HIS 131
History of the U.S. II	3	HIS 132
Human Growth & Development	3	PSY 245
Introductory Psychology	3	PSY 101
Introductory Sociology	3	SOC 101
Social Sciences & History	3	Elective Credit
Western Civilization I: Ancient Near East to 1648	3	HIS 201
Western Civilization II: 1648 to the Present	3	HIS 202
<b>Science &amp; Mathematics</b>		
Biology	4	BIO 100
Pre-Calculus	5	MAT 187
Calculus	5	MAT 220
Chemistry	5	CHM 151
College Algebra	3	MAT 152
Natural Sciences	3	Elective Credit

Listed below is the College Level Examination Program (CLEP) subjects with scoring exceptions:

<b>Spanish</b>		
Score of 50	4	SPA 101
Score of 55	8	SPA 101 & 102
Score of 66	12	SPA 101, 102 & 201
Score of 68	16	SPA 101, 102, 201 & 202

**ACADEMIC INFORMATION & STANDARDS**

The International Baccalaureate (IB) Diploma Programme, offered in select high schools, is a rigorous 2-year course of pre-college studies leading to exams that can be used to qualify for college credit. Listed are the IB subject areas accepted by Yavapai College, the score required, the credit awarded and the recommended YC equivalent. Students should have their scores sent directly to the YC Registrar's office.

**International Baccalaureate (IB) Table**

<b>Exam</b>	<b>Score</b>	<b>Credits</b>	<b>YC Equivalent</b>
Biology	4/5	4	BIO 100
	6 or higher	8	BIO 181 & BIO 182
Chemistry	4	5	CHM 151
	5 or higher	10	CHM 151 & CHM 152
Economics	5 or higher	6	BSA 235 & BSA 236
Geography	5 or higher	3	GEO 105
History, American	4	3	HIS 131
	5 or higher	6	HIS 131 & HIS 132
History, European	4	3	HIS 201
	5 or higher	6	HIS 201 & HIS 202
Mathematics	5 or higher	5	MAT 220
Music	5 or higher	5	MUS 129 & MUS 240
Physics	5	4	PHY 141
	6 or higher	8	PHY 141 & PHY 142
Psychology	5 or higher	3	PSY 101
Social & Cultural Anthropology	4 or higher	3	ANT 102
Spanish	4	8	SPA 101 & SPA 102
	5 or higher	8	SPA 201 & SPA 202



### **Osher Lifelong Learning Institute (OLLI)**

The Osher Lifelong Learning Institute is a membership organization of mature learners. The purpose of the institute is to provide members with educational, social and cultural experiences. It features collaborative leadership and active member participation. For more information call 928.717.7634 (Prescott), 928.649.5550 (Verde) and 928.649.4275 (Sedona).



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928.717.7620 [cts@yc.edu](mailto:cts@yc.edu)

### **Custom Training Solutions**

Custom Training Solutions specializes in the design, development and delivery of customized education solutions for businesses throughout Yavapai County. Faculty are experts in their fields, selected to fit in with your corporate culture. These subject matter experts all use a facilitative approach that is interactive and intensive, reflecting the way adult students learn best.

**Technology:** On- or off-site training is provided in the latest software applications to help you keep pace with the technology curve.

**Essential Workplace Skills:** Practical, hands-on workshops to address critical job skills: Customer Service, Communication, Time Management, Managing Change, Decision Making, Problem Solving, Conflict Management, Ethics and Values, Stress Management, and Team Building.

**Spanish and English for the Workplace:** Classes that teach language to be used right away—on the job. Includes the award-winning, nationally recognized Command Spanish® program.

**Custom Training:** Industry-specific programs are designed to address the training challenges faced by employers today.

### **Small Business Development Center (SBDC)**

SBDC recognizes small businesses to be the foundation of a healthy economy and concentrates its efforts on assisting new businesses in getting started and on helping existing businesses grow and remain competitive.

The SBDC is a small business support organization sponsored by Yavapai College and the U.S. Small Business Administration (SBA). SBDC resources are used to counsel and train small businesses to achieve management excellence, and to identify continuous improvement opportunities in planning, finance, accounting, marketing and other critical areas. One of the training components of the SBDC program is the Small Business Entrepreneurship Certificate program.

For more information contact SBDC in the Prescott area at 928.776.2008.

## AREAS OF STUDY GUIDE • 2013-14

Yavapai College operates in compliance with all state and federal laws and does not discriminate on the basis of race, creed, disability, or age. The nondiscrimination policies cover admissions, access, and treatment in all program activities, and employment.

AREA OF STUDY	AAS/ Associate Degree*			AREA OF STUDY	AAS/ Associate Degree*		
	Certificate	Degree*	Transfer**		Certificate	Degree*	Transfer**
Accounting	■	■	■	Health Information Technology		■	
Administration of Justice	■	■	■	History			■
Administrative Office Specialist	■			Humanities			■
Agriculture Technology Mgmt (Animal Care, Aquaculture, Horticulture )	■	■	■	Industrial Plant Technician	■	■	
Anthropology			■	Legal Office Clerk	■		
Arts/Fine Arts	■		■	Legal Office Secretary	■		
Astronomy			■	Management	■	■	■
Automotive Technology	■	■		Mathematics			■
Aviation Technology		■		Medical Assistant	■		
Biology/Zoology			■	Medical Records Technician	■		
Business	■	■	■	Music			■
Chemistry			■	Nursing		■	■
Cisco Networking Specialist	■			Nursing Assistant	■		
Communications/Speech			■	Office Administration		■	
Computer Networking Technology	■	■		Paralegal	■	■	■
Computer Numerical Controlled (CNC) Machining	■			Paramedicine	■	■	
Computer Systems & Applications	■	■	■	Pharmacy Technician	■		
Creative Writing	■			Philosophy			■
Digital Filmmaking	■			Phlebotomy	■		
Diesel Technician	■	■		Photography	■		■
Early Childhood Education	■	■	■	Physical Education/Recreation/ Exercise Science	■		■
Education/Elementary			■	Physics			■
Electrical and Instrumentation Technology	■	■		Police Certification/Law Enforcement	■		
Emergency Medical Technician	■			Political Science			■
Engineering /Pre-Engineering		■	■	Pre-Professional: (Pre-Med, Law, Architecture, Pre-Pharmacy)			■
English			■	Psychology			■
Environmental Studies			■	Radiologic Technology		■	
Equine Practitioner	■			Science	■		■
Fire Science	■	■		Small Business Entrepreneurship	■		
General Education/Studies	■		■	Sociology/Social Work			■
Geography			■	Social & Human Services	■	■	■
Geology/Earth Science			■	Theatre/Dance			■
Gerontology	■			Video Game Development		■	
Graphic Design	■	■	■	Viticulture and Enology	■	■	
Gunsmithing	■	■		Welding	■		
				Windows Server Administrator	■		

\*Associate of Applied Science Degree \*\* Transfer students will select an AGEC-A, AGEC-B, AGEC-S, or an Associate of Arts, Associate of Arts in Elementary Education, Associate of Fine Arts, Associate of Science, or Associate of Business degree plan as appropriate to the area of study.

# Yavapai College Catalog • 2013/14

## DEGREE AND CERTIFICATE INFORMATION

In addition to the associate degree programs, Yavapai College offers certificate programs in selected occupational areas.

The certificate programs are intended to prepare students for entry-level employment or to enhance existing skills.

**Any student who earns an associate degree and has a cumulative GPA of 2.00 or higher has assured admission upon application to one of the state universities in Arizona.**

Arizona residents who have completed an AGEC (without earning an associate degree) and have a cumulative GPA of 2.50 or higher have assured admission to the state universities upon application.

### Yavapai College offers seven associate degree programs:

- Associate of Arts
- Associate of Arts in Elementary Education
- Associate of Arts in Fine Arts
- Associate of Business
- Associate of General Studies
- Associate of Science
- Associate of Applied Science

### Degree and Certificate Requirements

In order to obtain any degree or certificate from Yavapai College, a candidate must:

1. Satisfy entrance requirements as a regular student;
2. Complete all courses required in one of the degree or certificate programs offered by Yavapai College. Occasionally, degree requirements change between the time of the student's admission and the time of graduation. A student in continuous enrollment at Yavapai College may elect to graduate by satisfying degree requirements as listed at the time of admission, at the time of graduation, or at any time during the last period of continuous attendance. Continuous attendance means enrollment in the regular session (fall/spring or spring/fall) of each academic year.

If a course required for a degree or certificate has been deleted from the catalog, a comparable course will be substituted for the deleted course.

Other substitutions are generally not permitted. However, a student who believes particular circumstances warrant special consideration may petition to the supervising dean.

Courses approved as satisfying General Education requirements for all degrees are listed in the section entitled "General Education Courses."

3. Earn a grade of "C" or higher in a course for it to apply toward a Yavapai College degree or certificate, or for inclusion in a student's Arizona General Education Curriculum.
  - a. A maximum of 12 credit hours of "S" credit from 100- and 200- level courses may be applied toward any Yavapai College degree/certificate program. S/U grading is not an option for courses that are part of the Arizona General Education Curriculum (AGEC).
  - b. Special interest and developmental education courses (courses numbered below 100) will not be applied toward degrees and certificates.
  - c. Students may fulfill degree requirements after leaving Yavapai College by transferring back applicable credits earned at "regionally accredited" institutions of higher education. Students must adhere to the catalog requirements of their program of study during their last continuous enrollment at Yavapai College.
4. Earn a cumulative grade-point average of 2.00 or better in all work completed at Yavapai College;
5. Complete a minimum of fifteen semester hours in residence. In cases where the certificate program requires 12 or fewer semester hours, a minimum of six semester hours must be completed in residence;
6. A maximum of 30 credit hours by any combination of Experiential Learning (examination, special articulation agreement, or evaluation) will be accepted;
7. File a petition for graduation with Academic Advising no later than March 1. A student eligible for graduation at the end of the fall regular semester must petition for graduation no later than October 1;
8. Remove all marks of deficiency on the student's records thirty days prior to the day of commencement, if expecting to use credit in those subjects toward graduation;
9. Remove any indebtedness to the college.

**Graduating students  
must initiate  
a Petition for  
Graduation**

Deadlines: Fall  
graduates October 1  
Spring & Summer  
graduates March 1

**Location of Degree Programs**

Yavapai College offers courses required for degrees and certificates in selected locations. The college does not guarantee that all courses for a degree or certificate will be offered at all locations. Please review the degree or certificate program information or a current class schedule for the location information.

**Graduation with Honors**

A student who is awarded an associate degree and has a cumulative grade-point average of 3.50 or higher at Yavapai College is designated as graduating “with honors.”

In order to qualify for graduation with honors, students must have completed a minimum of 30 semester hours, at Yavapai College, of courses numbered 100 and above that were graded A-F.

**Multiple Degrees**

A student who has already earned an associate’s degree at Yavapai College may earn a subsequent degree according to the following provisions:

1. General education requirements specified for each degree must be completed;
2. All major and related degree requirements specified in an Associate of Applied Science (AAS) degree program must be completed. If a specified course has already been applied to another degree or certificate program, that course competency may be applied to a subsequent AAS degree program;
3. Course substitutions approved for one degree program do not automatically apply to a subsequent degree program;
4. A minimum of 15 additional semester hours of major and related requirements, not applied to the first degree, must be completed at Yavapai College. These 15 hours will be in addition to any general education requirements needed to complete the subsequent degree;
5. An Associate of General Studies degree will not be awarded simultaneously with, or subsequent to, the awarding of any other associate degree. Other degrees may be earned concurrently as long as all of the requirements for each degree are met;
6. A subsequent degree must identify a specific area of study and be directed by an approved educational plan.

Requirements for a subsequent degree program must be completed in accordance with the catalog in effect at the time the multiple degree proposal is approved. Students should consult an academic advisor for more information and to obtain a Petition for Multiple Degree.

## DEGREE AND CERTIFICATE INFORMATION

Students planning to apply to selective admission programs are encouraged to contact the department directly to discuss admission requirements.

A student in any one of these programs must satisfy the degree requirements as listed at the time of the selective admission.

### Programs Requiring Selective Admission

#### Requirements for Admission to the Aviation Technology Programs

An application packet is available from the Academic Advising Center. For detailed admission requirements, please call 776.2002.

#### Requirements for Admission to the Digital Filmmaking Programs

To be admitted into the Documentary or Narrative Filmmaking certificate program, the prospective student will be required to submit a 1,000 word essay that describes in concept the film that the student desires to produce as well as the expectation to be realized in the program. Students will also participate in an interview process to further their educational goals in filmmaking.

To be admitted into the Advanced Filmmaking certificate program, the prospective student must complete the first-year program in narrative or documentary and apply for admission into the program. An interview is part of the application process.

#### Requirements for Admission to the Freeport-McMoRan Mining Program

Students must be at least 18 years of age and must attend the Mining Preview Day held the first Saturday in March annually at Yavapai College. Students accepted into the program must pass the Compass Test with minimum scores set forth by Freeport-McMoRan, Inc., interview with Freeport-McMoRan and be hired as an employee, pass a drug and alcohol test, and complete a security background check. An information packet is available from the CTEC Campus by calling 717.7761 or 776.2002

#### Requirements for Admission to the Gunsmithing Program

Minimum age (21 or military service) and special registration procedures are required for those students who wish to enter the Gunsmithing program. An information/application packet for admission into this program is available through the advising office or online at: [www.gunsmithing.org](http://www.gunsmithing.org).

Students accepted into the Gunsmithing program must maintain satisfactory progress status and continue to follow the Bureau of Alcohol, Tobacco and Firearms rules and regulations, failure to do so may result in immediate dismissal from the program. Students withdrawing from the Gunsmithing program will be required to reapply.

#### Requirements for Admission to the Health Information Technology Degree Program

Admission to the program is once yearly in the fall semester. Students must have an Arizona Department of Public Safety Fingerprint Clearance Card; TB skin test or chest X-ray specifying absence of tuberculosis; CPR for Healthcare Providers card; immunizations outlined in application; reading proficiency. Information and an application packet is available online at [www.yc.edu/HIM](http://www.yc.edu/HIM).

#### Requirements for Admission to the Nursing Program

An information packet is available from the Academic Advising Center (Prescott Campus), Student Services Office (Verde Campus), or the Nursing Department regarding admission to the Nursing program. Refer to the Nursing degree program description. Additional information is available online at: [www.yc.edu/nursing](http://www.yc.edu/nursing).

#### Requirements for Admission to the Nursing Assistant Certificate Program

Students must be at least 16 years of age; have an Arizona Department of Public Safety Fingerprint Clearance Card; TB skin test or chest X-ray specifying absence of tuberculosis; CPR for Healthcare Providers card; reading proficiency. An application for the program is available online at [www.yc.edu/nursingassistant](http://www.yc.edu/nursingassistant).

#### Requirements for Admission to the Paramedicine Program

Information regarding admission to the Paramedicine program is available at the Emergency Medical Services Department, Prescott Valley Campus. Students who are interested begin by filling out an application, followed by pre-entrance exams and interviews. Once accepted into the program information regarding specific documentations needed will be given each student. Before applying one must have a current EMT-B card. We strongly recommend one year experience working in the field before beginning class. For more information contact Ken Schoch, Program Director at [ken.schoch@yc.edu](mailto:ken.schoch@yc.edu).

## Yavapai College Catalog • 2013/14

### DEGREE AND CERTIFICATE INFORMATION

#### **Requirements for Admission to the Pharmacy Technician Certificate Program**

Students must be at least 18 years of age prior to the start of the third semester of the program and have a high school diploma or GED; an Arizona Department of Public Safety Fingerprint Clearance Card; TB skin test or chest X-ray specifying absence of tuberculosis; CPR for Healthcare Providers card; immunizations outlined in application; reading proficiency. Admission to program is once yearly in the summer session. An application for the program is available online at [www.yc.edu/pharmacy](http://www.yc.edu/pharmacy).

#### **Requirements for Admission to the Radiologic Technology Program**

An information packet is available from the Academic Advising Center, or on line at: [www.yc.edu/radiology](http://www.yc.edu/radiology).

#### **Continuous Enrollment**

Students maintaining continuous enrollment at any public Arizona community college or university may graduate from Yavapai College according to the requirements of the catalog in effect at the time of initial enrollment or according to the requirements of any single Yavapai College catalog in effect during subsequent terms of continuous enrollment.

A semester in which a student earns course credit will be counted toward continuous enrollment. Non-credit courses, audited courses, failed courses, or courses from which the student withdraws do not count toward the determination of continuous enrollment for catalog purposes.

Students who do not meet the minimum enrollment standards stipulated above during two consecutive semesters (fall/spring) (fall/spring or spring/fall) are no longer considered continuously enrolled, and must meet requirements of the Yavapai College catalog in effect at the time they are readmitted or of any single catalog in effect during subsequent terms of continuous enrollment after readmission. Students transferring among Arizona public higher education institutions must meet the admission requirements, residency requirements, and all curricular and academic requirements of the degree-granting institution.

#### **General Education Values Statement**

**General Education** is the core and foundation of the American educational experience, defining a set of values, skills and ideas that give a sense of coherence and connectedness to the learning process. Yavapai College recognizes that general education is essential for personal and intellectual growth, an effective and innovative workforce, and a successful and vibrant civic society; and is committed to providing students with both curricular and co-curricular experiences that facilitate these important ends. Yavapai College's General Education program is designed to encourage curiosity and an active interest in the world; practical, disciplined thinking; the development of personal and civic values; and a willingness to acknowledge and appreciate diverse cultural and historical perspectives.

There are two aspects to Yavapai College's General Education program: the AGECE (Arizona General Education Curriculum) and the YC GECCO (Yavapai College General Education Core Curriculum Outcomes). The former, mandated by the state of Arizona, ensures that transfer students encounter the topics and disciplines of a traditional liberal arts education. The latter is Yavapai College's own articulation of the values, skills and knowledge that higher education should address, and applies to all degrees granted by the college.

**FOUNDATION studies** in English and Mathematics are essential to independent thinking, to making a connection with the world of learning and to communicating those connections. In FOUNDATION courses, students are introduced to and practice thoughtful and precise writing and speaking skills, critical reading, quantitative literacy, and the process of analysis and synthesis that underlie logical reasoning. Foundation studies are comprised of the Communication and Quantitative Literacy categories.

General Education courses at Yavapai College are grouped into three categories:

Foundation Studies, Core Studies, and Area Studies

**CORE studies** focus on the conceptual frameworks through which the student may approach an issue. CORE studies classes serve to introduce students to the profound influence that the past has upon the present, while also ensuring that those students have the skills and knowledge necessary to critically evaluate those influences. To complete their Core Studies AGEC requirement, students must take one course in Historical Perspective and one in Critical Thinking.

**AREA studies** link FOUNDATION skills in thinking and communicating and the CORE emphasis on conceptual frameworks to the content of academic disciplines. AREA courses demonstrate that the study of specialized subject matter can be drawn into the central dialogues of General Education. AREA studies courses include topics in Arts and Humanities, Social and Behavioral Sciences, and Physical and Biological Sciences.

## General Education Courses

General Education courses generally require critical reading and thoughtful writing. Students with college-level reading and writing skills have the foundation necessary for success.

In some cases a specific degree program may require the student to select particular courses, rather than to select freely from the list of approved General Education courses. The student should follow requirements of their specific degree program to ensure graduation and transfer of credits. Students are encouraged to meet regularly with an academic advisor to build and educational plan. Approved General Education courses are listed below, in their respective categories.

### A. Foundation Studies

1. College Composition or Applied Communications Requirement. Approved course sequences are listed in each degree program.
2. Numeracy (Quantitative Literacy) Requirement. Approved courses are listed in each degree program.

### B. Core Studies

Approved course sequences are listed in each degree program.

1. Historical Perspective. Approved courses are:

HIS 131	United States History I (3) <sup>GIH/ERG/IWR</sup>
HIS 132	United States History II (3) <sup>GIH/ERG/IWR</sup>
HIS 201	Western Civilization I (3) <sup>ERG/GIH/IWR</sup>
HIS 202	Western Civilization II (3) <sup>ERG/GIH/IWR</sup>
HIS 205	World History (3) <sup>ERG/GIH/IWR</sup>

2. Critical Thinking. Approved courses are:

AHS 230	Complementary and Alternative Therapies (3)
AJS 123	Ethics and the Administration of Justice (3)
CHP 190	Honors Colloquium (1)*
COM 217	Introduction to Argumentation (3)
CSA 118	Practical Creative Thinking and Problem Solving (3)
EDU 210	Cultural Diversity in Education (3) <sup>ERG</sup>
ENG 140	Academic Reading and Critical Thinking (3)
GEO 210	Society and Environment (3)
HUM 101	Introduction to Popular Culture (3)
JRN 131	Mass Media in American Society (3)
PHI 103	Introduction to Logic (3)
PHI 110	Introduction to Critical Thinking (3)

**IMPORTANT NOTE:** Students may not use the same course to meet both a Core Studies and Area Studies requirement.

# Yavapai College Catalog • 2013/14

## DEGREE AND CERTIFICATE INFORMATION

- PHI 204 Ethical Issues in Health Care (3)
- STU 230 Leadership Development Studies (3)

\*CHP 190 Honors Colloquium is only available to those students admitted into the Honors Program. Fulfills Critical Thinking requirement when completed for three semesters successfully.

### C. Area Studies

1. Physical and Biological Science Requirement. Approved courses are:
  - AGS 103 Plant Biology (4)
  - BIO 100 Biology Concepts (4)\*
  - BIO 103 Plant Biology (4)
  - BIO 105 Environmental Biology (4)
  - BIO 107 Introduction to Biotechnology (4)
  - BIO 108 Concepts in Plant Biology (4)
  - BIO 109 Natural History of the Southwest (4)
  - BIO 156 Human Biology for Allied Health (4)\*
  - BIO 160 Introduction to Human Anatomy and Physiology (4)
  - BIO 181 General Biology I (4)
  - BIO 182 General Biology II (4)
  - BIO 201 Human Anatomy and Physiology I (4)
  - BIO 202 Human Anatomy and Physiology II (4)
  - BIO 205 Microbiology (4)
  - CHM 121 Environmental Chemistry (4)
  - CHM 130 Fundamental Chemistry (4)
  - CHM 138 Chemistry for Allied Health (5)
  - CHM 151 General Chemistry I (5)
  - CHM 152 General Chemistry II (5)
  - CHM 235 General Organic Chemistry I (4) and  
CHM 235L General Organic Chemistry I Lab (1)
  - CHM 236 General Organic Chemistry II (4) and  
CHM 236L General Organic Chemistry II Lab (1)
  - ENV 105 Environmental Biology (4)
  - ENV 110 Environmental Geology (4)
  - ENV 121 Environmental Chemistry (4)
  - GEO 103 Introduction to Physical Geography (4)
  - GEO 212 Introduction to Meteorology (4)
  - GLG 100 Concepts in Basic Geology (2)  
and one of the following 2 credit hour GLG courses:
    - GLG 104 Cave Geology (2)
    - GLG 105 Geology of Canyon Lands (2)
    - GLG 106 Geology of Bryce and Zion (2)
    - GLG 107 Geology of Death Valley (2)
    - GLG 108 Volcanoes and Earthquakes of Northern Arizona (2)
    - GLG 109 Geology of the Prescott Region (2)
    - GLG 112 Geology of Northern Arizona (2)
    - GLG 113 Geology of Grand Canyon (2)
    - GLG 114 Evolution of the Basin and Range (2)



## DEGREE AND CERTIFICATE INFORMATION

GLG 115	Implications of Plate Tectonics (2)
GLG 116	Geology of the Verde Valley (2)
GLG 101	Introduction to Geology I (4)
GLG 102	Introduction to Geology II (4)
GLG 110	Environmental Geology (4)
PHY 100	Introduction to Astronomy (4)
PHY 140	The Physical World (4)
PHY 141	General Physics I (4)
PHY 142	General Physics II (4)
PHY 150	Physics for Scientists and Engineers I (5)
PHY 151	Physics for Scientists and Engineers II (5)

\*Duplicate credit for BIO 100 and BIO 156 will not be awarded.

2. Arts and Humanities Requirement. Approved courses are:

ANT 248	Introduction to Folklore (3) <sup>IWR</sup>
ART 200	Art History I (3) <sup>ERG/GIH/IWR</sup>
ART 201	Art History II (3) <sup>ERG/GIH/IWR</sup>
ART 202	History of Modern and Contemporary Art (3) <sup>ERG/GIH/IWR</sup>
ART 203	History of Photography (3) <sup>ERG/GIH/IWR</sup>
ENG 211	Major Issues in British Literature I (3) <sup>IWR</sup>
ENG 212	British Literature 1798 to Present (3) <sup>ERG/IWR</sup>
ENG 217	Major Issues in World Literature (3) <sup>ERG/IWR</sup>
ENG 219	Major Issues in Modern Drama (3) <sup>IWR</sup>
ENG 237	Women in Literature (3) <sup>ERG/IWR</sup>
ENG 238	Literature of the Southwest (3) <sup>ERG/IWR</sup>
ENG 240	American Literature to 1865 (3) <sup>ERG/IWR</sup>
ENG 241	American Literature 1865 to the Present (3) <sup>ERG/IWR</sup>
ENG 242	Introduction to Shakespeare (3) <sup>IWR</sup>
ENG 298	Special Topics in Literature (3) <sup>IWR</sup>
HUM 202	Introduction to Mythology (3) <sup>IWR</sup>
HUM 205	Technology and Human Values (3) <sup>IWR</sup>
HUM 236	American Arts and Ideas (3) <sup>ERG/IWR</sup>
HUM 241	Humanities in the Western World I (3) <sup>ERG/IWR</sup>
HUM 242	Humanities in the Western World II (3) <sup>ERG/IWR</sup>
HUM 243	History of Film (3) <sup>IWR</sup>
HUM 248	Introduction to Folklore (3) <sup>IWR</sup>
HUM 250	American Cinema (3) <sup>IWR</sup>
HUM 260	Intercultural Perspectives (3) <sup>ERG/IWR</sup>
MUS 240	Music Appreciation (3) <sup>IWR</sup>
MUS 245	Music of World Cultures (3) <sup>IWR</sup>
PHI 101	Introduction to Philosophy (3)
PHI 122	Science, Religion and Philosophy (3)
PHI 245	Introduction to Eastern Philosophy (3) <sup>IWR</sup>
REL 201	Comparative Religions (3) <sup>IWR</sup>
REL 203	Native Religions of the World (3) <sup>IWR</sup>

## DEGREE AND CERTIFICATE INFORMATION

- REL 273 Introduction to Jewish Studies (3)<sup>ERG/IWR</sup>
- THR 135 Introduction to Theatre (3)
- THR 243 History of Film (3)<sup>IWR</sup>
- THR 250 American Cinema (3)<sup>IWR</sup>

3. Behavioral Science Requirement. Approved courses are:

- ECE 210 Infant and Toddler Development (3)
- ECE 234 Child Development (3)
- GRN 101 Psychology of Aging (3)
- GRN 102 Health and Aging (3)
- PHE 152 Personal Health and Wellness (3)
- PHE 205 Stress Management (3)
- PSY 101 Introductory Psychology (3)
- PSY 132 Cross Cultural Psychology (3)<sup>ERG</sup>
- PSY 234 Child Growth and Development (3)
- PSY 238 Psychology of Play (3)<sup>ERG</sup>
- PSY 240 Personality Development (3)
- PSY 245 Human Growth and Development (3)
- PSY 250 Social Psychology (3)

4. Social Science Requirement. Approved courses are:

- ANT 101 Stones, Bones and Human Origins (3)
- ANT 102 Introduction to Cultural Anthropology (3)<sup>ERG</sup>
- ANT 104 Buried Cities and Lost Tribes (3)
- ANT 231 Southwestern Archeology (3)
- ANT 232 Indians of the Southwest (3)<sup>ERG</sup>
- BSA 235 Principles of Economics-Macro (3)
- GEO 101 World Geography - West (3)<sup>GIH</sup>
- GEO 102 World Geography - East (3)<sup>GIH</sup>
- GEO 105 Introduction to Cultural Geography (3)<sup>GIH/ERG</sup>
- HIS 260 History of Native Americans in the United States (3)<sup>ERG</sup>
- SOC 101 Introduction to Sociology (3)<sup>ERG</sup>
- SOC 140 Sociology of Intimate Relationships & Family (3)<sup>ERG</sup>
- SOC 142 Race & Ethnic Relations (3)<sup>ERG</sup>
- SOC 212 Gender and Society (3)<sup>ERG</sup>
- SOC 250 Social Problems (3)<sup>ERG</sup>
- SOC 277 Human Sexuality (3)<sup>ERG</sup>

## DEGREE AND CERTIFICATE INFORMATION

Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability of courses from the course equivalency guide (CEG) website at: [www.aztransfer.com](http://www.aztransfer.com)

**Transfer Back Policy for the AGEC - On occasion, a student who is in the process of completing an AGEC at Yavapai College will transfer to an Arizona university prior to completing the AGEC. When this occurs, the student will be able to complete the AGEC by transferring credits back to Yavapai College from the university. A maximum of two courses, up to 10 credit hours, may be transferred back to satisfy the AGEC.**

### Arizona General Education Curriculum (AGEC)

General education serves as a common core of knowledge for all associate degrees at Yavapai College. It demonstrates the College's vision of an educated person and reflects our commitment to education as a lifelong process.

The public universities and community colleges in Arizona have agreed to three transfer general education programs. These general education transfer programs are referred to collectively as the Arizona General Education Curriculum (AGEC). This agreement ensures that the completion of the general education block of courses at Yavapai College will allow students to transfer lower division general education courses to any of the Arizona public universities without losing credits.

Courses applied to the Arizona General Education Curriculum (AGEC) may not be taken for Satisfactory/Unsatisfactory (S/U) grading.

Five degrees have been designated to include specific 35 semester hour general education blocks. These degrees are:

- a. Associate of Arts—**AGEC-A**
- b. Associate of Arts in Elementary Education—**AGEC-A**
- c. Associate of Arts in Fine Arts—**AGEC-A**
- d. Associate of Business—**AGEC-B**
- e. Associate of Science—**AGEC-S**

Three certificate programs have been designated to complete the specific 35 semester hour general education blocks of the AGEC requirements. These certificates are:

- a. Arizona General Education Curriculum A—**AGEC-A**
- b. Arizona General Education Curriculum B—**AGEC-B**
- c. Arizona General Education Curriculum C—**AGEC-S**

See individual degree and certificate programs for specific completion requirements.

If the student does not complete the AGEC at Yavapai College, the same transfer status may not be granted by an Arizona public university as those who have completed the AGEC. Failing to complete the AGEC will result in having courses evaluated on a course-by-course basis by the transfer university.

Some majors, particularly in the professional fields, have specific prerequisites and/or program requirements that will not transfer within one of the three general education programs described in this section. Students should check with an advisor to confirm the status of such a major program. Since university requirements can change from year-to-year, it is advisable to maintain regular contact with an academic advisor and/or counselor.

**AGEC-Transfer Back Policy** - On occasion, a student who is in the process of completing an AGEC at Yavapai College will transfer to an Arizona university prior to completing the AGEC. When this occurs, the student will be able to complete the AGEC by transferring credits back to Yavapai College from the university. A maximum of two courses, up to 10 credit hours, may be transferred back to satisfy the AGEC. The student, in consultation with a Yavapai College academic advisor, will be responsible for identifying appropriate university courses to transfer back to Yavapai College. Yavapai College academic rules and regulations will prevail in the selection of university courses that can be used to satisfy the AGEC requirements.

### AGEC - Special Awareness Requirements

Arizona General Education (AGEC) special requirements incorporate additional university requirements in Intensive Writing/Critical Inquiry (IWR), Ethnic/Race/Gender (ERG) awareness, and Global/International and Historical (GIH) awareness areas. These are not separate courses, but instead are topics that, upon completion of an AGEC certificate, students will have encountered in their required course of study. Courses listed below meet these special requirements.

#### 1. Intensive Writing/Critical Inquiry (IWR)

IWR Courses have an ENG 101 or ENG 103 prerequisite and a required writing assessment designed to ensure that students are developing the writing skills necessary for success in upper-division college courses.

- ANT 248 Introduction to Folklore (3)<sup>IWR</sup>
- ART 200 Art History I (3)<sup>ERG/GIH/IWR</sup>
- ART 201 Art History II (3)<sup>ERG/GIH/IWR</sup>
- ART 202 History of Modern and Contemporary Art (3)<sup>ERG/GIH/IWR</sup>
- ART 203 History of Photography (3)<sup>ERG/GIH/IWR</sup>
- ENG 211 Major Issues in British Literature I (3)<sup>IWR</sup>
- ENG 212 British Literature 1798 to Present (3)<sup>ERG/IWR</sup>
- ENG 217 Major Issues in World Literature (3)<sup>ERG/IWR</sup>
- ENG 219 Major Issues in Modern Drama (3)<sup>IWR</sup>
- ENG 237 Women in Literature (3)<sup>ERG/IWR</sup>
- ENG 238 Literature of the Southwest (3)<sup>ERG/IWR</sup>
- ENG 240 American Literature to 1865 (3)<sup>ERG/IWR</sup>
- ENG 241 American Literature 1865 to the Present (3)<sup>ERG/IWR</sup>
- ENG 242 Introduction to Shakespeare (3)<sup>IWR</sup>
- ENG 298 Special Topics in Literature (3)<sup>IWR</sup>
- HIS 131 United States History I (3)<sup>ERG/GIH/IWR</sup>
- HIS 132 United States History II (3)<sup>ERG/GIH/IWR</sup>
- HIS 201 Western Civilization I (3)<sup>ERG/GIH/IWR</sup>
- HIS 202 Western Civilization II (3)<sup>ERG/GIH/IWR</sup>
- HIS 205 World History (3)<sup>ERG/GIH/IWR</sup>
- HUM 202 Introduction to Mythology (3)<sup>IWR</sup>
- HUM 205 Technology and Human Values (3)<sup>IWR</sup>
- HUM 236 American Arts and Ideas (3)<sup>ERG/IWR</sup>
- HUM 241 Humanities in the Western World I (3)<sup>ERG/IWR</sup>
- HUM 242 Humanities in the Western World II (3)<sup>ERG/IWR</sup>
- HUM 243 History of Film (3)<sup>IWR</sup>
- HUM 248 Introduction to Folklore (3)<sup>IWR</sup>
- HUM 250 American Cinema (3)<sup>IWR</sup>
- HUM 260 Intercultural Perspectives (3)<sup>ERG/IWR</sup>
- MUS 240 Music Appreciation (3)<sup>IWR</sup>
- MUS 245 Music of World Cultures (3)<sup>IWR</sup>
- PHI 245 Introduction to Eastern Philosophy (3)<sup>IWR</sup>
- REL 201 Comparative Religions (3)<sup>IWR</sup>
- REL 203 Native Religions of the World (3)<sup>IWR</sup>
- REL 273 Introduction to Jewish Studies (3)<sup>ERG/IWR</sup>
- THR 243 History of Film (3)<sup>IWR</sup>
- THR 250 American Cinema (3)<sup>IWR</sup>

## **AGEC - Special Awareness Requirements (Con't)**

### **2. Ethnic, Race & Gender (ERG)**

ERG Courses emphasize the influence of human diversity and the necessity of cultural awareness in contemporary society by ensuring that students develop discipline-specific perspectives on race/ethnicity and/or gender.

ANT 102	Introduction to Cultural Anthropology (3) <sup>ERG</sup>
ANT 211	Women in Other Cultures (3) <sup>ERG</sup>
ANT 232	Indians of the Southwest (3) <sup>ERG</sup>
ART 200	Art History I (3) <sup>ERG/GIH/IWR</sup>
ART 201	Art History II (3) <sup>ERG/GIH/IWR</sup>
ART 202	History of Modern and Contemporary Art (3) <sup>ERG/GIH/IWR</sup>
ART 203	History of Photography (3) <sup>ERG/GIH/IWR</sup>
EDU 210	Cultural Diversity in Education (3) <sup>ERG</sup>
ENG 212	British Literature 1798 to Present (3) <sup>ERG/IWR</sup>
ENG 217	Major Issues in World Literature (3) <sup>ERG/IWR</sup>
ENG 237	Women in Literature (3) <sup>ERG/IWR</sup>
ENG 238	Literature of the Southwest (3) <sup>ERG/IWR</sup>
ENG 240	American Literature to 1865 (3) <sup>ERG/IWR</sup>
ENG 241	American Literature 1865 to the Present (3) <sup>ERG/IWR</sup>
GEO 105	Introduction to Cultural Geography (3) <sup>GIH/ERG</sup>
HIS 131	United States History I (3) <sup>ERG/GIH/IWR</sup>
HIS 132	United States History II (3) <sup>ERG/GIH/IWR</sup>
HIS 201	Western Civilization I (3) <sup>ERG/GIH/IWR</sup>
HIS 202	Western Civilization II (3) <sup>ERG/GIH/IWR</sup>
HIS 205	World History (3) <sup>ERG/GIH/IWR</sup>
HIS 253	History of Women in the United States (3) <sup>ERG</sup>
HIS 260	History of Native Americans of the United States (3) <sup>ERG</sup>
HUM 236	American Arts and Ideas (3) <sup>ERG/IWR</sup>
HUM 241	Humanities in the Western World I (3) <sup>ERG/IWR</sup>
HUM 242	Humanities in the Western World II (3) <sup>ERG/IWR</sup>
HUM 260	Intercultural Perspectives (3) <sup>ERG/IWR</sup>
PSY 132	Cross Cultural Psychology (3) <sup>ERG</sup>
PSY 236	Psychology of Women (3) <sup>ERG</sup>
PSY 238	Psychology of Play (3) <sup>ERG</sup>
REL 273	Introduction to Jewish Studies (3) <sup>ERG/IWR</sup>
SOC 101	Introduction to Sociology (3) <sup>ERG</sup>
SOC 140	Sociology of Intimate Relationships & Family (3) <sup>ERG</sup>
SOC 142	Race & Ethnic Relations (3) <sup>ERG</sup>
SOC 212	Gender and Society (3) <sup>ERG</sup>
SOC 250	Social Problems (3) <sup>ERG</sup>
SOC 251	Cultural Diversity (3) <sup>ERG</sup>
SOC 277	Human Sexuality (3) <sup>ERG</sup>

### **AGEC - Special Awareness Requirements (Con't)**

#### **3. Global/International or Historical Awareness (GIH)**

GIH Courses provide students with information and skills that allow them to develop a broader perspective on human behavior, culture and/or institutions, either by putting topics within a contemporary global/international context or a historical context.

ART 200	Art History I (3) <sup>ERG/GIH/IWR</sup>
ART 201	Art History II (3) <sup>ERG/GIH/IWR</sup>
ART 202	History of Modern and Contemporary Art (3) <sup>ERG/GIH/IWR</sup>
ART 203	History of Photography (3) <sup>ERG/GIH/IWR</sup>
GEO 101	World Geography West (3) <sup>GIH</sup>
GEO 102	World Geography East (3) <sup>GIH</sup>
GEO 105	Introduction to Cultural Geography (3) <sup>GIH/ERG</sup>
HIS 131	United States History I (3) <sup>ERG/GIH/IWR</sup>
HIS 132	United States History II (3) <sup>ERG/GIH/IWR</sup>
HIS 201	Western Civilization I (3) <sup>ERG/GIH/IWR</sup>
HIS 202	Western Civilization II (3) <sup>ERG/GIH/IWR</sup>
HIS 205	World History (3) <sup>ERG/GIH/IWR</sup>

### **General Education Core Curriculum Outcomes (GECCO)**

Yavapai College's General Education Core Curriculum Outcomes (GECCO) are a set of key ideas and skills that cross the curriculum to define the essence of a college education and provide students with experiences and ideas that transcend any individual course, certificate or degree. The GECCO provides students with opportunities to cultivate successful academic and work habits, to form and refine values, and to master a broad range of abilities that are needed in today's competitive and complex society. Yavapai College commits to ensuring that all students who graduate with an Associate degree or AAS degree in any discipline or occupation demonstrate proficiency in the General Education Core Curriculum Outcomes during the course of their studies. The General Education Core Curriculum Outcomes ensure that every Yavapai College degree or AGECE graduate will be able to:

- Generate, access, categorize, evaluate and use information in an efficient and ethical manner and use 21st century technologies to communicate and work effectively (Digital Literacy and Information Literacy)
- Reason logically and evaluate the reasoning of others through the utilization of open-mindedness, critical inquiry, and the rational assessment of data and text; generate original questions and support answers; and devise creative solutions to problems and evaluate their effectiveness (Critical Thinking and Creativity)
- Communicate ideas effectively in a variety of formats and be able to extract and construct meaning from the communications of others (Oral Communication and Written Communication)
- Recognize the diversity of human experiences; the influences of history, culture, socio-economic status and the physical environment on worldview; and the individual's role in local, national and global communities (Diversity Awareness and Civic Engagement)
- Use mathematical and scientific information, tools, theories and models to understand the physical world; and to identify, apply, and integrate concepts from science and mathematics to understand complex, real life problems and to develop informed conclusions and solutions (Quantitative and Scientific Literacy)

Several of these categories overlap with the AGECE requirements mandated by the state of Arizona for all community college General Education courses intended for transfer to a state university.

## **Pathways**

“Pathway” is a term used in community college/university articulation agreements which refers to the transfer degrees (Associate of Arts, Associate of Business, Associate of Science) and the kinds of requirements (either special requirements “SR” or general requirements “GR”) contained in them which lead toward the successful completion of a bachelor’s degree. Special requirements (SR) mean that the major is such that certain course work must be taken in the first two years of study as preparatory to the university course work. General requirements (GR) mean that the major is less specific and that all requirements can be met in the 60 credits required at the university after the 60 earned at a community college. The Transfer Guide/Exceptional Requirements (TG/XR) pathway is for majors that are sequenced from the first semester of study through the completion of the bachelor’s degree and may require more credits than the usual 120.

### **Transfer degree pathways at Yavapai College include:**

- Associate of Arts
- Associate of Arts in Elementary Education
- Associate of Arts in Fine Arts
- Associate of Business
- Associate of Science

Each of these pathways require 60-64 credits in courses numbered 100 or above to be completed with a grade of “C” or better.

### **Completion of a pathway ensures:**

- Junior standing upon being admitted to an Arizona university
- All credits included in the pathway will apply
- Admission consideration into competitive programs on the same basis as native university students

Students preparing to transfer to an upper-division baccalaureate degree program should contact an academic advisor to ensure appropriate course selection.

## DEGREE AND CERTIFICATE INFORMATION

The Associate of Arts degree requires completion of 60 credit hours. This degree is designed to enable a student to transfer to a baccalaureate-granting institution.

### Associate of Arts Degree

The Associate of Arts degree requires completion of 60 credit hours. This degree is designed to enable a student to transfer to a baccalaureate-granting institution. Students following this degree program will complete university-parallel requirements in general education that will fulfill all lower division general education requirements at the Arizona universities. The AA degree will allow students with declared majors to fulfill their lower division major requirements at Yavapai College and is also appropriate for the liberal arts major and the transfer-oriented student who is undecided about either major area of study or the transfer institution.

Thirty-five hours of coursework are concentrated in **general education**. At Yavapai College the Arizona General Education Curriculum (AGEC-A) is embedded in the Associate of Arts degree. In most instances, a student can fulfill all lower division general education and major requirements of the public universities in Arizona through completion of this degree.

The core curriculum consists of three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines.

Arizona General Education (AGEC) special requirements incorporate additional university requirements in Intensive Writing/Critical Inquiry (IWR), Ethnic/Race/Gender (ERG) Awareness, and Global/International and Historical (GIH) Awareness areas. Upon completion of all 35 credit hours (including the special requirements) of the AGECEC with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

Three credit hours of **communications** coursework are required for this degree. Twenty-two credit hours of coursework in this degree are in **major and elective studies (accepted prefixes listed below)**.

**Students preparing to transfer** to an upper-division baccalaureate degree program should contact an academic advisor in the major field of study at the transfer institution in addition to meeting regularly with an academic advisor at Yavapai College. Regular advisement is important to build an educational plan and ensure applicability of general education, elective, and major courses. Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability of courses at [www.aztransfer.com](http://www.aztransfer.com) and curriculum transfer guides available from advisors. Transfer guides are also available from each university's web site.



**ASSOCIATE DEGREE PROGRAMS**

There are special requirements for the Arizona General Education Curriculum Certification. Students must complete courses from specific emphasis areas:

- Intensive Writing (IWR)
- Global/International or Historical Awareness (GIH)
- Ethnic/Race/Gender (ERG).

Refer to the General Education Course list for courses that meet these requirements. Students should work with an Academic Advisor to ensure requirements are met.

Students may not use the same course to meet both a Core Studies and Area Studies Requirement.

**Associate of Arts Degree Program Requirements**

**I. General Education (35 credits)**

A. Foundation Studies (9 credits)

1. College Composition (6 credits)  
Select and complete one of the following options:  
a. ENG 101 College Composition I and ENG 102 College Composition II ..... 6  
b. ENG 103 College Composition I (Honors) and ENG 104 College Composition II (Honors) ..... 6
2. Numeracy (3 credits)  
Select and complete one of the following options:  
a. MAT 142 College Mathematics ..... 3  
b. MAT 152 College Algebra ..... 3  
c. Any mathematics course for which MAT 152 is a prerequisite..... 3

B. Core Studies (6 credits)

1. Historical Perspective (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3
2. Critical Thinking (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3

C. Area Studies (20 credits)

1. Physical and Biological Science (8 credits)  
Select and complete two laboratory science courses from the approved list of General Education Courses..... 8
2. Arts and Humanities (6 credits)  
Select and complete two courses from the approved list of General Education Courses..... 6
3. Behavioral Science (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3
4. Social Science (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3

**II. Communications Requirement (3 credits)**

- A. Select and complete one of the following options:
1. COM 100 Introduction to Human Communication ..... 3
  2. COM 131 Fundamentals of Speech Communication ..... 3
  3. COM 134 Interpersonal Communication ..... 3
  4. COM 271 Small Group Communication ..... 3

**III. Major and Elective Studies (22 credits)**

Select 22 transferable credits from transfer guides or intended major, including second language courses. The student who has decided on a major should consult the list of common lower-division major courses for their chosen major. The student who has selected a four year college of intended transfer should also consult the catalog or website of that college for additional guidance regarding their major and courses. Up-to-date information regarding requirements of various degree programs at Arizona’s universities can be found at [www.aztransfer.com](http://www.aztransfer.com).

Choose from the following prefixes-or courses where noted-when completing this requirement: ACC, AGE, AGS, AHS 230 (only), AJS (except AJS 291), ANT, ART, ASL, BIO, BSA, CHM, CHP, COM, CRW, CSA, DAN\*, DFM, ECE, EDU, ENG, ENV, FRE, GEO, GER, GLG, GRN, HIS, HUM, ITA, JRN, MAT (except MAT 100), MUS, NSG (except NSG 114, NSG 124, NSG 130 and NSG 133), NTR, PHE\*, PHI, PHY, POS, PSY, REC\*, REL, RUS, SOC, SPA, STU, THR, VGD, and WEB.

\*DAN, PHE and REC are limited to 4 activity-based credit hours each.

## ASSOCIATE DEGREE PROGRAMS

The Associate of Arts in Elementary Education degree requires completion of 64 credit hours.

This degree is designed to enable a student to transfer to one of the three Arizona public universities to complete a baccalaureate program and qualify for an Arizona teaching certificate.

### Associate of Arts in Elementary Education Degree

The Associate of Arts in Elementary Education degree requires completion of 64 credit hours. This degree is designed for students interested in elementary education who are preparing to transfer to one of the Arizona public universities to complete a baccalaureate program and qualify for an Arizona teaching certificate.

Thirty-five hours of coursework are concentrated in **general education**. At Yavapai College the Arizona General Education Curriculum (AGEC-A) is embedded in the Associate of Arts in Elementary Education degree. In most instances, a student can fulfill all lower division general education and major requirements of the public universities in Arizona through completion of this degree.

The core curriculum consists of three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines. Upon completion of all 35 credit hours (including the special requirements) of the AGECEC with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

Three credit hours of **communications** coursework are required for this degree. Twenty-six credit hours of coursework in this degree are in **major** and **elective studies** and **content related** requirements. This aspect of the degree affords the student an opportunity to begin work on a major area of study.

**Students preparing to transfer** to an upper-division baccalaureate degree program should contact an advisor in the major field of study at the transfer institution in addition to meeting regularly with a faculty advisor at Yavapai College. Regular advisement is important to build an educational plan and ensure transferability of general education, elective, and major courses. Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability of courses from the Course Equivalency Guide and curriculum transfer guides available from academic advisors. Transfer guides are also available from each university's web site.

**ASSOCIATE DEGREE PROGRAMS**

At Yavapai College the Arizona General Education Curriculum (AGEC-A) is embedded in the Associate of Arts in Elementary Education degree. In most instances, a student can fulfill all lower division general education and major requirements of the public universities in Arizona through completion of this degree.

There are special requirements for the Arizona General Education Curriculum Certification. Students must complete courses from specific emphasis areas:

- Intensive Writing (IWR)
- Global/International or Historical Awareness (GIH)
- Ethnic/Race/Gender (ERG)

Students may not use the same course to meet both a Core Studies and Area Studies Requirement.

**Associate of Arts in Elementary Education Degree Program Requirements**

**I. General Education (35 credits)**

A. Foundation Studies (9 credits)

1. College Composition (6 credits)  
Select and complete one the following options:
  - a. ENG 101 College Composition I and ENG 102 College Composition II ..... 6
  - b. ENG 103 College Composition I (Honors) and ENG 104 College Composition II (Honors) ..... 6
2. Numeracy (3 credits)  
Select and complete one of the following options:
  - a. MAT 142 College Mathematics ..... 3
  - b. MAT 152 College Algebra ..... 3
  - c. Any mathematics course for which MAT 152 is a prerequisite ..... 3

B. Core Studies (6 credits)

1. Historical Perspective (3 credits)
  - a. HIS 131 United States History I ..... 3
2. Critical Thinking (3 credits)  
Select and complete one course from the approved list of General Education Courses ..... 3

C. Area Studies (20 credits)

1. Physical and Biological Science (8 credits)  
Select and complete two laboratory science courses from the approved list of General Education Courses in two of the following categories:
  - a. Life: Biology, Environmental Science, Botany, Anatomy ..... 4
  - b. Physical: Geography, Physics, Chemistry ..... 4
  - c. Earth/Space: Astronomy, Geology ..... 4
2. Arts and Humanities (6 credits)  
Students must complete three credits in each section below:
  - a. Any 200-level course on the General Education Course List ..... 3
  - b. ART 200 Art History I -or- ART 201 History II ..... 3
3. Behavioral Science (3 credits)
  - a. PSY 101 Introductory Psychology ..... 3
4. Social Science (3 credits)  
Select and complete one course from the approved list of General Education Courses ..... 3

**II. Communications Requirement (3 credits)**

- A. Select and complete one of the following options:
1. COM 100 Introduction to Human Communication ..... 3
  2. COM 131 Fundamentals of Speech Communication ..... 3
  3. COM 134 Interpersonal Communication ..... 3
  4. COM 271 Small Group Communication ..... 3

**III. Major and Elective Studies (15 credits)**

- A. Students must complete the following:
1. EDU 200 Introduction to Education ..... 3
  2. EDU/ECE 222 Introduction to the Exceptional Learner ..... 3
  3. EDU 210 Cultural Diversity in Education ..... 3
  4. MAT 156 Mathematics for Elementary Teachers I ..... 3
  5. MAT 157 Mathematics for Elementary Teachers II ..... 3

**IV. Content Related Requirements (11 credits)**

Select 11 credit hours in content areas relevant to Arizona Academic Standards (e.g., Language Arts, Literature, Mathematics, Science, Social Studies, Health/Physical Education, Early Childhood Education, etc.)

## ASSOCIATE DEGREE PROGRAMS

The Associate of Arts in Fine Arts degree requires completion of 64 credit hours.

At Yavapai College the Arizona General Education Curriculum (AGEC-A) is embedded in the Associate of Arts in Fine Arts degree. In most instances, a student can fulfill all lower division general education and major requirements of the public universities in Arizona through completion of this degree.

### Associate of Arts in Fine Arts Degree

The Associate of Arts in Fine Arts degree requires completion of 64 credit hours. This degree is designed to enable a student to transfer to a baccalaureate-granting institution. Students following this degree program will complete university-parallel requirements in general education that will fulfill all lower division general education requirements at the Arizona universities. The AFA degree will also allow students as declared fine arts majors to fulfill their lower division major requirements at Yavapai College. This degree outline provides the list of fine arts core requirement courses.

Thirty-five hours of coursework are concentrated in **general education**. At Yavapai College the Arizona General Education Curriculum (AGEC-A) is embedded in the Associate of Arts in Fine Arts degree. In most instances, a student can fulfill all lower division general education and major requirements of the public universities in Arizona through completion of this degree. The core curriculum consists of three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines.

Arizona General Education (AGEC) special requirements incorporate additional university requirements in Intensive Writing/Critical Inquiry (IWR), Ethnic/Race/Gender (ERG) Awareness, and Global/International and Historical (GIH) Awareness areas. Upon completion of all 35 credit hours (including the special requirements) of the AGECE with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

Three credit hours of **communications** coursework are required for this degree. Twenty-six credit hours of coursework in this degree are in **major** and **elective studies**. This aspect of the degree affords the student an opportunity to begin work on a major area of study.

**Students preparing to transfer** to an upper-division baccalaureate degree program should contact an advisor in the major field of study at the transfer institution in addition to meeting regularly with a faculty advisor and/or counselor at Yavapai College. Regular advisement is important to build an educational plan and ensure transferability of general education, elective, and major courses. Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability of courses from the Course Equivalency Guide and curriculum transfer guides available from academic advisors. Transfer guides are also available from each university's web site.

**ASSOCIATE DEGREE PROGRAMS**

There are special requirements for the Arizona General Education Curriculum Certification. Students must complete courses from specific emphasis areas:

- Intensive Writing (IWR)
  - Global/International or Historical Awareness (GIH)
- Ethnic/Race/Gender (ERG)

Refer to the General Education Course list for courses that meet these requirements. Students should work with an Academic Advisor to ensure requirements are met.

Students may not use the same course to meet both a Core Studies and Area Studies Requirement.

**Associate of Arts in Fine Arts Degree Program Requirements**

**I. General Education (35 credits)**

A. Foundation Studies (9 credits)

1. College Composition (6 credits)  
Select and complete one of the following options:  
a. ENG 101 College Composition I (3) and ENG 102 College Composition II ..... 6  
b. ENG 103 College Composition I (Honors) (3) and ENG 104 College Composition II (Honors) ..... 6
2. Numeracy (3 credits)  
Select and complete one of the following options:  
a. MAT 142 College Mathematics ..... 3  
b. MAT 152 College Algebra ..... 3  
c. Any mathematics course for which MAT 152 is a prerequisite..... 3

B. Core Studies (6 credits)

1. Historical Perspective (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3
2. Critical Thinking (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3

C. Area Studies (20 credits)

1. Physical and Biological Science (8 credits)  
Select and complete two laboratory science courses from the approved list of General Education Courses..... 8
2. Arts and Humanities (6 credits)  
a. ART 200 Art History I ..... 3  
b. ART 201 Art History II ..... 3
3. Behavioral Science (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3
4. Social Science (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3

**II. Communications Requirement (3 credits)**

- A. Select and complete one of the following options:
1. COM 100 Introduction to Human Communication ..... 3
  2. COM 131 Fundamentals of Speech Communication ..... 3
  3. COM 134 Interpersonal Communication ..... 3
  4. COM 271 Small Group Communication ..... 3

**III. Major and Elective Studies (26 credits)**

- A. Students must complete the following core ART requirements (17 credits):
1. ART 110 Drawing I ..... 3
  2. ART 112 Two-Dimensional Design ..... 3
  3. ART 113 Three-Dimensional Design ..... 3
  4. ART 114 Color Theory ..... 3
  5. ART 137 Adobe Photoshop I..... 3
  6. ART 232 Portfolio Development ..... 2

**ASSOCIATE DEGREE PROGRAMS**

The Associate of Arts degree in Fine Arts requires completion of 64 credit hours.

**Associate of Arts in Fine Arts Degree Program Requirements (Con't)**

B. Students must complete nine (9) credits from the following 2D and 3D Fine Arts courses:

ART 111	Drawing II.....	3
ART 120	Ceramics I.....	3
ART 121	Ceramics II.....	3
ART 140	Jewelry I.....	3
ART 141	Jewelry II.....	3
ART 144	Furniture and Woodworking I .....	3
ART 145	Furniture and Woodworking II .....	3
ART 147	Wood Turning I.....	3
ART 150	Photography I.....	3
ART 151	Photography II.....	3
ART 154	Digital Photography I.....	3
ART 157	Digital Photography II.....	3
ART 160	Printmaking I.....	3
ART 162	Monoprint I.....	3
ART 180	Sculpture I.....	3
ART 181	Sculpture II.....	3
ART 182	Sculpture: Welded Metal I.....	3
ART 183	Sculpture: Welded Metal II.....	3
ART 190	Oil/Acrylic Painting I .....	3
ART 194	Watercolor I.....	3
ART 196	Portraiture I.....	3
ART 202	History Mod/Contemp Art.....	3
ART 203	History of Photography.....	3
ART 210	Life Drawing I.....	3
ART 211	Life Drawing II .....	3
ART 212	Life Painting.....	3
ART 224	Clay/Glaze Chemistry Ceramics .....	3

## ASSOCIATE DEGREE PROGRAMS

The Associate of Business degree is primarily designed for business majors preparing to transfer to one of the three Arizona public universities to complete a baccalaureate program.

Business majors should consult an academic advisor regarding specific major requirements (e.g. accounting, computer information systems, general business).

### Associate of Business Degree

The Associate of Business degree requires completion of 62 credit hours. Although students often have the option of entering a career field upon completion of the Associate of Business degree, this degree plan is primarily designed to provide the first two years of coursework to prepare students for transfer into a related upper division baccalaureate degree program.

Thirty-five hours of coursework are concentrated in **general education**. At Yavapai College the Arizona General Education Curriculum (AGEC-B) is embedded in the Associate of Business degree. In most instances, a student can fulfill all lower division general education and major requirements of the public universities in Arizona through completion of this degree. The core curriculum consists of four parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines; (D) Computer Systems and Applications.

Arizona General Education (AGEC) special requirements incorporate additional university requirements in Intensive Writing/Critical Inquiry (IWR), Ethnic/Race/Gender (ERG) Awareness, and Global/International and Historical (GIH) Awareness areas. Upon completion of all 35 credit hours (including the special requirements) of the AGECE with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

Three credit hours of **communications** coursework are required for this degree. Twenty-four credit hours of coursework in this degree are in **major** and **elective studies**. This aspect of the degree affords the student an opportunity to begin work on a major area of study.

**Students preparing to transfer** to an upper-division baccalaureate degree program should contact an academic advisor in the major field of study at the transfer institution in addition to meeting regularly with an academic advisor at Yavapai College. Regular advisement is important to build an educational plan and ensure transferability of general education, elective, and major courses. Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability from the course equivalency guide (CEG) at [www.aztransfer.com](http://www.aztransfer.com) and curriculum transfer guides available from advisors. Transfer guides are also available from each university's web site.

Students should consult transfer guides available at [www.aztransfer.com](http://www.aztransfer.com) for the most up-to-date course equivalency information, and the catalog from the transfer institution to develop the most effective educational plan.

There are special requirements for the Arizona General Education Curriculum Certification. Students must complete courses from specific emphasis areas:

- Intensive Writing (IWR)
- Global/International or Historical Awareness (GIH)
- Ethnic/Race/Gender (ERG)

Students may not use the same course to meet both a Core Studies and Area Studies Requirement.

## Associate of Business Degree Program Requirements

### I. General Education (35 credits)

- A. Foundation Studies (9 credits)
1. College Composition (6 credits)  
Select and complete one of the following options:  
a. ENG 101 College Composition I and ENG 102 College Composition II ..... 6  
b. ENG 103 College Composition I (Honors) and ENG 104 College Composition II (Honors) ..... 6
  2. Numeracy (3 credits)  
Select and complete one of the following options:  
a. MAT 212 Survey of Calculus **-or-** ..... 3  
b. Any mathematics course more advanced than MAT 212 ..... 3
- B. Core Studies (3 credits)
1. Historical Perspective (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3
- C. Area Studies (20 credits)
1. Physical and Biological Science (8 credits)  
Select and complete two laboratory science courses from the approved list of General Education Courses..... 8
  2. Arts and Humanities (6 credits)  
Select and complete two courses from the approved list of General Education Courses..... 6
  3. Behavioral Science (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3
  4. Social Science (3 credits)  
Select and complete one course from the approved list of General Education Courses (Except BSA 235) ..... 3
- D. Computer Systems and Applications (3 credits)
1. CSA 110 Introduction to Computer Information Systems ..... 3

### II. Communications Requirement (3 credits)

- A. Select and complete one of the following options:
1. COM 100 Introduction to Human Communication ..... 3
  2. COM 131 Fundamentals of Speech Communication ..... 3
  3. COM 134 Interpersonal Communication ..... 3
  4. COM 271 Small Group Communication ..... 3

### III. Major and Elective Studies (24 credits)

- A. The following courses have been approved as common major transfer credits in the business area:
1. ACC 131 Principles of Accounting I ..... 3
  2. ACC 132 Principles of Accounting II ..... 3
  3. BSA 232 Business Statistical Analysis ..... 3
  4. BSA 234 Quantitative Methods (3) **-or-** MAT 172 Finite Math ..... 3
  5. BSA 235 Principles of Economics -Macro ..... 3
  6. BSA 236 Principles of Economics - Micro ..... 3
  7. BSA 237 Legal Environment of Business ..... 3
  8. Select and complete one course from the following options:  
a. BSA 131 Introduction to Business ..... 3  
b. BSA 233 Business Communications ..... 3



## ASSOCIATE DEGREE PROGRAMS

**The Associate of General Studies degree requires completion of a minimum of 60 credit hours. Students whose career, major, or transfer intent is uncertain may elect to pursue this degree.**

This degree is designed to allow students to explore a broader range of general education course work and individual disciplines.

### **Associate of General Studies Degree**

The Associate of General Studies degree requires the completion 60 credit hours. Students whose career, major, or transfer intent is uncertain may elect to pursue this degree. This degree allows students to uniquely design an associate's degree with more flexibility in the selection of courses. These courses may be taken from a variety of subject areas with no specific area of emphasis. Students are encouraged to develop their degree plan in conjunction with an academic advisor. Students electing to transfer to one of the Arizona public universities with an AGS degree will have their coursework evaluated on a course-by-course basis by the university to which they transfer. These students may wish to also complete the Arizona General Education Curriculum (AGEC) certificate to ensure the acceptance of their general education coursework as a block transfer of general education requirements.

Twenty-eight credit hours of coursework in this degree are concentrated in **general education**. The general education curriculum of this degree program is divided into three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines. The intent is to give the student a firm grounding in the processes and content of general education and to facilitate lifelong learning.

Three credit hours of **communications** coursework and 29 credit hours of major and elective studies are required for this degree.

Students may not use the same course to meet both a Core Studies and Area Studies requirement.

**Associate of General Studies Degree Program Requirements**

**I. General Education (28 credits)**

**A. Foundation Studies (9 credits)**

1. College Composition (6 credits)

Select and complete one of the following options:

- a. ENG 101 College Composition I and ENG 102 College Composition II..... 3
- b. ENG 103 College Composition I (Honors) and ENG 104 College Composition II (Honors) ..... 3
- c. COM 135 Workplace Communication Skills and ENG 136 Technical Writing ..... 3

2. Numeracy (3 credits)

Select and complete any mathematics course numbered 100 or higher ..... 3

**B. Core Studies (6 credits)**

1. Historical Perspective (3 credits)

Select and complete one course from the approved list of General Education Courses ..... 3

2. Critical Thinking (3 credits)

Select and complete one course from the approved list of General Education Courses ..... 3

**C. Area Studies (13 credits)**

1. Physical and Biological Science (4 credits)

Select and complete one laboratory science course from the approved list of General Education Courses..... 4

2. Arts and Humanities (3-6 credits)

Select and complete 3-6 credits from the approved list of General Education Courses. Students who complete only 3 credits in this category must complete 3 credits from the Behavioral Science list and 3 credits from the Social Science list. Students who complete 6 credits in this category may select 3 credits from either the Behavioral Science list or the Social Science list, for a total of 9 credits in the two categories. .... 3-6

3. Behavioral and Social Science (3-6 credits)

Select and complete 3-6 credits from the approved lists of General Education Courses. Students who complete 6 credits in this category must select 3 credits from the Behavioral Science list and 3 credits from the Social Science list. Students who complete only 3 credits in this category may select those credits from either the Behavioral Science list or the Social Science list and must complete 6 credits in Arts and Humanities, for a total of 9 credits in the two categories..... 3-6

**II. Communications Requirement (3 credits)**

A. Select and complete one of the following options:

- 1. COM 100 Introduction to Human Communication ..... 3
- 2. COM 131 Fundamentals of Speech Communication ..... 3
- 3. COM 134 Interpersonal Communication ..... 3
- 4. COM 271 Small Group Communication ..... 3

**III. Major and Elective Studies (29 credits)**

Students who are exploring options related to occupational goals should select 100- or 200-level courses related to that interest. Students who are exploring options related to transfer goals should consider completing one of the associate degrees that fulfill the Arizona General Education Curriculum requirements.

The Associate of Science degree is intended for students specializing in engineering, engineering technology, industrial technology, agriculture, health professions, mathematics, or science.

### **Associate of Science Degree**

The Associate of Science degree requires completion of 60 credit hours. Although students often have the option of entering a career field upon completion of the Associate of Science degree, this degree plan is primarily designed to provide the first two years of coursework to prepare students for transfer into a related upper division baccalaureate degree program. The Associate of Science degree is the appropriate degree plan for students who major in fields with heavy requirements in mathematics and science. The Associate of Science degree is intended for students specializing in engineering, engineering technology, industrial technology, agriculture, health professions, mathematics, or science.

Thirty-five hours of coursework are concentrated in **general education**. At Yavapai College the Arizona General Education Curriculum (AGEC-S) is embedded in the Associate of Science degree. In most instances, a student can fulfill all lower division general education and major requirements of the public universities in Arizona through completion of this degree. The core curriculum consists of three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines; (C) Other Requirements.

Arizona General Education (AGEC) special requirements incorporate additional university requirements in Intensive Writing/Critical Inquiry (IWR), Ethnic/Race/Gender (ERG) Awareness, and Global/International and Historical (GIH) Awareness areas. Upon completion of all 35 credit hours (including the special requirements) of the AGECS with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

Three credit hours of **communications** coursework are required for this degree. Twenty-two credit hours of coursework in this degree are in **major** and **elective studies**. This aspect of the degree affords the student an opportunity to begin work on a major area of study.

**Students preparing to transfer** to an upper-division baccalaureate degree program should contact an academic advisor in the major field of study at the transfer institution in addition to meeting regularly with an academic advisor at Yavapai College. Regular advisement is important to build an educational plan and ensure transferability of general education, elective, and major courses. Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability from the course equivalency guide (CEG) at [www.aztransfer.com](http://www.aztransfer.com) and curriculum transfer guides available from advisors. Transfer guides are also available from each university's web site.

**ASSOCIATE DEGREE PROGRAMS**

There are special requirements for the Arizona General Education Curriculum Certification. Students must complete courses from specific emphasis areas:

- Intensive Writing (IWR)
- Global/International or Historical Awareness (GIH)
- Ethnic/Race/Gender (ERG)

Refer to the General Education Course list for courses that meet these requirements.

Students should work with an Academic Advisor to ensure requirements are met.

**Associate of Science Degree Program Requirements**

**I. General Education (35 credits)**

A. Foundation Studies (9 credits)

1. College Composition (6 credits)  
Select and complete one of the following options:
  - a. ENG 101 College Composition I and ENG 102 College Composition II ..... 6
  - b. ENG 103 College Composition I (Honors) and ENG 104 College Composition II (Honors)..... 6
2. Numeracy (3 credits)  
Select and complete one of the following options:
  - a. MAT 220 Calculus and Analytical Geometry I ..... 5
  - b. Any mathematics course for which MAT 220 is a prerequisite ..... 3

B. Area Studies (20 credits)

1. Physical and Biological Science (8 credits)  
Complete one of the following course sequences appropriate to selected major:  
BIO 181 and BIO 182 **OR** CHM 151 and CHM 152 **OR** PHY141 and PHY 142 **OR** PHY150 and PHY151..... 8
2. Arts and Humanities (6 credits)  
Select and complete two courses from the approved list of General Education Courses..... 6
3. Behavioral Science (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3
4. Social Science (3 credits)  
Select and complete one course from the approved list of General Education Courses..... 3

C. Other Requirements (6-8 credits)

1. Select two (2) additional courses based on your major. Use selected University transfer guides to select mathematics and/or physical and biological science courses from the following list:
  - BIO 181 General Biology I ..... 4
  - BIO 182 General Biology II ..... 4
  - BIO 201 Human Anatomy and Physiology I ..... 4
  - BIO 202 Human Anatomy and Physiology II ..... 4
  - BIO 205 Microbiology ..... 4
  - CHM 151 General Chemistry I ..... 5
  - CHM 152 General Chemistry II ..... 5
  - CHM 235 and CHM 235L General Organic Chemistry I and Lab ..... 5
  - CHM 236 and CHM 236L General Organic Chemistry II and Lab ..... 5
  - GEO 103 Introduction to Physical Geography ..... 4
  - GEO 212 Introduction to Meteorology ..... 4
  - GLG 101 Introduction to Geology I ..... 4
  - GLG 102 Introduction to Geology II ..... 4
  - MAT 230 Calculus and Analytic Geometry II ..... 5
  - MAT 241 Calculus III ..... 4
  - MAT 262 Elementary Differential Equations ..... 3
  - PHY 141 General Physics I ..... 4
  - PHY 142 General Physics II ..... 4
  - PHY 150 Physics for Scientists and Engineers I ..... 5
  - PHY 151 Physics for Scientists and Engineers II ..... 5

**II. Communications Requirement (3 credits)**

- A. Select and complete one of the following options:
1. COM 100 Introduction to Human Communication ..... 3
  2. COM 131 Fundamentals of Speech Communication ..... 3
  3. COM 134 Interpersonal Communication ..... 3
  4. COM 271 Small Group Communication ..... 3

**III. Major and Elective Studies (22 credits)**

A. Twenty-two credits are required as specified in the individual degree program the student is pursuing. Since the Associate of Science degree is intended for students specializing in engineering, engineering technology, industrial technology, agriculture, health professions, mathematics, or science majors, a transfer educational plan should be developed in consultation with an academic advisor. Students should consult transfer guides available at [www.aztransfer.com](http://www.aztransfer.com) for the most up-to-date course equivalency information, and the catalog from the transfer institution to develop the most effective educational plan.

Courses selected in this block of units should be carefully chosen to meet prerequisite and major program requirements that will apply to the intended transfer degree. Students should consult their transfer school's transfer guides and choose courses from the following list\*:

AGS/BIO 103 Plant Biology .....	4
BIO/ENV 105 Environmental Biology .....	4
BIO 181 General Biology I .....	4
BIO 182 General Biology II .....	4
BIO 201 Human Anatomy and Physiology I .....	4
BIO 202 Human Anatomy and Physiology II .....	4
BIO 205 Microbiology .....	4
CHM 151 General Chemistry I .....	5
CHM 152 General Chemistry II .....	5
CHM 235 & CHM 235L General Organic Chemistry I and Lab .....	5
CHM 236 & CHM 236L General Organic Chemistry II and Lab .....	5
ENV/GLG 110 Environmental Geology .....	4
GEO 103 Introduction to Physical Geography .....	4
GEO 212 Introduction to Meteorology .....	4
GLG 101 Introduction to Geology I .....	4
GLG 102 Introduction to Geology II .....	4
MAT 187 Precalculus .....	5
MAT 230 Calculus and Analytic Geometry II .....	5
MAT 241 Calculus III .....	4
MAT 262 Elementary Differential Equations .....	3
PHY 141 General Physics I .....	4
PHY 142 General Physics II .....	4
PHY 150 Physics for Scientists and Engineers I .....	5
PHY 151 Physics for Scientists and Engineers II .....	5

\*Other courses may also apply with advisor approval.

# *Arizona General Education Curriculum Transfer Programs*



(Intended for students transferring to an Arizona public university)

**There are special requirements for the Arizona General Education Curriculum Certification. Students must complete courses from specific emphasis areas:**

- **Intensive Writing (IWR)**
- **Global/International or Historical Awareness (GIH)**
- **Ethnic/Race/Gender (ERG)**

Refer to the General Education Course list for courses that meet these requirements. Students should work with an Academic Advisor to ensure requirements are met.

Students may not use the same course to meet both a Core Studies and Area Studies Requirement.

### **Arizona General Education Curriculum (AGEC-A)**

The Arizona General Education Curriculum (AGEC) is designed to fulfill all lower division General Education requirements at the public universities in Arizona. The core curriculum consists of three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines. Upon completion of all 35 credit hours of the AGECA with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript. Arizona residents who complete an AGECA and who have a cumulative GPA of 2.50 or higher have assured admission upon application to one of the state universities in Arizona.

The AGECA also fulfills general education requirements for the Associate of Arts degree at Yavapai College. A minimum of 12 credit hours in the AGECA certificate must be completed at Yavapai College.

Courses applied to the Arizona General Education Curriculum (AGEC) may not be taken for Satisfactory/Unsatisfactory (S/U) Grading.

#### **I. General Education (35 credits)**

<b>A. Foundation Studies (9 credits)</b>	
1. English (ENG 101 & 102, or ENG 103 & 104) .....	6
2. Numeracy. Select and complete one of the following options:	
a. MAT 142 College Mathematics -or-	
b. MAT 152 College Algebra -or-	
c. Any mathematics course for which MAT 152 is a prerequisite.....	3
<b>B. Core Studies (6 credits)</b>	
1. Historical Perspective (3 credits). Select and complete one course from the approved list of General Education Courses .....	3
2. Critical Thinking (3 credits). Select and complete one course from the approved list of General Education Courses .....	3
<b>C. Area Studies (20 credits)</b>	
1. Physical and Biological Science (8 credits). Select and complete two laboratory science courses from the approved list of General Education Courses.....	8
2. Arts and Humanities (6 credits). Select and complete two courses from the approved list of General Education Courses .....	6
3. Behavioral Science (3 credits). Select and complete one course from the approved list of General Education Courses.....	3
4. Social Science (3 credits). Select and complete one course from the approved list of General Education Courses.....	3

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**Total Minimum Credit Hours** **35**

**There are special requirements for the Arizona General Education Curriculum Certification. Students must complete courses from specific emphasis areas:**

- **Intensive Writing (IWR)**
- **Global/International or Historical Awareness (GIH)**
- **Ethnic/Race/Gender (ERG)**

Refer to the General Education Course list for courses that meet these requirements. Students should work with an Academic Advisor to ensure requirements are met.

Students may not use the same course to meet both a Core Studies and Area Studies Requirement.

## **Arizona General Education Curriculum (AGEC-B)**

The Arizona General Education Curriculum (AGEC) is designed to fulfill all lower division General Education requirements at the public universities in Arizona. The AGEC-B is primarily designed for business majors. Students pursuing this plan of study should consult an academic advisor regarding general education requirements related to the major (e.g. accounting, computer information systems, management, marketing, general business). Upon completion of all 35 credit hours of the AGEC-B with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript. Arizona residents who complete an AGEC-B and who have a cumulative GPA of 2.50 or higher have assured admission upon application to one of the state universities in Arizona.

The AGEC-B also fulfills general education requirements for the Associate of Business degree at Yavapai College. A minimum of twelve credit hours in the AGEC-B certificate must be completed at Yavapai College.

Courses applied to the Arizona General Education Curriculum (AGEC) may not be taken for Satisfactory/Unsatisfactory (S/U) Grading.

### **I. General Education (35 credits)**

<b>A. Foundation Studies (9 credits)</b>	
1. English (ENG 101 & 102, or ENG 103 & 104) .....	6
2. Numeracy. Select and complete one of the following options:	
a. MAT 212 Survey of Calculus -or-	
b. Any mathematics course more advanced than MAT 212 .....	3
<b>B. Core Studies (3 credits)</b>	
1. Historical Perspective (3 credits). Select and complete one course from the approved list of General Education Courses .....	3
<b>C. Area Studies (20 credits)</b>	
1. Physical and Biological Science (8 credits). Select and complete two laboratory science courses from the approved list of General Education Courses.....	8
2. Arts and Humanities (6 credits). Select and complete two courses from the approved list of General Education Courses.....	6
3. Behavioral Science (3 credits). Select and complete one course from the approved list of General Education Courses.....	3
4. Social Science (3 credits). Select and complete one course from the approved list of General Education Courses.....	3
<b>D. Computer Systems and Applications (3 credits)</b>	
1. CSA 110 Introduction to Computer Information Systems.....	3

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<b>Total Credit Hours</b>	<b>35</b>
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### Arizona General Education Curriculum (AGEC-S)

The Arizona General Education Curriculum (AGEC) is designed to fulfill all lower division General Education requirements at the public universities in Arizona. The AGECS is the appropriate curriculum for students who major in fields with heavy requirements in mathematics and science. Students specializing in engineering, engineering technology, industrial technology, agriculture, health professions, mathematics, or science should select this general education core curriculum. Upon completion of all 35 credit hours of the AGECS with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript. Arizona residents who complete an AGECS and who have a cumulative GPA of 2.50 or higher have assured admission upon application to one of the state universities in Arizona.

The AGECS also fulfills general education requirements for the Associate of Science degree at Yavapai College. A minimum of twelve credit hours in the AGECS certificate must be completed at Yavapai College.

Courses applied to the Arizona General Education Curriculum (AGEC) may not be taken for Satisfactory/Unsatisfactory (S/U) Grading.

#### I. General Education (35 credits)

##### A. Foundation Studies (9 credits)

1. English (ENG 101 & 102, or ENG 103 & 104) ..... 6
2. Numeracy. Select and complete one of the following options:
  - a. MAT 220 Calculus and Analytical Geometry I (5)
  - b. Any mathematics course for which MAT 220 is a prerequisite. .... 3

##### B. Area Studies (20 credits)

1. Physical and Biological Science (8 credits). Select and complete one of the following course sequences appropriate to selected major:
  - BIO 181 and BIO 182 -or- CHM 151 and CHM 152 -or- PHY 141 and PHY 142 -or- PHY 150 and PHY 151 ..... 8
2. Arts and Humanities (6 credits). Select and complete two courses from the approved list of General Education Courses..... 6
3. Behavioral Science (3 credits). Select and complete one course from the approved list of General Education Courses..... 3
4. Social Science (3 credits). Select and complete one course from the approved list of General Education Courses..... 3

##### C. Other Requirements (6-8 credits)

Select and complete two additional courses based on your major. Use selected University's transfer guide to select mathematics and/or physical and biological sciences from the following list:

- BIO 181 General Biology I ..... 4
- BIO 182 General Biology II ..... 4
- BIO 201 Human Anatomy and Physiology I ..... 4
- BIO 202 Human Anatomy and Physiology II ..... 4
- BIO 205 Microbiology ..... 4
- CHM 151 General Chemistry I ..... 5
- CHM 152 General Chemistry II ..... 5
- CHM 235 & CHM 235L General Organic Chemistry I and Lab ..... 5
- CHM 236 & CHM 236L General Organic Chemistry II and Lab ..... 5
- GEO 103 Introduction to Physical Geography ..... 4
- GEO 212 Introduction to Meteorology ..... 4
- GLG 101 Introduction to Geology I ..... 4
- GLG 102 Introduction to Geology II ..... 4
- MAT 230 Calculus and Analytic Geometry II ..... 5
- MAT 241 Calculus III ..... 4
- MAT 262 Elementary Differential Equations ..... 3
- PHY 141 General Physics I ..... 4
- PHY 142 General Physics II ..... 4
- PHY 150 Physics for Scientists and Engineers I ..... 5
- PHY 151 Physics for Scientists and Engineers II ..... 5

**Total Credit Hours** **35**

# *Associate of Applied Science Degree Programs*



## ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAMS

The Associate of Applied Science degree requires 60-82 credit hours. This degree prepares students for entry-level employment in a specific occupational area or enhances the skills of students who are already vocationally or personally committed to a particular technical orientation. For a list of Associate of Applied Science degree programs and their requirements visit [www.yc.edu/degrees-and-certificates](http://www.yc.edu/degrees-and-certificates).

### Associate of Applied Science Degree

The Associate of Applied Science degree requires 60-82 credit hours. This degree prepares students for entry-level employment in a specific occupational area or enhances the skills of students who are already vocationally or personally committed to a particular technical orientation. Pursuit of the associate degree implies a desire to broaden the educational and cultural awareness of the student beyond technological concerns.

Forty to 62 hours are concentrated in vocational and related disciplines. The vocational-technical component emphasizes an applications approach through laboratory, clinical, and work experiences. An array of course selection opportunities in selected technical and career fields is offered which is responsive not only to personal interest but also to the employment needs of business, industry, public agencies, the military, and entrepreneurship. Related studies pursue the dual goals of enhancing general human development and providing a firm basis for the pursuit of more advanced occupational goals by exposing the student to a variety of technically allied courses.

Nineteen credit hours of coursework provide fundamental knowledge and skills in general education. General education has become an integral component of occupational education. General education is increasingly important in an informational society which is being integrated with amore interdisciplinary world. General education values emphasize the abilities to think critically, reason, compute, communicate, and make connections between work, technology, and our common cultural heritage. These skills and knowledge are essential for workers, professionals, and managers to remain productive, competitive, and able to cope with the knowledge explosion and rapid innovations in technology. General education also includes human development in civic, consumer, environmental, and social responsibilities. Nineteen credit hours of general education coursework in these degree programs, with the exception of Aviation Technology, Nursing and Radiologic Technology, will be considered complete for students who have already earned a baccalaureate degree at a regionally accredited institution. Health Information Technology, Nursing and Radiologic Technology students, who have earned baccalaureate degrees, will have their completed general education coursework evaluated on an individual basis. Students must meet specific program admission and prerequisite requirements as indicated in the individual degree program.

Although the Associate of Applied Science degree programs are designed primarily to prepare students for employment and are **not intended for transfer**, they should no longer be considered terminal degrees for many students. Since students can expect to make several career changes during their lifetimes, they should be aware of articulation agreements and potential transferability of courses, especially in the general education core. Some Bachelor of Applied Science degree programs are available through Arizona State University, Northern Arizona University and the University of Arizona.

**ASSOCIATE OF APPLIED SCIENCE  
DEGREE PROGRAMS**

The Associate of Applied Science degree requires 60-82 credit hours. This degree prepares students for entry-level employment in a specific occupational area or enhances the skills of students who are already vocationally or personally committed to a particular technical orientation.

**Associate of Applied Science Degree Program Requirements**

**I. General Education (19 credits)**

A. Foundation Studies (12 credits)

1. College Composition or Applied Communication (6 credits)

Complete option 1, 2, or 3

Option 1 - Complete 6 credits in Group A.

Option 2 - Complete 3 credits in Group A and 3 credits in Group B.

Option 3 - Complete 6 credits in Group C.

Group A (Writing) (3-6 credits)

BSA 105 Business English ..... 3

CRW 139 Creative Writing ..... 3

ENG 101 or 103 College Composition I ..... 3

ENG 102 or 104 College Composition II ..... 3

ENG 136 Technical Writing ..... 3

JRN 150 Newswriting and Reporting ..... 3

Group B (Communication) (3 credits)

BSA 233 Business Communication ..... 3

COM 100 Introduction to Human Communication ..... 3

COM 131 Fundamentals of Speech Communication ..... 3

COM 134 Interpersonal Communication Skills ..... 3

COM 135 Workplace Communication Skills ..... 3

COM 271 Small Group Communication ..... 3

Group C (College Composition) (6 credits)

ENG 101 or 103 College Composition I ..... 3

ENG 102 or 104 College Composition II ..... 3

2. Numeracy (3 credits)

Complete any math (MAT) course numbered 100 or higher or the MAT course required in the individual degree program..... 3

3. Critical Thinking (3 credits)

Complete one course from approved General Education Course list or the Critical Thinking course required in the individual degree program..... 3

B. Area Studies (7 credits)

1. Physical and Biological Science (4 credits)

Select and complete one laboratory science course from the approved list of General Education Courses or the Physical and Biological Science course(s) required in the individual degree program..... 4

2. Behavioral and Social Science (3 credits)

Select and complete one course from either of the approved General Education Course lists or the Behavioral and/or Social Science course required in the individual degree program3

**II. Major Requirements, Related Requirements, Electives (41-63 credits)**

Forty-one to 63 credits as specified in the individual degree program the student is pursuing.

# *Certificate Programs*



## **CERTIFICATE PROGRAMS**

**Yavapai College offers certificates in many occupational areas that require between 5 and 43 credit hours and are designed to prepare students for the workforce.**

### **Certificate Programs**

Certificate programs require completion of between 5 and 43 credit hours. Certificates are designed to get students into the workforce, prepared for entry-level employment in specific occupational areas. For a complete list of certificate programs available and the requirements for each, visit [www.yc.edu/degrees-and-certificates](http://www.yc.edu/degrees-and-certificates).

**Emeriti FACULTY**

- AINSA, SERGE (1974-2007) Modern Languages
- BAMRICK, Mary Anne (1969 -1993) Business
- BARKHURST, RODNEY (1981-2000) Chemistry
- BARTELS, DIETER (1978-2011) Social Sciences/Humanities
- BRANSON, EDWARD (1969-2000) Art
- BRONANDER, ROY (1972-1996) Biology
- BURNS, JAMES (1969-1983) Music
- CATON, GERALD (1988-2010) Accounting & Computer Science
- CHANDA, VIRGINIA "GINNY" (1979-2006) English
- DICKEY, ARCHIE (1974-1998) Biology
- ELLIS, CARLEEN (1976-1991) Nursing
- FARRAR, ELAINE (1973-1992) Art
- FISHER, WILLARD (1964-2011) Music
- FUEMMELE, GENNIE (1996-2010) Teacher Education/Reading
- GALDE, DOROTHY ALTA (1969-1979) English
- GLIDDEN, MOSES (1993-2011) English
- GOLDEN, BARRY (1984 -2003) Biology/Chemistry
- GOVEDICH, STEPHEN (1981-2003) Psychology/Sociology
- HAMMOND, CAROL (1987-2010) English
- HAYNES, JOHN (1969-1995) English
- HINTON, JAMES (1974-2009) Administration of Justice,  
Political Science, Sociology
- HOCHSTETTLER, DAVID (1972-1993) Humanities/Honors
- KELLY, VINCE (1971-1999) Art
- LANG, SUSAN (1983-2003) English
- LONGFIELD, RICHARD (1972-1993) Music
- MARCUSEN, RICHARD (1971-2000) Art
- MERRITT, MARILYNN "LYNN" (1969-1994) Health,  
Physical Education & Recreation
- MIKULEWICZ, ROBERT (1969-1981) Journalism
- MILES, JAMES "KIMO" (1975-2004) Health,  
Physical Education & Recreation
- MINKLER, LYLE (1969-1996) Physical Science
- NUGENT, LYNN (1979-2003) Nursing
- O'NEIL, KAREN (1982-2003) Nursing
- PERLMUTTER, NINA (1994-2006) Philosophy
- PETERSON, GLEN (1973-1998) Art
- QUINTERO, GEORGE (1969-1983) Registrar
- RAWLINGS, DONN (1985-2001) English
- REISDORFER, KATHRYN (1993-2009) Humanities
- SIEH, DON (1971-1996) English/Construction

## ADMINISTRATION

### PRESIDENT and VICE PRESIDENTS

WILLS, PENELOPE, Ph.D.  
College President (2011)

BLACKLAW, STUART, Ph.D.  
Vice President for Instruction and Student Services (2013)

EWELL, CLINT, Ed.D.  
Vice President for Administrative Services (2010)

WALKER, STEVEN, B.S.  
Vice President for College Development and Foundation (2006)

### District DEANS

FARNSWORTH, SCOTT, M.S., ATC/L  
Dean for Sciences and Health  
Director of Athletics (1987)

FITZGERALD, JILL, M.A.  
Dean for Visual, Performing and Liberal Arts (2001)

GARBER, SANDY, M.A.  
Dean for Student Services (2008)

GARVEY, DENNIS, M.S.W.  
Dean for Continuing Education and OLLI (2002)

HILTON, STACEY, M.S.  
Dean for Instructional Support and Improvement (2000)

HOLBROOK, DEAN, M.A.  
Dean for Foundation Studies: Communications, Math,  
English, Developmental Education, Transitions, ABE  
(1994), Dual Enrollment

MORGAN, JOHN, M.A.  
Dean for Career and Technical Education (1999)

PEREY, JAMES, M.Ed.  
Dean for Instruction and Student Services,  
Verde Valley Campus (2003)

VACANT AT TIME OF PUBLICATION  
Dean for Business, Computer Science and  
District Workforce and Economic Development



The following terms are often used at Yavapai College in written materials and in conversations with advisors and faculty. Use this guide to learn more about their meaning.

## A

**Ability to Benefit** - Term used to describe a student's chances of being successful in a college-level course of study. A high school diploma or a GED can be used to document the ability to benefit from college. "Ability to benefit" can also be established by obtaining appropriate scores in reading, writing and mathematics on the College's assessment tests. For more detailed information, see an advisor or financial aid specialist.

**Academic Advisement** - Consulting with a college advisor to develop a plan for fulfilling the requirements to reach an educational objective. Participating in the advisement process will minimize the loss of credits for students planning to transfer.

**Academic Calendar** - The College's Academic Calendar contains key dates important to every student, including holidays and the start and end dates of classes.

**Academic Dismissal** - After being placed on academic suspension for a semester and failing to make academic progress, the student will be placed on academic dismissal. Students on this status must wait at least 12 months before re-enrolling.

**Academic Honors List** - An honor bestowed upon students who demonstrate exemplary performance. To be eligible, a student must complete 12 or more credits in that semester with a grade point average of 3.5 or higher.

**Academic Probation** - A student is placed on Academic Probation (AP) if, while on Academic Warning, the student earns less than a 2.0 semester GPA in the subsequent semester (based on attempted credits). [See page 38 for further detail.](#)

**Academic Renewal** - Academic Renewal allows a student who experienced academic difficulties during earlier attendance at Yavapai College to have grades for a particular period of time excluded from the calculation of the grade point average. All courses and grades remain on the student's permanent academic record.

**Academic Suspension** - A student is placed on Academic Suspension (AS) if, while on Academic Probation, the student does not achieve a cumulative GPA of 2.0 or above during the second semester of Academic Probation. [See page 38 for further detail.](#)

**Academic Warning** - A student is placed on Academic Warning (AW) if the student has attempted 12 credits or more and earned a cumulative GPA of less than 2.0. [See page 38 for further detail.](#)

**Add** - This term refers to the period of time when students can add an open class without the instructor's signature.

**Administrative Drop/Withdraw** - An instructor may drop or withdraw a student from a course for failure to attend class.

**Admission** - Students who complete the online college admission form are immediately admitted to the college and will receive credentials to enable registration for classes.

**Advising** - The College provides free advising services to all students for help with program planning and course selection.

**AGEC (Arizona General Education Curriculum)** - A common structure of general education agreed upon by all public colleges and universities in Arizona. The AGEC, a 35-credit general education component of the Associate degrees for transfer, fulfills lower-division general education requirements for students transferring to Arizona's public universities (Arizona State University, Northern Arizona University, and University of Arizona).

**Articulation** - The acceptance or transfer of coursework through special agreements. Yavapai College articulates transfer of courses to Arizona's public universities (Arizona State University, Northern Arizona University and University of Arizona).

**Associate Degree** - A degree awarded by a community college upon satisfactory completion of an organized program of study. Requires the completion of a minimum number of credits with a certain combination of courses, including general education and major requirements. For more detailed information, see an advisor or refer to the "Degrees and Certificates" section of this catalog.

**Audit** - Students who audit a class attend class meetings but do not receive credit or a grade for the course.

## B

**Bachelors Degree** - A degree awarded by a four-year college or university after satisfactory completion of an organized program of study, usually requiring at least four years of full-time study.

## C

**Catalog** - The College Catalog is published online annually. The Catalog contains information about the policies and services of Yavapai College, including all degree and certificate programs, course requirements and descriptions, and student resources.

**Catalog Year** - The year in which a student begins a program of study, and subsequently maintains continuous enrollment. The requirements for the degree or certificate will be those which were in effect the catalog year the student began the program.

**CEG (Course Equivalency Guide)** - The CEG indicates how each of the public universities in Arizona accept 100- and 200-level courses in transfer from each community college. The CEG is available through campus advisors or online at AZTransfer.com.

**Class Standing** - *Freshman*: First year class standing; students who have between 0 and 29 cumulative credits. *Sophomore*: Second year standing; students who have between 30 and 59 cumulative credits.

**CLEP Test** - College Level Examination Program - Credit for prior or extra-institutional learning may be earned through successful scoring on general or subject area CLEP testing. Some disciplines have additional requirements to demonstrate accomplishment of learning outcomes (e.g. writing samples, laboratory).

**Continuous Enrollment** - Students maintaining continuous enrollment at any public Arizona community college or university may graduate from Yavapai College according to the requirements of the catalog in effect at the time of initial enrollment or according to the requirements of any single Yavapai College catalog in effect during subsequent terms of continuous enrollment.

A semester in which a student earns course credit will be counted toward continuous enrollment. Non-credit courses, audited courses, failed courses, or courses from which the student withdraws do not count toward the determination of continuous enrollment for catalog purposes.

Students who do not meet the minimum enrollment standards stipulated above during two consecutive semesters (fall/spring) (fall/spring or spring/fall) are no longer considered continuously enrolled, and must meet requirements of the Yavapai College catalog in effect at the time they are readmitted or of any single catalog in effect during subsequent terms of continuous enrollment after readmission.

**Co-requisite** - A co-requisite refers to a related course that must be taken at the same time as another related course (e.g., science lecture and science lab).

**Core Requirements (Core Courses)** - Core courses are the required courses within a degree or certificate and must be completed with a grade of "C" or better.

**Credit Hour (Federal Definition)**: A credit hour is the amount of work represented in learning outcomes and verified by evidence of student achievement. It is an institutionally-established equivalency that is not less than: (1) one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester hour of credit, or the equivalent amount of workover a different amount of time; or (2) at least an equivalent amount of work as required in paragraph one of this definition for other activities as established by an institution, including laboratory work, internships, practica, studio work, and other academic work leading toward the award of credit hours.

## D

**Drop** - This term refers to the period when students can drop a class and receive a refund. Dropped classes will not appear on an official academic transcript.

## E

**Educational Plan** - A written outline of all courses required to complete a specific program.

**Elective** - Elective courses are courses that are in addition to the core requirements of a program. Students choose electives based on a list specified by their program or in specific approved areas of interest. Electives must have a course number of 100 or higher to count toward graduation. Students should choose electives in consultation with their program advisor.

## F

**FAFSA** - The Free Application for Federal Student Aid (FAFSA) is a required form that must be completed as the first step in applying for many types of financial aid. This application can be found at [www.fafsa.ed.gov](http://www.fafsa.ed.gov) or obtained at any campus Financial Aid Office.

**Family Contribution** - The sum of the parent and student contributions toward educational costs as determined by the need analysis.

**Federal Family Educational Loans (FFEL)** - Federal Loans for parents and students which are both need based and non-need based. Loans must be repaid with interest. Interest rate varies.

**Full-Time Student** - Students are considered full time if they are registered for twelve or more credit hours in a semester. (This definition may not apply to financial aid or veteran's benefits. Check with those departments for details.).

**Federal Work Study (FWS)** - Program in which students work part-time to earn a portion of their financial aid award.

**Financial Aid Package/Award** - An offer of financial aid which combines various forms of aid, typically from one or more sources.

**Financial Need** - The basis for most financial aid awards. Determined by subtracting the family contribution from an institution's cost of attendance.

## G

**General Education** - A plan of course work generally covering the areas of natural sciences, mathematics, communication skills, humanities, and critical thinking required to complete a degree.

**Good Standing** - To stay in good standing with the institution, a student must maintain a GPA of 2.0 or better and earn credit in at least one-half the credits for which registered.

**GPA/Grade point average** - The average grade earned by a student, figured by dividing the total grade points earned by the total credits completed.

**Grade Points** - The product of multiplying the value of a letter grade (A=4, B=3, C=2, D=1, F=0) by the credit value of a class. These points are used in computing a student's GPA.

**Graduate Degree** - An advanced degree (Master's or Doctorate) which is undertaken after completion of a Bachelor's degree.

## H

**Hold** - Students who owe fees or fail to return materials will have a hold placed on their record. This hold must be resolved before a student is permitted to register for further classes. Students should log in myYC if a hold is placed on their account for information on who to contact to clear their student account.

## I

**Incomplete Grade** - A grade of "I" (Incomplete) may be assigned by an instructor when a student has been unable to complete academic work for a class by the end of the term due to an unforeseeable emergency and justifiable reasons. To qualify, a student must have completed a significant majority of the work required for the class while maintaining a "C" average for work submitted and is capable of completing the remainder of the required work for this course.

**Independent Study** - Independent Study allows opportunities for academic learning beyond what the College provides in the normal curriculum. This may involve creating a course in a field where Yavapai has no courses at all, or it may involve creating courses more advanced or specialized than existing courses. Through this program, students can seek knowledge or skills not otherwise available in the College. Independent Study is an opportunity to award College credit for new academic learning rather than prior learning, cooperative job placement, work study or internships. Independent Study is not for non-college credit activities or for developmental studies.

**Internship** - Internships involve structured field experiences within specific academic disciplines or technical areas. These experiences enable students to explore potential careers and apply knowledge gained in the classroom while refining the technical skills and gaining relevant experience in the workplace.

## L

**Leveraging Educational Assistance Partnership Grant (LEAP)** - A type of grant available to students who are residents of Arizona. Awards are given on a first come-first-served basis.

**Lower Division** - Course work normally taken in the first two years of college, at the freshman and sophomore levels. Courses numbered 100-299 at Yavapai College are lower division.

## M

**Matriculation** - The completion of steps necessary for reaching an educational objective, including application, assessment, enrollment in classes, academic progress, and graduation or transfer.

## N

**Need Analysis** - The process of determining a student's eligibility for financial aid. The analysis involves establishing student expense budgets, determining the family contribution, and subtracting the family contribution from these expenses.

## O

**Orientation** - These workshops introduce new students to campus life and a host of resources intended to promote student success.

## P

**Part-time Student** - A part-time student is a student registered for fewer than twelve credit hours in a semester or fewer than six credits in the summer sessions.

**Pell Grant** - The primary federal grant program. These awards do not have to be repaid as long as the student makes satisfactory academic progress.

**Perkins Loan** - A federally subsidized loan program designed to assist students with the cost of their education. Perkins Loans have a fixed interest rate of 5%. Loan awards are given on a first-come-first-served basis.

**Prerequisite** - A prerequisite is a required course, level of learning, or assessment score required prior to enrollment in a specific class. Prerequisites are listed in the college catalog with the course description. A prerequisite waiver may be approved by an Instructional Dean where there is documentation/evidence that the student has comparable preparation.

## R

**Registration** - Registration is the process of selecting classes, processing selections online, and paying tuition and fees.

## S

**Schedule of Classes** - Yavapai College publishes an online listing of classes offered during the fall, spring, and summer terms. The schedule of classes contains all information needed to register for a class, including time, date, location, instructor, fees, and any enrollment restrictions.

**Semester** - A length of time that a school term lasts. Yavapai College has a 16-week semester.

**Supplemental Educational Opportunity Grant (SEOG)**  
One of the federal campus-based financial aid programs available at Yavapai College.

## T

**TBA (To Be Arranged)** - TBA is a term used in the Schedule of Classes to indicate that more information is forthcoming about the course. When TBA is found in the instructor column of the schedule, the course had not yet been assigned to a particular instructor at the time the schedule went to print.

**Transcript** - The permanent record of all classes taken while enrolled at a college or university. An official transcript is issued by the College Registrar and contains a master list of the courses a student has taken, the grades earned, and the cumulative grade point average. Official transcripts can be requested at [www.getmytranscript.com](http://www.getmytranscript.com) or from the Office of the Registrar. Students can also view unofficial transcripts online via myYC.

**Transfer** - The process of moving from one college to another prior to completion of educational objective.

**Transfer Guide** - University Transfer Guides list the Yavapai College courses that transfer and fulfill degree requirements at ASU, NAU and the UA.

## U

**Units** - Also referred to as credit hours.

**Upper Division** - Course work normally taken in the third and fourth years of college, at the junior and senior levels. Courses numbered 300-499 are upper division. Yavapai College does not offer upper division courses.

## W

**Withdrawal** - A student's removal from registration for a class within a specified time period. A withdraw is recorded on the student's permanent transcript. Refer to "Dates and Deadlines" at [www.yc.edu](http://www.yc.edu) for semester-specific withdraw deadlines.



## Associate of Arts

### Program Description

The Associate of Arts degree requires completion of 60 credit hours. This degree is designed to enable a student to transfer to a baccalaureate-granting institution. Students following this degree program will complete university-parallel requirements in general education that will fulfill all lower division general education requirements at the Arizona universities. The AA degree will allow students with declared majors to fulfill their lower division major requirements at Yavapai College and is also appropriate for the liberal arts major and the transfer-oriented student who is undecided about either major area of study or the transfer institution.

Thirty-five hours of coursework are concentrated in **general education**. At Yavapai College the Arizona General Education Curriculum (AGEC-A) is embedded in the Associate of Arts degree. Arizona General Education (AGEC) special requirements incorporate additional university requirements in **Intensive Writing/Critical Inquiry (IWR)**, **Ethnic/Race/Gender (ERG) Awareness**, and **Global/International and Historical (GIH) Awareness** areas\*.

The core curriculum consists of three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) **Core Studies** focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) **Area Studies** link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines.

Three credit hours of **communications** coursework are required for this degree. Twenty-two credit hours of coursework in this degree are in **major and elective studies (accepted prefixes listed below)**. Upon completion of all 35 credit hours (including the special requirements) of the AGEC with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

Students preparing to transfer to an upper-division baccalaureate degree program should contact an academic advisor in the major field of study at the transfer institution in addition to meeting regularly with an academic advisor at Yavapai College. Regular advisement is important to build an educational plan and ensure transferability of general education, elective, and major courses. Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability of courses from the course applicability system (CAS) website at [www.aztransfer.com](http://www.aztransfer.com) and curriculum transfer guides available from advisors. Transfer guides are also available from each university's web site.

**Note:** \***AGEC Special Awareness Requirements** Students must complete a course from each of the following areas:

- **Intensive Writing/Critical Inquiry (IWR)**
- **â€•Ethnic/Race/Gender (ERG) awareness**
- **Global/International or Historical (GIH) awareness**

### Program Contacts

- Prescott Advising: Prescott Academic Advising ([academic.advising@yc.edu](mailto:academic.advising@yc.edu)), telephone: (928) 776-2106
- Verde Advising: Verde Valley Academic Advising ([academic.advising@yc.edu](mailto:academic.advising@yc.edu)), telephone: (928) 634-6510
- Dean: Dean Holbrook ([dean.holbrook@yc.edu](mailto:dean.holbrook@yc.edu)), telephone: (928) 717-7693

### Program Requirements

A minimum of 60 credit hours is required to complete the Associate of Arts Degree.

Course	Course Title	Credit Hours
<b>I. General Education (35 credits)</b>		
<b>A. Foundation Studies (9 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
	MAT142 College Mathematics	3
<b>OR</b>	MAT152 College Algebra	3

Course	Course Title	Credit Hours
<b>B. Core Studies (6 credits)</b>		
<b>1. Historical Perspective (3 credits)</b>		
Choose from Approved List		
<b>2. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>C. Area Studies (20 credits)</b>		
<b>1. Physical and Biological Science (8 credits)</b>		
Choose from Approved List		
<b>2. Arts and Humanities (6 credits)</b>		
Choose from Approved List		
<b>3. Behavioral Science (3 credits)</b>		
Choose from Approved List		
<b>4. Social Science (3 credits)</b>		
Choose from Approved List		
<b>II. Communication Requirement (3 credits)</b>		
	COM100 Intro Human Communication	3
<b>OR</b>	COM131 Fund Speech Communication	3
<b>OR</b>	COM134 Interpersonal Communication	3
<b>OR</b>	COM271 Small Group Communication	3
<b>III. Major and Elective Studies (22 credits)</b>		

## Associate of Arts in Elementary Education

### Program Description

The Associate of Arts in Elementary Education degree requires completion of 64 credit hours. This degree is designed for students interested in elementary education who are preparing to transfer to one of the Arizona public universities to complete a baccalaureate program and qualify for an Arizona teaching certificate.

Thirty-five hours of coursework are concentrated in **general education**. At Yavapai College the Arizona General Education Curriculum (AGEC-A) is embedded in the Associate of Arts in Elementary Education degree. Arizona General Education (AGEC) special requirements incorporate additional university requirements in Intensive Writing/Critical Inquiry (IWR), Ethnic/Race/Gender (ERG) Awareness, and Global/International and Historical (GIH) Awareness areas. Upon completion of all 35 credit hours (including the special requirements) of the AGEC with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

The core curriculum consists of three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines. Upon completion of all 35 credit hours (including the Special Requirements) of the AGEC with a grade of "C" or higher, the student will receive recognition of completion on the transcript and guaranteed transferability of the AGEC upon admission to one of the state universities in Arizona.

Three credit hours of **communications** coursework are required for this degree. Twenty-six credit hours of coursework in this degree are in **major** and **elective studies** and **content related** requirements. This aspect of the degree affords the student an opportunity to begin work on a major area of study.

**Students preparing to transfer** to an upper-division baccalaureate degree program should contact an advisor in the major field of study at the transfer institution in addition to meeting regularly with a faculty advisor at Yavapai College. Regular advisement is important to build an educational plan and ensure transferability of general education, elective, and major courses. Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability of courses from the Course Equivalency Guide and curriculum transfer guides available from academic advisors. Transfer guides are also available from each university's web site.

**Note:** *\*AGEC Special Awareness Requirements Students must complete a course from each of the following areas:*

- *Intensive Writing/Critical Inquiry (IWR)*
- *â€¢Ethnic/Race/Gender (ERG) awareness*
- *Global/International or Historical (GIH) awareness*

### Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Tara O'Neill (tara.oneill@yc.edu), telephone: (928) 717-7621
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Associate of Arts in Elementary Education Degree program, the learner will be able to:

1. Develop a personal philosophy of education and relate it to a future career in education. (EDU 200)
2. Design and present appropriate classroom activities intended to achieve specific student learning outcomes. (EDU 200, EDU 210)

### Program Requirements

A minimum of 64 credit hours is required to complete the Associate of Arts in Elementary Education Degree.

3. Analyze teaching styles as they relate to student learning styles. (EDU 200)
4. Articulate the concept of multicultural education and its implementation in the public school classroom. (EDU 210)
5. 

	Course	Course Title	Credit Hours
6.	<b>I. General Education (35 credits)</b>		
	<b>A. Foundation Studies (9 credits)</b>		
7.	<b>1.</b>	<b>College Composition (6 credits)</b>	

Course	Course Title	Credit Hours
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
	MAT142 College Mathematics	3
<b>OR</b>	MAT152 College Algebra	3
<b>B. Core Studies (6 credits)</b>		
<b>1. Historical Perspective (3 credits)</b>		
	HIS131 United States History I	3
<b>2. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>C. Area Studies (20 credits)</b>		
<b>1. Physical and Biological Science (8 credits)</b>		
Choose from Approved List		
<b>2. Arts and Humanities (6 credits)</b>		
Choose any 200-level course from Approved List (3)		
	ART200 Art History I	3
<b>OR</b>	ART201 Art History II	3
<b>3. Behavioral Science (3 credits)</b>		
	PSY101 Introductory Psychology	3
<b>4. Social Science (3 credits)</b>		
Choose from Approved List		
<b>II. Communication Requirement (3 credits)</b>		
	COM100 Intro Human Communication	3
<b>OR</b>	COM131 Fund Speech Communication	3
<b>OR</b>	COM134 Interpersonal Communication	3
<b>OR</b>	COM271 Small Group Communication	3
<b>III. Major and Elective Studies (15 credits)</b>		
	EDU200 Intro to Education	3
	EDU210 Cultural Diversity Education	3
	EDU222 Intro Exceptional Learner	3
<b>OR</b>	ECE222 Intro Exceptional Learner	3
	MAT156 Math/Elementary Teachers I	3
	MAT157 Math/Elementary Teachers II	3
<b>IV. Content Related Requirements (11 credits)</b>		

(EDU 222)



## Associate of Arts in Fine Arts

### Program Description

The Associate of Arts in Fine Arts degree requires completion of 64 credit hours. This degree is designed to enable a student to transfer to a baccalaureate-granting institution. Students following this degree program will complete university-parallel requirements in general education that will fulfill all lower division general education requirements at the Arizona universities. The AAFA degree will also allow students as declared fine arts majors to fulfill their lower division major requirements at Yavapai College. This degree outline provides the list of fine arts core requirement courses.

Thirty-five hours of coursework are concentrated in **general education**. At Yavapai College the Arizona General Education Curriculum (AGEC-A) is embedded in the Associate of Arts in Fine Arts degree. Arizona General Education (AGEC) special requirements incorporate additional university requirements in Intensive Writing/Critical Inquiry (IWR), Ethnic/Race/Gender (ERG) awareness, and Global/International and Historical (GIH) awareness areas. Upon completion of all 35 credit hours (including the special requirements) of the AGEC with a grade of "C" or higher, the student will receive recognition of completion on the transcript and guaranteed transferability of the AGEC upon admission to one of the state universities in Arizona.

The core curriculum consists of three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines.

Three credit hours of **communications** coursework are required for this degree. Twenty-six credit hours of coursework in this degree are in **major** and **elective studies**. This aspect of the degree affords the student an opportunity to begin work on a major area of study.

**Students preparing to transfer** to an upper-division baccalaureate degree program should contact an advisor in the major field of study at the transfer institution in addition to meeting regularly with a faculty advisor and/or counselor at Yavapai College. Regular advisement is important to build an educational plan and ensure transferability of general education, elective, and major courses. Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability of courses from the Course Equivalency Guide and curriculum transfer guides available from academic advisors. Transfer guides are also available from each university's web site.

**Note:** \**AGEC Special Awareness Requirements Students must complete a course from each of the following areas:*

- *Intensive Writing/Critical Inquiry (IWR)*
- *â€•Ethnic/Race/Gender (ERG) awareness*
- *Global/International or Historical (GIH) awareness*

### Program Contacts

- Prescott Advising: Prescott Academic Advising (academic.advising@yc.edu), telephone: (928) 776-2106
- Verde Advising: Verde Valley Academic Advising (academic.advising@yc.edu), telephone: (928) 634-6510
- Instructional Specialist: Michelle Peters (Michelle.Peters@yc.edu), telephone: (928) 776-2035
- Program Director: Laura Bloomenstein (Laura.Bloomenstein@yc.edu), telephone: (928) 776-2039

### Program Outcomes

Upon successful completion of the Associate of Arts in Fine Arts Degree program, the learner will be able to:

1. Articulate the creative process and influence of project development.
2. Use safe practices with appropriate equipment, tools and materials.
3. Exercise and exhibit quality craftsmanship.
4. Utilize, analyze and synthesize the principles and elements of design.
5. Identify historical and contemporary examples of the Fine Arts and Crafts.
6. Create a fine arts portfolio.

## Program Requirements

A minimum of 64 credit hours is required to complete the Associate of Arts in Fine Arts Degree.

Course	Course Title	Credit Hours
<b>I. General Education (35 credits)</b>		
<b>A. Foundation Studies (9 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
	MAT142 College Mathematics	3
<b>OR</b>	MAT152 College Algebra	3
<b>B. Core Studies (6 credits)</b>		
<b>1. Historical Perspective (3 credits)</b>		
Choose from Approved List		
<b>2. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>C. Area Studies (20 credits)</b>		
<b>1. Physical and Biological Science (8 credits)</b>		
Choose from Approved List		
<b>2. Arts and Humanities (6 credits)</b>		
	ART200 Art History I	3
	ART201 Art History II	3
<b>3. Behavioral Science (3 credits)</b>		
Choose from Approved List		
<b>4. Social Science (3 credits)</b>		
Choose from Approved List		
<b>II. Communications Requirement (3 credits)</b>		
	COM100 Intro Human Communication	3
<b>OR</b>	COM131 Fund Speech Communication	3
<b>OR</b>	COM134 Interpersonal Communication	3
<b>OR</b>	COM271 Small Group Communication	3
<b>III. Major and Elective Studies (26 credits)</b>		
<b>A. Core Art Requirements (17 credits)</b>		
	ART110 Drawing I	3
	ART112 Two-Dimensional Design	3
	ART113 Three-Dimensional Design	3
	ART114 Color	3
	ART137 Adobe Photoshop I	3
	ART232 Portfolio Development	2
<b>B. 2D and 3D Fine Arts: Select 9 credit hours</b>		
	ART111 Drawing II	3
	ART120 Ceramics I	3
	ART121 Ceramics II	3
	ART140 Jewelry I	3
	ART141 Jewelry II	3
	ART144 Furniture and Woodworking I	3
	ART145 Furniture and Woodworking II	3
	ART147 Wood Turning I	3
	ART150 Photography I	3
	ART151 Photography II	3
	ART154 Digital Photo I	3
	ART157 Digital Photography II	3
	ART160 Printmaking I	3
	ART162 Monoprint I	3
	ART180 Sculpture I	3
	ART181 Sculpture II	3
	ART182 Sculpture: Welded Metal I	3
	ART183 Sculpture: Welded Metal II	3
	ART190 Oil/Acrylic Painting I	3
	ART194 Watercolor I	3
	ART196 Portraiture I	3

Course	Course Title	Credit Hours
ART202	History Mod/Contemp Art	3
ART203	History of Photography	3
ART210	Life Drawing I	3
ART211	Life Drawing II	3
ART212	Life Painting	3
ART224	Clay/Glaze Chemistry Ceramics	3

## Associate of Business

### Program Description

The Associate of Business degree requires completion of 62 credit hours. Although students often have the option of entering a career field upon completion of the Associate of Business degree, this degree plan is primarily designed to provide the first two years of coursework to prepare students for transfer into a related upper division baccalaureate degree program.

Thirty-five hours of coursework are concentrated in **general education**. At Yavapai College the Arizona General Education Curriculum (AGEC-B) is embedded in the Associate of Business degree. Arizona General Education (AGEC) special requirements incorporate additional university requirements in Intensive Writing/Critical Inquiry (IWR), Ethnic/Race/Gender (ERG) awareness, and Global/International and Historical (GIH) awareness areas. Upon completion of all 35 credit hours (including the special requirements) of the AGEC with a grade of "C" or higher, the student will receive recognition of completion on the transcript and guaranteed transferability of the AGEC upon admission to one of the state universities in Arizona.

The core curriculum consists of four parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines; (D) Computer Systems and Applications.

Three credit hours of **communications** coursework are required for this degree. Twenty-four credit hours of coursework in this degree are in **major and elective studies**. This aspect of the degree affords the student an opportunity to begin work on a major area of study.

**Students preparing to transfer** to an upper-division baccalaureate degree program should contact an advisor in the major field of study at the transfer institution in addition to meeting regularly with a faculty advisor and/or counselor at Yavapai College. Regular advisement is important to build an educational plan and ensure transferability of general education, elective, and major courses. Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability of courses from the Course Equivalency Guide and curriculum transfer guides available from academic advisors. Transfer guides are also available from each university's web site.

**Note:** \**AGEC Special Awareness Requirements Students must complete a course from each of the following areas:*

- *Intensive Writing/Critical Inquiry (IWR)*
- *• Ethnic/Race/Gender (ERG) awareness*
- *Global/International or Historical (GIH) awareness*

### Program Contacts

- Prescott Advising: Prescott Academic Advising (academic.advising@yc.edu), telephone: (928) 776-2106
- Verde Advising: Verde Valley Academic Advising (academic.advising@yc.edu), telephone: (928) 634-6510
- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Terry Lovell (terry.lovell@yc.edu), telephone: (928) 776-2345
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Requirements

A minimum of 62 credit hours is required to complete the Associate of Business Degree.

Course	Course Title	Credit Hours
<b>I. General Education (35 credits)</b>		
<b>A. Foundation Studies (9 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		

Course	Course Title	Credit Hours
MAT212	Survey of Calculus	3
<b>B. Core Studies (3 credits)</b>		
<b>1. Historical Perspective (3 credits)</b>		
Choose from Approved List		
<b>C. Area Studies (20 credits)</b>		
<b>1. Physical and Biological Science (8 credits)</b>		
Choose from Approved List		
<b>2. Arts and Humanities (6 credits)</b>		
Choose from Approved List		
<b>3. Behavioral Science (3 credits)</b>		
Choose from Approved List		
<b>4. Social Science (3 credits)</b>		
Choose from Approved List		
<b>D. Computer Systems and Applications (3 credits)</b>		
CSA110	Intro Computer Info System	3
<b>II. Communications Requirement (3 credits)</b>		
COM100	Intro Human Communication	3
<b>OR</b>	COM131 Fund Speech Communication	3
<b>OR</b>	COM134 Interpersonal Communication	3
<b>OR</b>	COM271 Small Group Communication	3
<b>III. Major and Elective Studies (24 credits)</b>		
ACC131	Principles of Accounting I	3
ACC132	Principles of Accounting II	3
BSA232	Business Statistical Analysis	3
BSA234	Quantitative Methods	3
<b>OR</b>	MAT172 Finite Mathematics	3
BSA235	Principles Economics-Macro	3
BSA236	Principles Economics-Micro	3
BSA237	Legal Environment Business	3
BSA131	Intro to Business	3
<b>OR</b>	BSA233 Business Communications	3

## Associate of General Studies

### Program Description

The Associate of General Studies degree requires the completion 60 credit hours. Students whose career, major, or transfer intent is uncertain may elect to pursue this degree. This degree allows students to uniquely design an associate's degree with more flexibility in the selection of courses. These courses may be taken from a variety of subject areas with no specific area of emphasis. Students are encouraged to develop their degree plan in conjunction with an academic advisor. Students electing to transfer to one of the Arizona public universities with an AGS degree will have their coursework evaluated on a course-by-course basis by the university to which they transfer. These students may wish to also complete the Arizona General Education Curriculum (AGEC) certificate to ensure the acceptance of their general education coursework as a block transfer of general education requirements.

Twenty-eight credit hours of coursework in this degree are concentrated in general education. The general education curriculum of this degree program is divided into three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue; (C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines. The intent is to give the student a firm grounding in the processes and content of general education and to facilitate lifelong learning.

Three credit hours of **communications** coursework and 29 credit hours of major and elective studies are required for this degree.

### Program Contacts

- Prescott Advising: Prescott Academic Advising (academic.advising@yc.edu), telephone: (928) 776-2106
- Verde Advising: Verde Valley Academic Advising (academic.advising@yc.edu), telephone: (928) 634-6510
- Dean: Dean Holbrook (dean.holbrook@yc.edu), telephone: (928) 717-7693

### Program Requirements

A minimum of 60 credit hours is required to complete the Associate of General Studies Degree.

Course	Course Title	Credit Hours
<b>I. General Education (28 credits)</b>		
<b>A. Foundation Studies (9 credits)</b>		
<b>1. Select Option a, b or c (6 credits):</b>		
<b>a. College Composition I and II (6)</b>		
ENG101	College Composition I	3
ENG102	College Composition II	3
<b>b. College Composition I and II - Honors (6)</b>		
ENG103	College Composition I Honors	3
ENG104	College Composition II Honors	3
<b>c. Workplace Communication Skills and Technical Writing (6)</b>		
COM135	Workplace Communication Skills	3
ENG136	Technical Writing	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>B. Core Studies (6 credits)</b>		
<b>1. Historical Perspective (3 credits)</b>		
Choose from Approved List		
<b>2. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>C. Area Studies (13 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Arts and Humanities AND Behavioral and Social Science (9 credits)</b>		
Select Option a or b:		
a. Arts and Humanities (3 credits)		
Behavioral Science (3 credits)		
Social Science (3 credits)		

Course	Course Title	Credit Hours
b. Arts and Humanities (6 credits)		
Behavioral Science (3 credits)		
Social Science (3 credits)		
<b>II. Communications Requirement (3 credits)</b>		
	COM100 Intro Human Communication	3
<b>OR</b>	COM131 Fund Speech Communication	3
<b>OR</b>	COM134 Interpersonal Communication	3
<b>OR</b>	COM271 Small Group Communication	3
<b>III. Major and Elective Studies (29 credits)</b>		

## Associate of Science

### Program Description

The Associate of Science degree requires completion of 60 credit hours. Although students often have the option of entering a career field upon completion of the Associate of Science degree, this degree plan is primarily designed to provide the first two years of coursework to prepare students for transfer into a related upper division baccalaureate degree program. The Associate of Science degree is the appropriate degree plan for students who major in fields with heavy requirements in mathematics and science. The Associate of Science degree is intended for students specializing in engineering, engineering technology, industrial technology, agriculture, health professions, mathematics, or science.

Thirty-five hours of coursework are concentrated in **general education**. At Yavapai College the Arizona General Education Curriculum (AGEC-S) is embedded in the Associate of Science degree. Arizona General Education (AGEC) special requirements incorporate additional university requirements in Intensive Writing/Critical Inquiry (IWR), Ethnic/Race/Gender (ERG) awareness, and Global/International and Historical (GIH) awareness areas. Upon completion of all 35 credit hours (including the special requirements) of the AGECS with a grade of "C" or higher, the student will receive recognition of completion on the transcript and guaranteed transferability of the AGECS upon admission to one of the state universities in Arizona.

The core curriculum consists of three parts: (A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning; (B) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines; (C) Other Requirements.

Three credit hours of **communications** coursework are required for this degree. Twenty-two credit hours of coursework in this degree are in **major** and **elective studies**. This aspect of the degree affords the student an opportunity to begin work on a major area of study.

**Students preparing to transfer** to an upper-division baccalaureate degree program should contact an advisor in the major field of study at the transfer institution in addition to meeting regularly with a faculty advisor and/or counselor at Yavapai College. Regular advisement is important to build an educational plan and ensure transferability of general education, elective, and major courses. Students intending to transfer to one of the Arizona public universities can obtain specific information on transferability of courses from the Course Equivalency Guide and curriculum transfer guides available from academic advisors. Transfer guides are also available from each university's web site.

**Note:** \**AGEC Special Awareness Requirements* Students must complete a course from each of the following areas:

- *Intensive Writing/Critical Inquiry (IWR)*
- *â€•Ethnic/Race/Gender (ERG) awareness*
- *Global/International or Historical (GIH) awareness*

### Program Contacts

- Prescott Advising: Prescott Academic Advising (academic.advising@yc.edu), telephone: (928) 776-2106
- Verde Advising: Verde Valley Academic Advising (academic.advising@yc.edu), telephone: (928) 634-6510
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Requirements

A minimum of 60 credit hours is required to complete the Associate of Science Degree.

Course	Course Title	Credit Hours
<b>I. General Education (35 credits)</b>		
<b>A. Foundation Studies (9 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
	MAT220 Calculus & Analytic Geometry I	5

(Program Requirements continued on next page...)



Course	Course Title	Credit Hours
<b>B. Area Studies (20 credits)</b>		
<b>1. Physical and Biological Science (8 credits)</b>		
Complete one of the following two-course sequences appropriate to your major:		
	BIO181 General Biology I	4
<b>AND</b>	BIO182 General Biology II	4
	CHM151 General Chemistry I	5
<b>AND</b>	CHM152 General Chemistry II	5
	PHY141 General Physics I	4
<b>AND</b>	PHY142 General Physics II	4
	PHY150 Physics Scientists/Engineer I	5
<b>AND</b>	PHY151 Physics Scientists/Engineer II	5
<b>2. Arts and Humanities (6 credits)</b>		
Choose from Approved LList		
<b>3. Behavioral Science (3 credits)</b>		
Choose from Approved List		
<b>4. Social Science (3 credits)</b>		
Choose from Approved LList		
<b>C. Other Requirements (6-8 credits)</b>		
<b>1. Select 2 other courses based on your major from the following list:</b>		
	BIO181 General Biology I	4
	BIO182 General Biology II	4
	BIO201 Human Anatomy & Physiology I	4
	BIO202 Human Anatomy & Physiology II	4
	BIO205 Microbiology	4
	CHM151 General Chemistry I	5
	CHM152 General Chemistry II	5
	CHM235 General Organic Chemistry I	4
<b>AND</b>	CHM235L Gen Organic Chemistry I Lab	1
	CHM236 General Organic Chemistry II	4
<b>AND</b>	CHM236L Gen Organic Chemistry II Lab	1
	GEO103 Intro Physical Geography	4
	GEO212 Intro to Meteorology	4
	GLG101 Intro to Geology I	4
	GLG102 Intro to Geology II	4
	MAT230 Calculus & Analytic Geomtry II	5
	MAT241 Calculus III	4
	MAT262 Elementary Differential Equatn	3
	PHY141 General Physics I	4
	PHY142 General Physics II	4
	PHY150 Physics Scientists/Engineer I	5
	PHY151 Physics Scientists/Engineer II	5
<b>II. Communications Requirement (3 credits)</b>		
	COM100 Intro Human Communication	3
<b>OR</b>	COM131 Fund Speech Communication	3
<b>OR</b>	COM134 Interpersonal Communication	3
<b>OR</b>	COM271 Small Group Communication	3
<b>III. Major and Elective Studies - Select 22 credits from the following list:</b>		
	AGS103 Plant Biology	4
<b>OR</b>	BIO103 Plant Biology	4
	BIO105 Environmental Biology	4
<b>OR</b>	ENV105 Environmental Biology	4
	BIO181 General Biology I	4
	BIO182 General Biology II	4
	BIO201 Human Anatomy & Physiology I	4
	BIO202 Human Anatomy & Physiology II	4
	BIO205 Microbiology	4
	CHM151 General Chemistry I	5
	CHM152 General Chemistry II	5
	CHM235 General Organic Chemistry I	4
<b>AND</b>	CHM235L Gen Organic Chemistry I Lab	1
	CHM236 General Organic Chemistry II	4
<b>AND</b>	CHM236L Gen Organic Chemistry II Lab	1
	ENV110 Environmental Geology	4
<b>OR</b>	GLG110 Environmental Geology	4
	GEO103 Intro Physical Geography	4
	GEO212 Intro to Meteorology	4
	GLG101 Intro to Geology I	4
	GLG102 Intro to Geology II	4
	MAT187 Precalculus	5

(Program Requirements continued on next page...)

Course	Course Title	Credit Hours
MAT230	Calculus & Analytic Geomtry II	5
MAT241	Calculus III	4
MAT262	Elementary Differential Equatn	3
PHY141	General Physics I	4
PHY142	General Physics II	4
PHY150	Physics Scientists/Engineer I	5
PHY151	Physics Scientists/Engineer II	5

# Associate of Applied Science - Accounting

## Program Description

The Accounting degree program prepares students for employment in entry level positions in the accounting profession. Students are expected to have mastered basic English composition and math skills before beginning this program.

*Note: Since this degree prepares students directly for employment, students interested in a transfer program in accounting should see an academic advisor for other educational options.*

## Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Vikki Bentz (Vikki.Bentz@yc.edu), telephone: (928) 776-2154
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Accounting Degree program, the learner will be able to:

1. Apply accounting principles to prepare general purpose financial and tax statements. (ACC 115, ACC 116, ACC 121, ACC 122, ACC 131, ACC 132, ACC 162, ACC 231, ACC 296)
2. Identify and analyze ethical issues in business. (ACC 115, ACC 116, BSA 100, BSA 132)
3. Synthesize basic accounting theory with financial accounting applications. (ACC 121, ACC 122, ACC 131, ACC 132, ACC161, ACC 162, ACC 231)
4. Utilize critical thinking in addressing accounting issues. (ACC 132, BSA 131, BSA 236, CSA 126)
5. Prepare basic income tax returns. (ACC 115, ACC 116, ACC 122, ACC 161)

## Program Requirements

A minimum of 60 credit hours is required to complete the Accounting Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1.	Writing (3)	
2.	Communication (3)	
<b>c. College Composition (6 Credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		
a.	Behavioral Science (3)	
b.	Social Science (3)	
<b>II. Accounting Requirements</b>		
	ACC115 Basic Tax Planning	3
	ACC116 Adv Tax Planning and Prep	4
	ACC121 Introductory Accounting	3

Course	Course Title	Credit Hours
ACC122	Payroll Accounting	3
ACC131	Principles of Accounting I	3
ACC132	Principles of Accounting II	3
ACC161	Cmptr Acct w/ QuickBooks	2
ACC162	Excel/Access-Accounting	3
ACC231	Intermediate Accounting I	4
<b>III. Business Administration Requirements</b>		
BSA102	Career Search and Success	1
<b>IV. Select 12 credit hours from the following courses:</b>		
ACC296	Internship: Accounting	3
BSA131	Intro to Business	3
BSA132	Ethics in Business	3
BSA236	Principles Economics-Micro	3
CSA126	Microsoft Office	3

# Associate of Applied Science - Administration of Justice

## Program Description

The Administration of Justice degree program is an interdisciplinary program of study which prepares students for a broad range of employment opportunities including law enforcement, corrections, probation/parole officer, and social services in the courts or community agencies.

In addition to preparing students for entry-level employment, this degree program is appropriate for individuals already employed in the justice field who are seeking skill upgrade and promotional opportunities, and individuals preparing to transfer to a four-year college/university with a major in Justice Studies.

Arizona State University, Arizona State University-West, Grand Canyon University, Northern Arizona University and the University of Arizona all offer baccalaureate degree programs in Justice Studies/Administration of Justice.

## Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Michael Davis (michael.davis@yc.edu), telephone: (928) 717-7938
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Administration of Justice Degree program, the learner will be able to:

1. Explain the historical development of American criminal law from its English common law roots to the present. (AJS 101)
2. Analyze criminal conduct in the context of historical, social, political and legal developments. (AJS 101, AJS 109)
3. Identify the organization and jurisdiction of local state and federal law enforcement, courts and correctional systems. (AJS 101, AJS 230, AJS 240)
4. Describe the relationships between the three components of the criminal justice system. (AJS 109, AJS 230, AJS 240)
5. Summarize the philosophy of legal sanctions and corrections and the historical development of theories of punishment and rehabilitation. (AJS 109, AJS 240)
6. Analyze the intersection of law, morality and ethics in our modern society. (AJS 123)
7. Summarize the modern scientific tools used in criminal investigation. (AJS 170)
8. Analyze current issues and trends in crime rates, criminal behavior, and social trends as they impact the criminal justice process. (AJS 200)
9. Outline the modern philosophies, organization and treatment/intervention goals of the juvenile justice system. (AJS 212)
10. Identify and summarize the various theories of the causes of criminal behavior. (AJS 225)
11. Analyze the role of the US Supreme Court in defining the Constitutional protections and procedural due process safeguards in the criminal justice system. (AJS 260)
12. Describe the economic and psychological impact of crime on society. (AJS 225, AJS 240)
13. Identify the primary governmental agents responsible for the formation of U.S security policy, and evaluate and respond to key threats to global business security, including trade secret protection, theft, computer hacking and protection of employees. (AJS 250)
14. Explain the current issues relating to police-community relations. (AJS 270)
15. Define investigation and describe the goals of criminal investigation. (AJS 275)
16. Identify the key provisions of the Bill of Rights and the U.S. Constitution that pertain to civil liberties and civil rights, and explain various competing theories of constitutional interpretation and judicial review. (AJS 290)
17. A) Compare and contrast various theoretical approaches which have suggested explanations of human behavior. (241) or B) Summarize the psychological and biological perspectives on gender. (SOC 212)
18. Use creative leadership techniques to lead, motivate and inspire others. (BSA 111)

**Program Requirements**

A minimum of 60 credit hours is required to complete the Administration of Justice Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved LList		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits) - If preparing for transfer choose this option</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List - If preparing for transfer choose MAT 152		
<b>3. Critical Thinking (3 credits)</b>		
	AJS123 Ethics & Criminal Justice	3
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved LList		
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Administration of Justice Requirements</b>		
	AJS101 Intro Admin of Justice	3
	AJS109 Substantive Criminal Law	3
	AJS170 Forensic Science	3
	AJS200 Curr Issue/Criminal Just	3
	AJS212 Juvenile Justice Procedure	3
	AJS225 Criminology	3
	AJS230 The Police Function	3
	AJS240 The Correction Function	3
	AJS260 Procedural Criminal Law	3
	AJS290 Constitutional Law/Civil Lib	3
<b>III. Related Requirements</b>		
	PSY241 Substance Abuse	3
<b>OR</b>	SOC212 Gender and Society	3
	BSA102 Career Search and Success	1
	BSA111 Creative Leadership	1
<b>Select and complete 6 credits from the following courses:</b>		
	AJS103 Public Safety Report Writing	3
	AJS250 Intro Global Security & Intel	3
	AJS252 Homeland Security	3
	AJS254 Global Crime and Criminal Just	3
	AJS256 Terrorism	3
	AJS258 Info Protect and Comp Security	3
	AJS270 Community Relations	3
	AJS275 Criminal Investigations	3
	AJS278 Neuroscience and the Law	3
	POS110 American National Govt	3

# Associate of Applied Science - Agriculture Technology Management

## Program Description

The Agriculture Technology Management program prepares students for entrepreneurship, employment, or advancement in a variety of agricultural fields including horticulture, aquaculture and fisheries, and animal care and management.

**Note:**

## Program Contacts

- Instructional Specialist: Karen Smith (karen.smith@yc.edu), telephone: (928) 717-7760
- Associate Dean: Karla Phillips (karla.phillips@yc.edu), telephone: (928) 717-7725
- Professor: Justin Brereton (justin.brereton@yc.edu), telephone: (928) 717-7724
- Professor: Marnee Zazueta (marnee.zazueta@yc.edu), telephone: (928) 717-7727
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Agriculture Technology Management Degree program, the learner will be able to:

1. Design, operate and manage an extensive agriculture facility. (AGS 250, AGS 252, AGS 261, AGS 264)
2. Rear fish from egg to market using practices for maximizing production and profit. (AGS 261, AGS 264)
3. Develop a disease and water quality management system. (AGS 261, AGS 264)
4. Propagate plants from cuttings and seeds. (AGS 250, AGS 252)
5. Develop and implement an integrated pest management system.(AGS 107, AGS 250, AGS 252)
6. Recognize and correct irrigation/plumbing/equipment/facility problems. (AGS 250, 252, 261, 264, 274)
7. Develop and implement a comprehensive management program for exotic and domestic animals. (AGS 280, AGS 282)

## Program Requirements

A minimum of 60 credit hours is required to complete the Agriculture Technology Management Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
ENG101	College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
AGS103	Plant Biology	4
<b>OR</b>	BIO103 Plant Biology	4
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		

Course	Course Title	Credit Hours
b, Social Science (3)		
<b>II. Agriculture Technology Management Requirements</b>		
AGS101	Microcomputers in Agriculture	3
<b>OR</b>	CSA126 Microsoft Office	3
AGS102	Agribusiness Management	3
AGS105	Soils	3
AGS107	Entomology	3
AGS115	Agricultural Mechanics I	3
AGS120	Intro Animal Industry	4
AGS215	Agricultural Mechanics II	3
AGS274	Water Management	3
<b>Select and complete 16 credits from the following courses:</b>		
AGS250	Horticulture Science I	4
AGS252	Horticulture Science II	4
AGS261	Aquaculture Science	4
AGS264	Aquaculture Management	4
AGS280	Zoo and Domestic Animal Care	4
AGS282	Zoo & Domestic Animal Behavior	4



# Associate of Applied Science - Applied Pre-Engineering

## Program Description

The Associate of Applied Science Degree in Applied Pre-Engineering is designed to provide students with a working knowledge of engineering concepts.

## Program Contacts

- Instructional Specialist: Stephanie Wiltcher (stephanie.wiltcher@yc.edu), telephone: (928) 717-7107
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Applied Pre-Engineering Degree program, the learner will be able to:

1. Articulate basic mathematical, scientific and applicable engineering principles. (EGR 102, MAT 220, MAT 230, PHY 150, PHY 151)
2. Model and solve problems using electronics, robotics and precision manufacturing principles. (CNC 101, CNC 102, CNC 201, CNC 202, ELT 130, ELT 183)
3. Utilize modern manufacturing techniques, skills and tools necessary to design, develop, implement, and improve integrated systems that include people, materials, information, equipment and energy. (CNC 101, CNC 102, CNC 201, CNC 202, EGR 102, ELT 130, ELT 183)
4. Write effective documents that are audience specific and describe technical operations or scientific principles. (EGR 102, ENG 101, ENG 102)
5. Work effectively as members or leaders of a team to accomplish an objective. (EGR 102, ELT 130)

## Program Requirements

A minimum of 62 credit hours is required to complete the Applied Pre-Engineering Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (14 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (5 credits)</b>		
	MAT187 Precalculus	5
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (8 credits)</b>		
<b>1. Physical and Biological Science (5 credits)</b>		
	CHM151 General Chemistry I	5
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Applied Pre-Engineering Requirements</b>		
	CNC101 CNC Machine Operator	2
	CNC102 CNC Machine Set Up	2
	CNC201 Comp Aided Program CNC Mach	3
	CNC202 3-D Program & Rapid Prototype	4
	ELT130 Introduction to Robotics	3
	ELT183 Digital Circuits	3
	EGR102 Introduction to Engineering	3
<b>III. Related Requirements</b>		
	MAT220 Calculus & Analytic Geometry I	5
	MAT230 Calculus & Analytic Geomtry II	5

Course	Course Title	Credit Hours
PHY150	Physics Scientists/Engineer I	5
PHY151	Physics Scientists/Engineer II	5

# Associate of Applied Science - Automotive Technology

## Program Description

The Automotive Technology degree program is designed for individuals preparing for positions utilizing a combination of automotive technology and business management skills including service managers, insurance adjusters, and small business owners. This degree program will prepare students for the National Automotive Service Excellence (ASE) certification examinations to become an ASE Certified Master Automobile Technician and a Certified Engine Machinist. ASE certification requires hands-on working experience as well as completion of written examinations. Two years of post high school educational training, such as that offered in this automotive degree program at Yavapai College, may be substituted for up to one year of the hands-on work experience requirement of the ASE certification.

## Program Contacts

- Professor: Jerrad Smith (jerrad.smith@yc.edu), telephone: (928) 717-7379
- Instructional Specialist: Stephanie Wiltcher (stephanie.wiltcher@yc.edu), telephone: (928) 717-7107
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Automotive Technology Degree program, the learner will be able to:

1. Identify the parts and rebuild a basic engine and a modified performance engine. (AUT 108, AUT 151)
2. Explain and diagnose electrical circuits, electrical components, and computer related problems. (AUT 100, AUT 109, AUT 252)
3. Rebuild an automatic transmission and transaxle manual transmission, and transaxle driveline and differential. (AUT 122, AUT 124)
4. Replace steering and suspension components and align a front-end. (AUT 126)
5. Diagnose and repair automotive air conditioning and heating systems. (AUT 128)
6. Tune up, adjust and diagnose an internal combustion engine system. (AUT 131)
7. Diagnose, remove, and replace an entire automotive brake system including ABS and traction control system. (AUT 123)

## Program Requirements

A minimum of 60 credit hours is required to complete the Automotive Technology Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (3 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		

Course	Course Title	Credit Hours
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Automotive Technology Requirements</b>		
AUT100	Auto/Diesel Preventative Maint	2
AUT108	Engine Repair Technology	4
AUT109	Auto/Diesel Elect Systems	4
AUT122	Auto Transmission/Transaxle	4
AUT123	Automotive Brakes	4
AUT124	Auto/Diesel Manual Drive	4
AUT126	Auto/Diesel Steer/Suspension	4
AUT128	Auto/Diesel Heat & Air	4
AUT131	Auto Engine Diagnosis	5
AUT151	Auto Engine Repair	2
AUT252	Adv Automotive Systems	4

# Associate of Applied Science - Aviation Technology (Airplane/Helicopter/Ops/UAS)

## Program Description

The Aviation Technology degree program prepares students for careers in aviation as helicopter or airplane pilots, flight service specialists, dispatchers, instructors, and unmanned aircraft operators. The degree also prepares students for the entrance exam into the FAA Air Traffic Control Academy in Oklahoma City.

**Note:** Select one or more of the four concentrations. There is an alternate Airplane Operations Concentration plan available for students who are transitioning from the Helicopter Operations Concentration. Please contact Academic Advising for more information.

## Program Contacts

- Professor: Matt Mintzmyer (Matthew.Mintzmyer@yc.edu), telephone: (928) 717-7375
- Instructional Specialist: Heather Narvesen (heather.narvesen@yc.edu), telephone: (928) 776-2002
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Requirements

A minimum of 60 credit hours is required to complete the Aviation Technology (Airplane/Helicopter/Ops/UAS) Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
	GEO212 Intro to Meteorology	4
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science		
b. Social Science		
<b>II. Concentrations - Select one or more</b>		
<b>A. Airplane Operations Concentration (52-54 credits)</b>		
	AVT104 Private Pilot Airplane Ground	2
	AVT105 Private Pilot Airplane Grnd II	2
	AVT106 Private Pilot Flight I	4
	AVT107 Prvt Pilot Airplane Flight II	5
	AVT115 Inst Pilot Airplane Ground	4
	AVT116 Inst Pilot Airplane Flight	4
	AVT117 Private Pilot Flight Simulat	1
	AVT204 Comm Pilot Airplane Grnd I	2
	AVT205 Comm Pilot Airplane Grnd II	2
	AVT206 Comm Pilot Airplane Flight I	6
	AVT207 Comm Pilot Airplane Flight II	6
	AVT214 Private Pilot Instr Simulation	1
	AVT215 Flight Inst Airplane Ground	2

Course	Course Title	Credit Hours
AVT216	Flight Inst Airplane Flight	4
AVT225	Flight Inst Instrumnt Air Grnd	2
AVT226	Flight Inst Instrumnt Air Flgt	2
AVT235	Airplane Pilot Prevent Maint	1
AVT260	Fundamentals of Instruction	1
<b>1. Select one elective from the following:</b>		
AVT280	Upset Recovery Training	1
AVT281	Comm Single Eng Seaplane Trn	1
AVT282	High Altitude CRM Training	1
CPD104	Career & Personal Development	3
<b>B. Helicopter Operations Concentration (52 credits)</b>		
AVT109	Private Pilot Heli Ground I	2
AVT110	Private Pilot Heli Ground II	2
AVT111	Private Pilot Heli Flight I	4
AVT112	Private Pilot Heli Flight II	5
AVT113	Private Pilot Heli Simulation	1
AVT118	Instrument Pilot Heli Simulat	1
AVT120	Inst Pilot Helicopter Ground	4
AVT121	Instrument Pilot Heli Flight	4
AVT209	Comm Pilot Heli Ground I	2
AVT210	Comm Pilot Heli Grnd II	2
AVT211	Comm Pilot Heli Flight I	5
AVT212	Comm Pilot Heli Flight II	5
AVT220	Flight Inst Helicopter Grnd	2
AVT221	Flight Instructor Heli Flight	4
AVT230	Flight Instructor Inst Heli Gr	2
AVT231	Flight Instructor Inst Heli Fl	2
AVT240	Helicopter Pilot Prevent Maint	1
AVT260	Fundamentals of Instruction	1
<b>1. Select one elective from the following:</b>		
AVT283	Night Vision Goggles Heli Flt	3
AVT284	135 Heli Ops and Flight	3
AVT285	Adv Turbine Heli Flight	3
AVT286	Long Line Heli Flgt Ops	3
CPD104	Career & Personal Development	3
<b>C. Aviation Operations and Management Concentration (41 credits)</b>		
AVT104	Private Pilot Airplane Ground	2
OR AVT109	Private Pilot Heli Ground I	2
AVT105	Private Pilot Airplane Grnd II	2
OR AVT110	Private Pilot Heli Ground II	2
AVT115	Inst Pilot Airplane Ground	4
OR AVT120	Inst Pilot Helicopter Ground	4
AVT125	Fund of Air Traffic Control	1
AVT126	Air Traffic Control Proc	1
AVT127	Fund of Air Traffic Control Ra	1
AVT130	Private Pilot Glider Grnd	1
AVT133	Private Pilot Glider Flgt	2
AVT135	Dispatch Ops I	3
AVT200	Airport Ops & Design	3
AVT201	Aviation Management	3
AVT227	Air Traffic Control Test Prep	1
AVT245	Dispatch Operations II	3
AVT246	Dispatch Operations III	3
AVT247	Flight Service Specialist	3
AVT260	Fundamentals of Instruction	1
AVT261	Adv Aviation Meteorology	4
BSA220	Principles of Management	3
<b>D. Unmanned Aircraft Systems Operator Concentration (47-49 credits)</b>		
[Applicants must possess commercial pilot rating prior to enrolling in this concentration]		
Commercial Pilot Rating Credit for Prior Learning (14-16 credits)		
AVT260	Fundamentals of Instruction	1
UAS100	UAS Operations	3
UAS103	UAS Flight Simulation	2
UAS110	UAS Aircraft and Ground System	3
UAS120	UAS Comm, Telemetry & Sensors	3
UAS132	UAS Fixed Wing Flight	6
UAS200	UAS History, Reg & Law	3
UAS210	UAS Human Machine Interface	3
UAS220	UAS Safety	3

Course	Course Title	Credit Hours
UAS232	UAS Rotor-Wing Flight	6

# Associate of Applied Science - Computer Networking Technology

## Program Description

This program is designed to provide students with the necessary skills to gain employment as an information technology professional in the field of networking technology. Emphasis is placed on managing and supporting desktop computers, servers, and network operating systems, and designing and supporting complex wired and wireless network infrastructures. Students interested in college transfer for Bachelor degrees in Information Technology or Technology Management should see an academic advisor.

## Program Contacts

- Program Director: Greg Tomsho (greg.tomsho@yc.edu), telephone: (928) 776-2104
- Dean: Stacey Hilton (stacey.hilton@yc.edu), telephone: (928) 717-7775

## Program Outcomes

Upon successful completion of the Computer Networking Technology Degree program, the learner will be able to:

1. Describe and configure the hardware and software used in a small- to medium- sized computer network. (CNT 100)
2. Maintain and repair personal computers. (CNT 110)
3. Discuss the methods and operation of local and wide area networks. (CNT 115)
4. Perform administrative and troubleshooting tasks on Windows server operating systems. (CNT 120)
5. Perform administrative and troubleshooting tasks on Windows client operating systems. (CNT 121)
6. Manage and maintain a Microsoft Windows Server Active Directory environment. (CNT 122)
7. Manage and support a Microsoft Windows Server network infrastructure. (CNT 123)
8. Configure and implement network security. (CNT 135)
9. Describe the function of TCP/IP and the OSI model and related devices. (CNT 140)
10. Configure Cisco routing technologies. (CNT 150)
11. Configure Cisco switching and wireless technologies. (CNT 160)
12. Configure and describe wide area network access technologies. (CNT 170)
13. Analyze, design, implement, and present a networking project. (CNT 294)

## Program Requirements

A minimum of 67 credit hours is required to complete the Computer Networking Technology Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		



Course	Course Title	Credit Hours
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Computer Networking Technology Requirements</b>		
CNT100	Intro to Computer Networking	3
CNT110	A+ Comp Tech Certification	4
CNT115	Network+: Networking Tech Cert	4
CNT120	Intro to Windows Server	3
CNT121	Windows Client Operating System	3
CNT122	Windows Server I	4
CNT123	Windows Server II	3
CNT135	Security+ Implement/Maintain	3
CNT140	Cisco Networking Fundamentals	4
CNT150	Cisco Network Router Tech	3
CNT160	Cisco LAN Switching & Wireless	3
CNT170	Accessing the WAN	3
CNT294	CNT Project	2
<b>III. Related Requirements</b>		
BSA102	Career Search and Success	1
<b>IV. Electives: Select a minimum of 5 credits from the following:</b>		
CNT130	Linux +: Linux Oper Sys Cert	4
CNT155	Wireless Netwrkg Fundamentals	3
CNT180	Web Site Implement and Mngt	3
CNT185	IT Project Management	2
CNT220	Windows Server Adm	3
CNT296	Internship: Computer Network	3
CSA161	Intro to Computer Science	2
CSA164	C# Programming Fundamentals	3
CSA167	PHP and MySQL Programming	3
CSA282	Microcomputer Database	3

# Associate of Applied Science - Computer Systems and Applications

## Program Description

The Computer Systems and Applications degree program prepares students for employment in entry level positions in the computing field. Students interested in a transfer program in computer science or business information systems should see an academic advisor for an educational plan.

**Note:** Prior to enrolling in any Computer Systems and Applications (CSA) course, the student must complete CSA111 - Keyboarding or demonstrate mastery of keyboarding skills.

## Program Contacts

• Dean: Stacey Hilton (stacey.hilton@yc.edu), telephone: (928) 717-7775

## Program Outcomes

Upon successful completion of the Computer Systems and Applications Degree program, the learner will be able to:

1. Define a problem with possible solutions and follow through to a possible solution. (CNT 110, CSA 110, CSA 126, CSA 161, CSA 164, CSA 167, CSA 170, CSA 179, CSA 201, CSA 266, CSA 281, CSA 282, CSA 294, WEB/ART 130)
2. Identify and evaluate technology needs, and apply and adapt acquired skills to address the identified needs. (CNT 100, CNT 110, CSA 161, CSA 164, CSA 167, CSA 170, CSA 179, CSA 201, CSA 266, CSA 281, CSA 294)
3. Communicate ideas clearly and effectively. (CNT 100, CNT 110, CSA 110, CSA 126, CSA 170, CSA 179, CSA 201, CSA 281, CSA 282, CSA 294, WEB/ART 130)
4. Use technology to solve problems and increase productivity. (CNT 100, CNT 110, CSA 110, CSA 126, CSA 161, CSA 164, CSA 167, CSA 170, CSA 179, CSA 201, CSA 266, CSA 281, CSA 282, CSA 294, WEB/ART 130)
5. Identify ethical issues in the business environment. (CSA 110, CSA 294)

## Program Requirements

A minimum of 64 credit hours is required to complete the Computer Systems and Applications Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from this list any MAT course numbered 152 or higher except MAT 156 or MAT 157		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		
a,	Behavioral Science (3)	
b,	Social Science (3)	
<b>II. Computing Systems &amp; Applications Requirements</b>		
CSA110	Intro Computer Info System	3
CSA126	Microsoft Office	3
CSA161	Intro to Computer Science	2
CSA164	C# Programming Fundamentals	3

Course	Course Title	Credit Hours
CSA167	PHP and MySQL Programming	3
CSA170	PC Architecture	3
CSA179	Survey Operating Systems	3
CSA201	Software Maintenance	3
CSA266	Adv Web Enhancement ASP.NET 4	3
CSA281	Systems Analysis and Design	3
CSA282	Microcomputer Database	3
CSA294	CSA Project	1
<b>III. Related Requirements</b>		
BSA102	Career Search and Success	1
CNT100	Intro to Computer Networking	3
CNT110	A+ Comp Tech Certification	4
ART130	Web Site Design I	3
<b>OR</b>	WEB130 Web Site Design I	3

# Associate of Applied Science - Diesel Technician

## Program Description

This program offers two options for completion:

Option A: Diesel Technician - prepares the student to enter the diesel mechanics field as an entry-level apprentice diesel technician.

Option B: Mining Diesel Technician Track - Freeport McMoRan, Inc. sponsors a mining program which is designed to prepare students for direct employment in the mining industry.

**Note:** *There are special admission requirements for the mining program track. Contact 717.2002 for details*

## Program Contacts

- Professor: Edward Kessel (Edward.Kessel@yc.edu), telephone: (928) 771-6115
- Instructional Specialist: Stephanie Wiltcher (stephanie.wiltcher@yc.edu), telephone: (928) 717-7107
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Diesel Technician Degree program, the learner will be able to:

1. Troubleshoot, repair, and replace diesel engines. (AUT 108, AUT 208, AUT 295, MET 116, MET 150, MET 160)
2. Troubleshoot, repair, and replace diesel fuel system components. (AUT 113)
3. Troubleshoot, repair, and replace diesel electrical system components. (AUT 109, AUT 225, AUT 295)
4. Perform basic service maintenance on diesel equipment. (AUT 102, AUT 108, AUT 125, AUT 208, AUT 209, AUT 225, AUT 295, WLD 113)
5. Troubleshoot, repair, and replace drivetrains. (AUT 124, AUT 295)
6. Analyze diesel computer controlled systems. (AGS 101, AUT 225)

## Program Requirements

A minimum of 61 credit hours is required to complete the Diesel Technician Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
	BIO105 Environmental Biology	4
<b>OR</b>	ENV105 Environmental Biology	4
<b>2. Behavioral and Social Science (3 credits)</b>		

Course	Course Title	Credit Hours
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Diesel Technician Requirements</b>		
AGS101	Microcomputers in Agriculture	3
<b>OR</b> CSA126	Microsoft Office	3
AUT100	Auto/Diesel Preventative Maint	2
AUT108	Engine Repair Technology	4
AUT109	Auto/Diesel Elect Systems	4
AUT124	Auto/Diesel Manual Drive	4
AUT128	Auto/Diesel Heat & Air	4
AUT135	Diesel Braking Systems	4
AUT208	Adv Diesel Engine Repair	4
AUT225	Diesel Engine Performance	4
<b>III. Related Requirements - Select Option A or B</b>		
<b>Option A: Diesel Technician</b>		
AUT126	Auto/Diesel Steer/Suspension	4
AUT209	Diesel Machine Hydraulics	3
WLD113	Basic Welding II	2
<b>Option B: Mining Diesel Technician</b>		
AUT295	Apprenticeship: Diesel	3
MET116	Rigging	1
MET150	Surface Mine Safety Training	1
MET160	Basic Machine Hydr& Pneumatics	2
WLD113	Basic Welding II	2

# Associate of Applied Science - Early Childhood Education

## Program Description

The Associate of Applied Science in Early Childhood Education is designed to provide students with the skills necessary for an immediate early care or education teaching position.

**Note:** A current Arizona fingerprint clearance card is required for students working in the Del E. Webb Family Enrichment Center. A current card in Pediatric First Aid and Safety will be required for graduation.

## Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Leanne Lawhead (leanne.lawhead@yc.edu), telephone: (928) 776-2306
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Early Childhood Education Degree program, the learner will be able to:

1. Use different observation techniques to assess and evaluate children's progress and program qualities. (ECE 200, ECE 210, ECE 222, ECE 250, ECE 291)
2. Compare historical and contemporary trends in Early Childhood. (ECE 200, ECE 222, ECE 234)
3. Plan developmentally appropriate curriculum and activities. (ECE 200, ECE 202, ECE 210, ECE 216, ECE 222, ECE 230, ECE 270, ECE 291)
4. Identify theories and milestones of growth and development in children. (ECE 200, ECE 201, ECE 216, ECE 230, ECE 234, ECE 291)
5. Prepare healthy and safe environments for young children, including nutritional standards. (ECE 210, ECE 250, ECE 270)
6. Enumerate and illustrate several components of quality child care. (ECE 200, ECE 202, ECE 210, ECE 216, ECE 222, ECE 230, ECE 234, ECE 240, ECE 250, ECE 270, ECE 291)
7. Develop a plan to use community resources. (ECE 222, ECE 240)
8. Create relationships with parents through communication and involvement. (ECE 222, ECE 240, ECE 260)
9. Prepare a professional portfolio. (ECE 202, ECE 230, ECE 250, ECE 260, ECE 291)
10. Integrate examples of children's literature into lesson plans for young children. (ECE 230)
11. Validate and support inclusive environments and special needs programs for children. (ECE 222)
12. Provide for the special needs of infants, toddlers and school-age children. (ECE 200, ECE 202, ECE 210, ECE 216, ECE 234)
13. Model leadership and management skills. (ECE 250, ECE 291)
14. Articulate positive guidance techniques with young children. (ECE 200, ECE 234, ECE 240, ECE 260, ECE 291)

## Program Requirements

A minimum of 60 credit hours is required to complete the Early Childhood Education Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
ENG101	College Composition I	3

Course	Course Title	Credit Hours
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Early Childhood Education Requirements</b>		
	ECE200 Intro Early Childhood Ed	3
	ECE202 Early Childhood Curriculum	3
	ECE210 Infant and Toddler Development	3
	ECE216 Playing to Learn	3
	ECE222 Intro Exceptional Learner	3
<b>OR</b>	EDU222 Intro Exceptional Learner	3
	ECE230 Language & Literacy Experience	3
<b>OR</b>	EDU230 Language & Literacy Experience	3
	ECE234 Child Development	3
<b>OR</b>	PSY234 Child Development	3
	ECE240 Family & Comm Partnerships	3
	ECE250 Ldrshp Mgmt Early Child Prgrm	3
	ECE260 Guidance of Young Children	3
	ECE270 Health, Safety and Nutrition	3
	ECE290 Practicum: DireTECH Field Exp	3
	ECE291 Adv Practicum: Supervsd Field	4
<b>III. Related Requirements</b>		
	BSA102 Career Search and Success	1

# Associate of Applied Science - Electrical & Instrumentation Technology

## Program Description

The Electrical & Instrumentation Technology degree is designed to prepare students for positions in the installation, repair and maintenance of commercial electrical and electronic equipment.

**Note:** Freeport McMoRan, Inc. and Asarco sponsor mining programs designed to prepare students for direct employment in the mining industry. There are special admission requirements for these programs. Contact (928) 776-2002 for details.

## Program Contacts

- Instructional Specialist: Susie Check (susie.check@yc.edu), telephone: (928) 717-7761
- Professor: Elizabeth Peters (Elizabeth.Peters@yc.edu), telephone: (928) 717-7128
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Electrical and Instrumentation Technology Degree program, the learner will be able to:

1. Build, test, analyze and troubleshoot direct and alternating current circuits. (ELT 111, ELT 112)
2. Build, test, analyze and troubleshoot digital circuits. (ELT 183)
3. Build, test, analyze and troubleshoot solid state circuits. (ELT 126)
4. Build, test, analyze and troubleshoot microprocessor and programmable controller-based circuits. (ELT 161)
5. Build, test, analyze and troubleshoot process control instrumentation circuits. (EL 171)
6. Design, fabricate and install safe electrical conduits and raceways. (ELT 115)
7. Build, test, analyze and troubleshoot communication circuits. (ELT 221)
8. Build, test, analyze and troubleshoot motors and motor control circuits. (ELT 272)
9. Troubleshoot pre-bugged equipment including symptom recognition, fault isolation and repair (ELT 258)

## Program Requirements

A minimum of 62 credit hours is required to complete the Electrical and Instrumentation Technology Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
	BIO105 Environmental Biology	4
<b>OR</b>	ENV105 Environmental Biology	4
<b>2. Behavioral or Social Science (3 credits)</b>		



Course	Course Title	Credit Hours
<b>II. General Requirements</b>		
AGS101	Microcomputers in Agriculture	3
<b>OR</b>	CSA126 Microsoft Office	3
MET160	Basic Machine Hydr& Pneumatics	2
WLD113	Basic Welding II	2
<b>III. Electrical &amp; Instrumentation Technology Requirements</b>		
ELT111	DC Electrical Systems	3
ELT112	AC Electrical Systems	3
ELT115	Conduits and Raceways	1
ELT126	Solid State Devices	3
ELT161	Microprocessors & Prog Control	3
ELT171	Process Control Instrumentatn	3
ELT183	Digital Circuits	3
ELT221	Communication Systems/Circuits	3
ELT258	Electronic Troubleshooting	2
ELT272	Motors and Motor Control	3
<b>IV. Related Requirements - Select Option A or B</b>		
<b>Option A (Mining Students Only)</b>		
ELT295	Apprentice: Electrical Inst	3
MET116	Rigging	1
MET150	Surface Mine Safety Training	1
<b>Option B (All Others) - Select at least 9 credits from the following courses:</b>		
CNT100	Intro to Computer Networking	3
CNT110	A+ Comp Tech Certification	4
CNT115	Network+: Networking Tech Cert	4
CSA170	PC Architecture	3
ELT130	Introduction to Robotics	3
ELT295	Apprentice: Electrical Inst	3
PHY140	The Physical World	4

# Associate of Applied Science - Emergency Management Applications

## Program Description

The Emergency Management program stresses the fundamental skills of emergency management while providing interdisciplinary study covering the related skills and practices of emergency planning and leadership. The main purpose of the program is to cover the needs of emergency management professionals, addressing the various aspects of natural and human caused disasters. Graduates will have a knowledge-based approach to strategically plan for disaster prevention, reduction, response, and recovery. The target audience for the degree are those working in, or those desiring to work in, emergency management or related fields such as fire protection, law enforcement, emergency medical fields, environmental health and safety, and others including, but not limited to, the private sector.

## Program Contacts

- Program Director: Kenny Krebbs (kkrebbs@instructor.yc.edu), telephone: (928) 717-7911
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

## Program Outcomes

Upon successful completion of the Emergency Management Applications Degree program, the learner will be able to:

1. Describe the theories, principles, and approaches to the emergency management field. (EMA 101, EMA 225)
2. Apply methodology and analytical techniques in emergency planning. (EMA 102)
3. Describe the implementation process for public assistance during disaster recovery. (EMA 110)
4. Communicate the importance of organizational leadership, performance, and vision. (EMA 130, EMA 250)
5. Identify risks and hazards that affect the sustainability framework for natural and technological hazards and how preparedness, response, recovery, and mitigation efforts can create a sustainable future. (EMA 140)
6. Identify proper foresight and management to reduce or eliminate losses due to disasters and/or catastrophes. (EMA 210)
7. Define terrorism, typologies of terrorism, financing of terrorism and the tactics and force multipliers of terrorism. (EMA 240)
8. Analyze the purpose and scope of legal issues within emergency management to include: administrative agencies, civil liberties, contract and labor issues, employee rights, and the rights of others. (EMA 245)
9. Discuss collaborative emergency management, phases of emergency management, health sector planning and response, new technology, budgeting, and the future direction of emergency management. (EMA 220, EMA 230)
10. Describe the unique challenges to protection of information and computer security posed by cyberspace. (AJS 258)
11. Use computer software applications to solve problems and scenarios, and to increase productivity. (CSA 110)

## Program Requirements

A minimum of 61 credit hours is required to complete the Emergency Management Applications Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1.	Writing (3)	
2.	Communication (3)	
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		

Course	Course Title	Credit Hours
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Emergency Management Applications Requirements</b>		
EMA101	Prin of Emergency Mgmt	3
EMA102	Emergency Planning	3
EMA110	Public Admin & Emerg Mgmt	3
EMA130	Ldrshp Models for Emerg Mgmt	3
EMA140	Disaster Response & Recovery	3
EMA210	Disaster Mitig & Bus Comm	3
EMA220	Ethical Ldrshp for Emer Mgr	3
EMA225	Leadership Developmnt/Emer Mgr	3
EMA230	Emer Mgmt for Local Govt	3
EMA240	Terrorism & Homeland Security	3
EMA245	Law & Legal Issues for Emerg	3
EMA250	Organizational Dev & Chng	3
<b>III. Related Requirements</b>		
AJS258	Info Protect and Comp Security	3
CSA110	Intro Computer Info System	3

# Associate of Applied Science - Fire Science

## Program Description

The Fire Science degree program is an interdisciplinary program of study which prepares students for a broad range of employment opportunities including Firefighter, Hazardous Materials Technician, Fire Marshal/Inspector, Fire Investigator, and Fire Service Supervisor/Manager.

In addition to preparing students for employment, this degree program is appropriate for individuals already employed in the Public Safety field who are seeking skill upgrade and promotional opportunities, and individuals preparing to transfer to a four-year college/university.

Students interested in a transfer program in fire science should see an academic advisor for an educational plan.

## Program Contacts

- Program Director: Kenny Krebbs (kkrebbs@instructor.yc.edu), telephone: (928) 717-7911
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

## Program Outcomes

Upon successful completion of the Fire Science Degree program, the learner will be able to:

1. Develop conditioning strategies, lifelong fitness, nutritional guidelines, and prepare for pre-employment agility tests. (FSC102)
2. Explain issues related to fire prevention and the components and steps of inspection and enforcement. (FSC135)
3. Describe principles and characteristics of hydraulics and operate fire hydraulic pumps currently in use in the fire service. Compute nozzle pressures and characterize related hydraulics problems. (FSC137)
4. Discuss various materials and their relationship to fires as fuel. Describe characteristics of water as a fire suppression agent and identify other suppression agents and strategies. Compare methods and techniques of fire extinguishments. (FSC210)
5. Define types of laws and explain the purpose and roles of national codes and standards and the scope of the Civil Rights Act, the American Disabilities Act, Fair Labor Standards Act, and Family Medical Leave Act. Outline the organizational and legal structure and differentiate forms of discrimination in the Fire Service. (FSC225)
6. Describe fire detection systems and applications, and operate and test fire protection and detection systems. (FSC235)
7. Employ accident control, safety standards, analyze safety hazards, develop inspection safety procedures, evaluate training simulations, and prescribe safety procedures for personnel. (FSC236)
8. Direct firefighting operations to achieve maximum property conservation. (FSC238)
9. Lead functions and processes as the emergency scene commander. (FSC239)
10. Incorporate and manage cost containment, budgeting, data analysis, personnel evaluation, community planning, and departmental and public organization. (FSC240)
11. Determine factors and principles related to fire resistance, building codes and fire suppression issues. (FSC241)
12. Describe the theory of fire behavior, phases of fire, types of fires, and methods of fire control. (FSC100, FSC105)
13. Explain the role and functions of fire protection organizations within the community. (FSC100, FSC 105)
14. Identify the main elements determining fire behavior, fuels and fuel properties. (FSC234)
15. Analyze arson, conduct fire investigations, and present evidence and testimony in court. (FSC234)
16. Determine hazardous materials through the identification of placarding, labeling and shipping manifests. Respond and control flammable, reactive and toxic hazardous materials incidents and match the type of control options for each response objective; absorption, damming, diking, dilution, diversion, retention, vapor dispersion, remote valve shut-off. (FSC100, FSC104)
17. Perform standard hose rolls, carries, drags, lifts, wall breaching, narrow-space manipulation and hoisting techniques directly related to firefighter safety and self-survival. Explain the need for proper ventilation, the method and theory of fire cause determination, and the components and value of automatic sprinkler systems. (FSC100, FSC105)

## Program Requirements

A minimum of 60 credit hours is required to complete the Fire Science Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication (6 credits)</b>		
<b>a. Writing (3 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Fire Science Requirements</b>		
	FSC100 Principles of Emergency Srvc	3
<b>OR</b>		
	FSC104 Haz Mat First Responder Op	2
<b>AND</b>	FSC105 Firefighter I & II Cert Acad	12
	FSC102 Prin of Fire/Emerg Serv Safety	3
	FSC135 Fire Prevention	3
	FSC137 Fire Protection Hydraulics/Wat	3
	FSC210 Adv Fire Behavior & Combustion	3
	FSC225 Legal Aspects of Emerg Serv	4
	FSC234 Fire Investigation	3
	FSC235 Fire Protection Systems	3
	FSC236 Occupational Safety/Hlth Emer	3
	FSC238 Strategy and Tactics	3
	FSC239 Fire Department Co Officer	3
	FSC240 Principles of Fire/Emerg Serv	3
	FSC241 Bldg Const for Fire Protection	3
<b>III. Related Requirements</b>		
	BSA102 Career Search and Success	1

# Associate of Applied Science - Graphic Design

## Program Description

The Graphic Design degree program prepares students for employment in entry-level positions in the commercial art and advertising fields. This degree program prepares students with the design principles and desktop publishing skills required for employment in today's job market.

**Note:** *Students interested in a transfer program should see an academic advisor for an educational plan, since this degree is primarily designed to prepare students directly for employment.*

## Program Contacts

- Program Director: Lauren McCrea (lauren.mccrea@yc.edu), telephone: (928) 717-7616
- Instructional Specialist: Michelle Peters (Michelle.Peters@yc.edu), telephone: (928) 776-2035
- Program Director: Laura Bloomenstein (Laura.Bloomenstein@yc.edu), telephone: (928) 776-2039

## Program Outcomes

Upon successful completion of the Graphic Design Degree program, the learner will be able to:

1. Work independently or as part of a team to successfully complete graphic design projects. (ART 130, ART 131, ART 132, ART 137, ART 154, ART 231, ART 236, ART 237)
2. Develop creative solutions to visual problems. (ART 110, ART 112, ART 113, ART 114, ART 130, ART 131, ART 132, ART 137, ART 154, ART 160, ART 231, ART 236, ART 237, ART 296)
3. Utilize typography in design solutions. (ART 130, ART 131, ART 231)
4. Employ industry standard software. (ART 130, ART 132, ART 231, ART 236, ART 237, ART 296)
5. Identify, analyze, synthesize and communicate design principles. (ART 110, ART 112, ART 113, ART 114, ART 130, ART 132, ART 160, ART 200 or 201, ART 231, ART 237)
6. Produce and maintain a professional portfolio. (ART 232, SBE 214)
7. Articulate traditional and nontraditional art examples and how those examples affect popular visual literacy. (ART 110, ART 112, ART 113, ART 114, ART 130, ART 131, ART 132, ART 137, ART 160, ART 200 or 201, ART 231, ART 237)

## Program Requirements

A minimum of 60 credit hours is required to complete the Graphic Design Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved LList		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved LList		
<b>2. Behavioral and Social Science (3 credits)</b>		
a.	Behavioral Science (3)	
b.	Social Science (3)	
<b>II. Graphic Design Requirements</b>		
	ART110 Drawing I	3
	ART112 Two-Dimensional Design	3
	ART114 Color	3

Course	Course Title	Credit Hours
ART131	Graphic Design I	4
ART130	Web Site Design I	3
<b>OR</b>	WEB130 Web Site Design I	3
ART132	Graphic Design II	4
ART137	Adobe Photoshop I	3
ART154	Digital Photo I	3
ART200	Art History I	3
<b>OR</b>	ART201 Art History II	3
ART231	Graphic Design Illustration	4
ART232	Portfolio Development	2
ART236	Digital Pre-Press	2
<b>III. Select and complete 3 credit hours from the following:</b>		
ART113	Three-Dimensional Design	3
ART160	Printmaking I	3
ART230	Digital Printing Tech	3
ART237	Adobe Photoshop II	3
ART296	Internship: Art	3
<b>IV. Related Requirements</b>		
SBE214	Social Media & Mobile Mktg	1

# Associate of Applied Science - Gunsmithing

## Program Description

The Gunsmithing degree program prepares students for employment in entry-level positions in firearm and metal industries.

**Note:** Since there is a special admission process for this program, prospective students should contact the Advising Center or visit our website at [www.gunsmithing.org](http://www.gunsmithing.org) for detailed information.

## Program Contacts

- Professor: Alan Lohr (alan.lohr@yc.edu), telephone: (928) 776-2348
- Instructional Specialist: Susie Check (susie.check@yc.edu), telephone: (928) 717-7761
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Gunsmithing Degree program, the learner will be able to:

1. Safely operate hand and machine tools common to the gunsmithing trade.
2. Use measuring tools such as micrometers, indicators, verniers and various gauges.
3. Use a computer to develop ballistic data and to document research assignments.
4. Completely disassemble firearms for metal refinishing and reassembly.
5. Identify different rifle operating systems.
6. Identify different shotgun operating systems including maintenance, repair and customization.
7. Lay out, duplicate, inlet, fit, glass bed, install accessories, apply finish, and checker the Classic American rifle stock.
8. Perform computer assisted drafting operations on a personal computer.
9. Identify, repair and extensively modify pistols and revolvers.
10. Install rifle barrels using proven methods to enhance accuracy.
11. Plan, set-up, make, and install specialty accessories frequently encountered in the firearms industry.
12. Communicate professionally with customers and vendors.
13. Develop a business plan, complete with demographics, suitable for a small business loan application.
14. Develop marketing tools such as brochures and ads.
15. Develop an accurate price list for performing technical services.

## Program Requirements

A minimum of 60 credit hours is required to complete the Gunsmithing Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1.	Writing (3)	
2.	Communication (3)	
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		



Course	Course Title	Credit Hours
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Gunsmithing Requirements</b>		
GST100	Apprentice Gunsmithing	10
GST150	Journeyman Gunsmithing	10
GST200	Professional Gunsmithing	10
GST250	Master Gunsmithing	10
<b>III. Related Requirements</b>		
BSA102	Career Search and Success	1

# Associate of Applied Science - Health Information Technology

## Program Description

The Associate of Applied Science degree in Health Information Technology will prepare the student to work in traditional and non-traditional leadership and supporting roles in health care settings in Health Information Management (HIM). Those settings include acute care, alternative care settings, government, correctional facilities, education, billing, insurance, software sales and vendor services.

**Note:** Admission to the program is once yearly in the fall semester. Students must have an Arizona Department of Public Safety Fingerprint Clearance Card; TB skin test or chest X-ray specifying absence of tuberculosis; CPR for Healthcare Providers card; immunizations outlined in application; reading proficiency. Information and an application packet is available online at [www.yc.edu/HIM](http://www.yc.edu/HIM).

## Program Contacts

- Program Director: Nancy Bowers ([nancy.bowers@yc.edu](mailto:nancy.bowers@yc.edu)), telephone: (928) 776-2252
- Instructional Specialist: Petra Bresee ([petra.bresee@yc.edu](mailto:petra.bresee@yc.edu)), telephone: (928) 771-6122
- Dean: Scott Farnsworth ([scott.farnsworth@yc.edu](mailto:scott.farnsworth@yc.edu)), telephone: (928) 776-2234

## Program Outcomes

Upon successful completion of the Health Information Technology Degree program, the learner will be able to:

1. Adhere to legal, institutional and professional regulations to collect and maintain complete and accurate data; ensure accurate healthcare billing; comply with reimbursement and reporting requirements; select, sequence, index and assign codes; resolve discrepancies between coded data and supporting documentation; apply external standards, regulations, and initiatives. Domain I.A.1, I.A.4, I.B.3, I.D.4, III.A.1. (All courses within the program)
2. Apply general principles of ethical standards and practice in decision making within the health information management department. Domain II.B.5. (All courses within the program)
3. Abstract, analyze, and maintain data for indices, data bases, and registries; compute and interpret healthcare and vital statistics; qualitatively analyze and evaluate health care data; facilitate quality management and performance improvement programs and health information research projects. Domain II.A.1, DII.A.2. (All courses within the program)
4. Apply institutional policies and procedures to the use of technology to facilitate the collection, storage, tracking, release, analysis, and reporting of information. Domain IV.A.1. (HIM 110, HIM141, HIM 155)
5. Apply knowledge of database architecture and design to meet departmental and organizational needs. Domain IV.B.1. (HIM 155)
6. Maintain electronic archival and retrieval systems; monitor access logs and systems; design and generate reports to facilitate information retrieval. Domain IV.D.1-4. (HIM 155, HIM 173, HIM 290)
7. Ensure data integrity and validity by using appropriate software and/or hardware; apply departmental and organization data and information system confidentiality and security policies to protect electronic health information. Domain IV.D.1-3. (HIM 155, HIM 173, HIM 290)
8. Participate in the planning, design, selection, implementation, integration, testing, evaluation, and support for organization-wide health information systems. Domain IV.A.5. (All courses within the program)
9. Apply human resource management and team leadership skills to effectively supervise and lead others and to maintain the integrity/viability of financial and physical resources. Domain V.A and V.B. (HIM110, HIM200, HIM173, HIM290)
10. List the indications for use, dosage forms, usual dosage, side effects, interactions with other drugs, storage requirements, generic and trade names and mechanism of action for commonly used medications. (AHS140)
11. For all major body systems, describe common diseases and conditions, methods of diagnosis, short and long term effects of disease processes, treatment and therapy and restoration strategies. (HIM140).
12. Use combining forms, suffixes, and prefixes to build medical terms. (AHS130, all HIM courses)

## Program Requirements

A minimum of 74 credit hours is required to complete the Health Information Technology Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
	BIO156 Human Biology Allied Health	4
<b>OR</b>	BIO181 General Biology I	4
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Health Information Technology Requirements</b>		
	HIM110 Intro to Hlth Info Mgmt	3
	HIM140 Disease Process	4
	HIM141 Healthcare Delivery Systems	3
	HIM150 ICD-9-CM Medical Coding	4
	HIM155 Hlth Info Mgmt Computer Sys	2
	HIM173 Legal & Ethical Aspects of HIM	2
	HIM176 CPT Coding	3
	HIM200 Prin of Healthcare Ldrship	2
	HIM210 Healthcare Stats & Research	2
	HIM220 Hlth Info Mgmt in Alt Hlthcare	2
	HIM242 Hlthcare Reimbursement Method	3
	HIM280 ICD-10-CM/PCS Med Coding	4
	HIM295 Practicum: HIM Prof Practice	4
<b>III. Related Requirements</b>		
	AHS130 Medical Term for Patient Care	3
	AHS140 Pharmacology for Allied Hlth	2
	BIO201 Human Anatomy & Physiology I	4
	BIO202 Human Anatomy & Physiology II	4
	BSA102 Career Search and Success	1
	CSA126 Microsoft Office	3

# Associate of Applied Science - Industrial Plant Technician

## Program Description

The Industrial Plant Technician degree program is designed to prepare students for careers in plant machinery installation, maintenance, and fabrication.

**Note:** *Freeport McMoRan, Inc. sponsors a mining program designed to prepare students for direct employment in the mining industry. There are special admission requirements for this program. Contact 717.2002 for details.*

## Program Contacts

- Professor: Charles Allmon (charles.allmon@yc.edu), telephone: (928) 771-6113
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Industrial Plant Technician Degree program, the learner will be able to:

1. Troubleshoot, replace, and repair hydraulic and pneumatic system components. (IPT 110, IPT 120, IPT 160, IPT 295, MET 160)
2. Fabricate and repair industrial machinery components. (IPT 260, IPT 295, WLD 112, WLD 113, WLD 250)
3. Safely utilize machine shop equipment. (AGS 101, IPT 260, IPT 261, IPT 295, MET 116, MET 150)
4. Troubleshoot and repair conveyance systems. (IPT 260)
5. Troubleshoot and repair bulk material handlers (IPT 140, IPT 260, IPT 261)
6. Repair and replace valves (IPT 130)

## Program Requirements

A minimum of 67 credit hours is required to complete the Industrial Plant Technician Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
<b>3. Critical Thinking (3 credits)</b>		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
	BIO105 Environmental Biology	4
<b>OR</b>	ENV105 Environmental Biology	4
<b>2. Behavioral or Social Science (3 credits)</b>		
<b>II. General Requirements</b>		
	AGS101 Microcomputers in Agriculture	3
<b>OR</b>	CSA126 Microsoft Office	3
	MET116 Rigging	1
	MET150 Surface Mine Safety Training	1
	MET160 Basic Machine Hydr& Pneumatics	2
	WLD112 Basic Welding I	2
	WLD113 Basic Welding II	2

Course	Course Title	Credit Hours	
WLD250	Welded Metal Fabrication	4	
<b>III. Industrial Plant Technician Requirements</b>			
IPT110	Industrial Shop Practices	3	
IPT120	Industrial Pump Maint/Repair	3	
IPT130	Industrial Valve Maint/Repair	3	
IPT140	Bulk Materials Handling	3	
IPT160	Machinery Maint/Troubleshoot	3	
IPT260	Adv Machinery Maintenance	3	
IPT261	Machine Shop	3	
<b>IV. Related Requirements - Select Option A or B</b>			
<b>Option A (Mining Students Only)</b>			
IPT295	Apprentice: Industrial Plant	3	
<b>AND</b>	IPT295	Apprentice: Industrial Plant	3
<b>AND</b>	IPT295	Apprentice: Industrial Plant	3
<b>AND</b>	IPT295	Apprentice: Industrial Plant	3
<b>Option B (All Others) - Select at least 12 credits from the following courses:</b>			
AUT100	Auto/Diesel Preventative Maint	2	
AUT151	Auto Engine Repair	2	
BSA110	Personal Finance	3	
BSA220	Principles of Management	3	
CNC101	CNC Machine Operator	2	
CNC102	CNC Machine Set Up	2	
CNC201	Comp Aided Program CNC Mach	3	
WLD145	Arc II	4	
WLD156	Blueprint Reading	4	
WLD200	Tig I	4	
WLD210	Gas Metal Arc Welding	4	

# Associate of Applied Science - Management

## Program Description

The Management degree program prepares students to use management theory along with knowledge in business, economics, business law, accounting, and computer information systems to solve basic business problems.

**Note:** Since this degree is primarily designed for direct employment, students interested in a transfer program in a business field should see an academic advisor for an educational plan.

## Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Joy D'Angelo (joy.dangelo@yc.edu), telephone: (928) 776-2343
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Management Degree program, the learner will be able to:

1. Analyze and synthesize information through critical thinking.
2. Apply written, oral and interpersonal skills in business settings.
3. Work as a member of a team.
4. Identify ethical issues and apply the values of professional responsibility.

## Program Requirements

A minimum of 62 credit hours is required to complete the Management Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3 credits)		
b. Social Science (3 credits)		
<b>II. Management Requirements</b>		
	BSA120 Principles of Supervision	3
	BSA132 Ethics in Business	3
	BSA140 Human Relations in Business	3
	BSA220 Principles of Management	3
	BSA223 Human Resource Management	3
	BSA229 Management Problems	3

Course	Course Title	Credit Hours
BSA230	Principles of Marketing	3
BSA233	Business Communications	3
<b>III. Business Administration Requirements</b>		
ACC121	Introductory Accounting	3
BSA102	Career Search and Success	1
BSA131	Intro to Business	3
BSA237	Legal Environment Business	3
CSA110	Intro Computer Info System	3
<b>IV. Select 6 credit hours from the following courses:</b>		
BSA111	Creative Leadership	1
BSA112	Lead: Juggling Mult Priorities	1
BSA113	Leading Out Loud	1
BSA210	International Business	3
BSA221	Entrepreneurship	3
BSA232	Business Statistical Analysis	3
BSA235	Principles Economics-Macro	3
BSA236	Principles Economics-Micro	3
BSA296	Internship: Business Admin.	3
CSA126	Microsoft Office	3

# Associate of Applied Science - Nursing

## Program Description

### **Application for Admission to the Nursing Program**

Special application is required for admission to the nursing program. A Nursing Applicant Information Guide, available from the Advising Center and online at the Nursing website, describes program prerequisites and application process. Refer to the Nursing website: [www.yc.edu/nursing](http://www.yc.edu/nursing) for application deadlines.

### **Advanced Placement**

Returning nursing students, graduates of state-approved practical nursing programs and students transferring from state-approved nursing programs may apply for advanced placement. The application procedure is described in the advanced placement Nursing Applicant Information Guide.

### **Transfer Students**

Students transferring from other regionally accredited institutions will have their completed general education coursework evaluated on an individual basis.

### **Health Declaration**

It is essential that nursing students be able to perform a number of physical activities in the clinical portion of the program. At minimum, students will be required to lift clients, stand for several hours at a time and perform bending activities. The clinical nursing experience also places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting clients' lives. Students must be able to demonstrate rational and appropriate behavior under stressful conditions. Individuals should give careful consideration to the mental and physical demands of the program prior to making application. The technical standards for the program are identified in the Nursing Applicant Information Guide.

### **Graduation Requirement**

All required courses for the A.A.S. in Nursing degree must be completed with a grade of "C" or better.

The Associate Degree Nursing program is designed to prepare qualified students for beginning employment as staff nurses giving direct care to clients. The program is fully accredited by the Arizona State Board of Nursing and the Accreditation Commission for Education in Nursing (ACEN). Upon successful completion of the program, students will be awarded the Associate of Applied Science in Nursing degree and be eligible to make application to the National Council Licensure Examination for Registered Nurses (NCLEX-RN).

### **Licensure**

Graduation from the Yavapai College Associate Degree Nursing program is not the sole criteria for obtaining a license to practice nursing in Arizona. Licensing requirements are the exclusive responsibility of the Arizona State Board of Nursing (Nurse Practice Act and Rules of the State Board of Nursing), and students must satisfy those requirements independently of their satisfaction of any requirements for graduation from the college.

**See Nursing Applicant Information Guide for additional information.**

### **Transfer**

Students intending to transfer courses toward a baccalaureate degree in nursing should consult the catalog of the school to which they plan to transfer. Materials are available in the Advising Center and through the Department of Nursing to assist students in selecting courses equivalent to those required in baccalaureate nursing programs in Arizona. Generally 64 credits from community colleges are transferable to Arizona public universities; specific articulation information is available through the Arizona Course Applicability System (CAS) website: [www.aztransfer.com](http://www.aztransfer.com)

**Note: Prerequisite - NSG 114 Nursing Assistant OR CNA licensure within the past 2 years.**

## Program Contacts

- Program Director: Mary Brown ([mary.brown@yc.edu](mailto:mary.brown@yc.edu)), telephone: (928) 776-2255
- Instructional Specialist: Patricia Naville ([patricia.naville@yc.edu](mailto:patricia.naville@yc.edu)), telephone: (928) 776-2017
- Instructional Specialist: Keryn Lafferty ([Keryn.Lafferty@yc.edu](mailto:Keryn.Lafferty@yc.edu)), telephone: (928) 634-6546
- Dean: Scott Farnsworth ([scott.farnsworth@yc.edu](mailto:scott.farnsworth@yc.edu)), telephone: (928) 776-2234



## Program Outcomes

Upon successful completion of the Nursing Degree program, the learner will be able to:

1. Clinical Competence: Synthesize knowledge and skills to independently provide nursing care for groups of clients with multiple health care needs and problems.
2. Critical Thinking: Synthesize knowledge and skills to formulate and implement decisions related to complex nursing practice situations.
3. Caring: Synthesize knowledge and skills, awareness of need, and uses of empathy to protect, enhance and preserve human dignity.
4. Diversity/Culture: Apply concepts of diversity/culture in the provision of nursing care to individuals, families or groups.
5. Communication: Incorporate evaluation and modification of communications skills in nursing practice.
6. Learning/Teaching: Use the nursing process to meet the learning needs of individuals, families and peers.
7. Accountability: Examine ethical and political issues within the healthcare system. Take responsibility and accountability for personal actions.
8. Management/Leadership: Collaborate with other personnel within the organizational structure to manage client care through supervision, delegation and coordination.

## Program Requirements

A minimum of 72 credit hours is required to complete the Nursing Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
	MAT142 College Mathematics	3
<b>OR</b>	MAT152 College Algebra	3
Or any MAT course that has MAT 152 as a prerequisite		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
	BIO156 Human Biology Allied Health	4
<b>OR</b>	BIO181 General Biology I	4
<b>2. Behavioral Science (3 credits)</b>		
	PSY245 Human Growth and Development	3
<b>II. Nursing Requirements</b>		
	NSG131 Foundations in Nursing I	8
	NSG132 Concepts in Nursing II	9
	NSG210 Pharmacology/NSG Practice	3
	NSG231 Concepts in Nursing III	7
	NSG232 Concepts in Nursing IV	5
	NSG233 Perinatal & Women's Health NSG	2
	NSG234 Psychiatric Mental Health NSG	3
	NSG235 Nursing Management & Leadership	2
<b>III. Related Requirements</b>		
	BIO201 Human Anatomy & Physiology I	4
	BIO202 Human Anatomy & Physiology II	4
	BIO205 Microbiology	4
	NSG130 Basic Nutrition for Nurses	1
<b>OR</b>	NTR135 Human Nutrition	3
	PSY156 End of Life Issues & Options	1
<b>OR</b>	SOC120 AIDS A Modern Plague	1
<b>PRE-ENTRY Requirements (Must complete prior to applying to Nursing Program)</b>		

Course	Course Title	Credit Hours
AHS114	Nursing Assistant	5
BIO156	Human Biology Allied Health	4
<b>OR</b> BIO181	General Biology I	4
BIO201	Human Anatomy & Physiology I	4
BIO202	Human Anatomy & Physiology II	4
BIO205	Microbiology	4
ENG101	College Composition I	3
<b>OR</b> ENG103	College Composition I Honors	3
ENG102	College Composition II	3
<b>OR</b> ENG104	College Composition II Honors	3
MAT142	College Mathematics	3
<b>OR</b> MAT152	College Algebra	3
NSG130	Basic Nutrition for Nurses	1
<b>OR</b> NTR135	Human Nutrition	3
PSY245	Human Growth and Development	3
PSY156	End of Life Issues & Options	1
<b>OR</b> SOC120	AIDS A Modern Plague	1
Critical Thinking (3 credits)		

# Associate of Applied Science - Office Administration

## Program Description

The Office Administration degree program prepares students for entry-level employment in a variety of office settings. An emphasis in computer skills, management/leadership, medical office, or legal office may be obtained.

**Note:** Students are expected to have mastered basic keyboarding skills before beginning this program.

## Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Lindsay Henning (lindsay.henning@yc.edu), telephone: (928) 717-7922
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Office Administration Degree program, the learner will be able to:

1. Communicate orally and in writing in the context of common business practice. (AHS 100, AHS 131, AHS 132, BSA 105, BSA 111, BSA 112, BSA 113, BSA 120, BSA 140, BSA 223, BSA 225, BSA 233, BSA 296, CSA 112, CSA 124, CSA 126, CSA 133, CSA 134, CSA 138, CSA 139, CSA 140, CSA 142, CSA 144, CSA 145, CSA 296, HIM 100, HIM 172, LAW 100)
2. Design, implement and maintain efficient procedures for accomplishing various office-related tasks. (ACC 121, BSA 111, BSA 112, BSA 113, BSA 120, BSA 130, BSA 140, BSA 223, BSA 225, BSA 233, BSA 296, CSA 110, CSA 124, CSA 126, CSA 133, CSA 134, CSA 138, CSA 139, CSA 140, CSA 142, CSA 144, CSA 145, CSA 172, CSA 296, HIM 100, HIM 172, LAW 101, LAW 107)
3. Work as a member of a team in an office environment to accomplish the goals of the organization. (BSA 111, BSA 112, BSA 113, BSA 120, BSA 140, BSA 223, BSA 225, BSA 233, BSA 296, CSA 110, CSA 296, HIM 100, LAW 101, LAW 107)
4. Use technology to organize information and complete office tasks more efficiently. (BSA 225, BSA 296, CSA 110, CSA 112, CSA 115, CSA 124, CSA 126, CSA 133, CSA 134, CSA 138, CSA 139, CSA 140, CSA 142, CSA 144, CSA 145, CSA 172, CSA 296, LAW 105, LAW 107)

## Program Requirements

A minimum of 60 credit hours is required to complete the Office Administration Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		

Course	Course Title	Credit Hours
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Office Administration Requirements</b>		
ACC121	Introductory Accounting	3
BSA102	Career Search and Success	1
BSA105	Business English	3
BSA130	Business Financial Applications	3
BSA225	Admin Office Management	3
BSA233	Business Communications	3
CSA110	Intro Computer Info System	3
CSA112	Keyboarding Skill Building	1
CSA138	Microsoft Excel	2
CSA139	Microsoft Access	2
CSA140	Microsoft Word	2
CSA142	Microsoft PowerPoint	2
<b>III. Select One of the Following 4 Areas of Emphasis:</b>		
<b>Computer Skills Emphasis - Select 13 credit hours:</b>		
BSA111	Creative Leadership	1
BSA112	Lead: Juggling Mult Priorities	1
BSA113	Leading Out Loud	1
CSA124	Creating Dynamic Forms Adobe	2
CSA126	Microsoft Office	3
CSA133	Microsoft Publisher	2
CSA134	Microsoft Word Desktop Publish	2
CSA144	Create Web Page/Dreamweaver	3
CSA172	Microsoft Windows	2
CSA296	Internship: Computer Systems	3
<b>Management/Leadership Skills Emphasis - Select 13 credit hours:</b>		
BSA111	Creative Leadership	1
BSA112	Lead: Juggling Mult Priorities	1
BSA113	Leading Out Loud	1
BSA120	Principles of Supervision	3
BSA140	Human Relations in Business	3
BSA223	Human Resource Management	3
CSA126	Microsoft Office	3
BSA296	Internship: Business Admin.	3
<b>Medical Office Emphasis - Select 13 credit hours:</b>		
AHS100	Fundamentals of Health Care	3
AHS130	Medical Term for Patient Care	3
BSA111	Creative Leadership	1
BSA112	Lead: Juggling Mult Priorities	1
BSA113	Leading Out Loud	1
HIM110	Intro to Hlth Info Mgmt	3
HIM173	Legal & Ethical Aspects of HIM	2
<b>Legal Office Emphasis - Select 13 credit hours:</b>		
BSA111	Creative Leadership	1
BSA112	Lead: Juggling Mult Priorities	1
BSA113	Leading Out Loud	1
CSA172	Microsoft Windows	2
LAW100	Intro to Paralegal Studies	3
LAW101	Legal Ethics & Prof Respnsblty	1
LAW105	Legal Computer Apps	2
LAW107	Law Office Management	3

# Associate of Applied Science - Paralegal Studies

## Program Description

The Paralegal Studies program is designed to prepare students for positions as paralegals in the legal and business fields. Individuals who are already employed in the legal field and seeking advancement opportunities may also select this program of study. Paralegals work under the supervision of an attorney and their work includes preparing legal documents, researching and compiling information, and communicating with clients. Excellent written and oral communication skills, as well as computer literacy skills, are important to the paralegal.

**Note:** This degree is primarily designed to prepare students for direct employment. Students who are preparing to transfer to a baccalaureate degree-granting institution for an advanced degree in paralegal studies should contact an academic advisor for assistance in establishing an educational plan.

## Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Michael Davis (michael.davis@yc.edu), telephone: (928) 717-7938
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Paralegal Studies Degree program, the learner will be able to:

1. Interview witnesses and interact with clients, conduct investigative work, manage cases, conduct legal research, draft legal pleadings, prepare legal documents, and apply legal procedures in areas of real estate, corporate law, probate mediation, litigation, family law, administrative law, bankruptcy law, and criminal law.
2. Apply written oral and interpersonal skills in the legal and business settings.
3. Identify and evaluate technology needs and apply and adapt required skills to the rapidly changing legal and business community.
4. Proficiently use word processing software and identify and adapt to different types of computer applications.
5. Identify ethical issues and apply the values of professional responsibility.

## Program Requirements

A minimum of 64 credit hours is required to complete the Paralegal Studies Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
	MAT142 College Mathematics	3
<b>OR</b>	MAT152 College Algebra	3
<b>OR</b>	MAT167 Elementary Statistics	3
<b>OR</b>	MAT172 Finite Mathematics	3
<b>OR</b>	MAT187 Precalculus	5
<b>OR</b>	MAT212 Survey of Calculus	3
<b>OR</b>	MAT220 Calculus & Analytic Geometry I	5
<b>OR</b>	MAT230 Calculus & Analytic Geometry II	5
<b>OR</b>	MAT241 Calculus III	4
<b>OR</b>	MAT262 Elementary Differential Equations	3
<b>3. Critical Thinking (3 credits)</b>		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
<b>2. Behavioral or Social Science (3 credits)</b>		

Course	Course Title	Credit Hours
<b>II. Paralegal Studies Requirements</b>		
LAW100	Intro to Paralegal Studies	3
LAW101	Legal Ethics & Prof Respsnbly	1
LAW104	Wills, Trusts and Probate	3
LAW105	Legal Computer Apps	2
LAW106	Adv Legal Computer Apps	2
LAW201	Criminal Law and Procedure	2
LAW203	Family Law	3
LAW208	Business Organizations	2
LAW215	Legal Research and Writing I	4
LAW216	Legal Research and Writing II	4
LAW220	Civil Tort Litigation I	3
LAW221	Civil Tort Litigation II	3
LAW296	Internship: Paralegal Studies	3
RES201	Real Estate Law	3
<b>Select a minimum of 4 credits from the following:</b>		
LAW206	Contracts	2
LAW210	Bankruptcy Procedures	2
LAW295	Special Legal Topics	2
<b>III. Related Requirements</b>		
BSA102	Career Search and Success	1
CSA140	Microsoft Word	2

## Associate of Applied Science - Paramedicine

### Program Description

The Associate of Applied Science in Paramedicine prepares students to work as paramedics in emergency care, stabilization and immobilization of victims.

**Note:** *There is a special admission process for this program. Prospective students should contact an academic advisor for detailed information.*

### Program Contacts

- Program Director : Mary Brown (mary.brown@yc.edu), telephone: (928) 776-2255
- Instructional Specialist: Sandra Carney (sandra.carney@yc.edu), telephone: (928) 717-7937
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Paramedicine Degree program, the learner will be able to:

1. Explain the human anatomy and function of the cells in systemic organs. (EMS 240)
2. Identify the roles, responsibilities, medical, legal and ethical issues that impact decisions within an EMS system. (EMS 241, EMS 242)
3. Perform patient assessments, analyzing medical history, physical exam and/or mechanisms of injury to formulate a patient treatment plan. (EMS 241, EMS 242, EMS 244)
4. Describe standards and guidelines that help ensure safe and effective ground and air medical care and transport for all types of incidents. (EMS 245)
5. Perform all aspects of patient care procedures including communication documentation, administration of medications and readiness of equipment and personnel. (EMS 246)

### Program Requirements

A minimum of 62 credit hours is required to complete the Paramedicine Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Choose Option a, b or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Paramedicine Requirements</b>		

Course	Course Title	Credit Hours
EMS240	Paramedic Anatomy & Physiology	4
EMS241	Paramedicine I	14
EMS242	Paramedicine II	13
EMS244	Paramedicine III	3
EMS245	Paramedicine IV	3
EMS246	Paramedicine V	6



# Associate of Applied Science - Radiologic Technology

## Program Description

The Associate of Applied Science in Radiologic Technology prepares students for entry level positions as radiographers. The program is designed in accordance with the Radiography Curriculum established by the American Society of Radiologic Technologists and consists of classroom and laboratory instruction integrated with hands-on experience in a clinical setting.

**Note:** *There is a special admission process for this program and prospective students should contact an academic advisor or visit the Yavapai College website for detailed information.*

## Program Contacts

- Program Director: Rich Leclair (richard.leclair@yc.edu), telephone: (928) 771-4866
- Professor: Steve Hayes (steven.hayes@yc.edu), telephone: (928) 717-7108
- Instructional Specialist: Sue Wiant (susan.wiant@yc.edu), telephone: (928) 776-2333
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

## Program Outcomes

Upon successful completion of the Radiologic Technology Degree program, the learner will be able to:

1. Perform diagnostic imaging procedures. (All courses within the program)
2. Exhibit prudent judgment in administering ionizing radiation to produce diagnostic images. (All courses within the program)
3. Provide optimum patient care in a society that is becoming increasingly diverse and experiencing generational, cultural and ethnic shifts. (RAD 100, RAD 160, RAD 170, RAD 180, RAD 200, RAD 240, RAD 280)
4. Work with other members of the health care organization in a team relationship. (RAD 100, RAD 160, RAD 180, RAD 200, RAD 240, RAD 280)
5. Explain the intricacies associated with providing direct patient care in today's health care setting. (RAD 100, RAD 170)
6. Use modern technologies to research and retrieve information, weigh and discriminate between sources of information, and take actions based upon the acquisition of new information and knowledge. (RAD 120, RAD 135, RAD 140, RAD 150, RAD 160, RAD 180, RAD 200, RAD 240, RAD 260, RAD 280)
7. Perform stewardship over the security and confidentiality associated with patient medical information. (RAD 100, RAD 160, RAD 180, RAD 200, RAD 240, RAD 280)
8. Promote career-long learning, where the radiographer assumes the role of student and that of teacher. (RAD 100, RAD 160, RAD 180, RAD 200, RAD 240, RAD 280)
9. Show compliance with the requirements for primary certification of the American Registry of Radiologic Technologists (ARRT) including the ARRT Rules and Regulations, the ARRT Standards of Ethics and competency in didactic coursework and an ARRT-specified list of clinical procedures. (All courses within the program)

## Program Requirements

A minimum of 82 credit hours is required to complete the Radiologic Technology Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
	MAT142 College Mathematics	3
<b>3. Critical Thinking (3 credits)</b>		
	PHI204 Ethical Issues/Health Care	3
<b>B. Area Studies (7 credits)</b>		

Course	Course Title	Credit Hours
<b>1. Physical and Biological Science (4 credits)</b>		
BIO201	Human Anatomy & Physiology I	4
<b>2. Behavioral Science (3 credits)</b>		
PSY245	Human Growth and Development	3
<b>II. Radiologic Technology Requirements</b>		
RAD100	Foundations Radiologic Science	2
RAD110	Radiographic Position/Image I	4
RAD120	Radiographic Technique I	3
RAD135	Radiation Physics and Equip	3
RAD140	Radiographic Position/Image II	4
RAD150	Radiographic Technique II	3
RAD160	Radiology Clinical Ed I	3
RAD170	Radiology Patient Care	2
RAD180	Radiology Clinical Ed II	3
RAD200	Radiology Clinical Ed III	7
RAD220	Radiobiology & Rad Protection	3
RAD230	Radiology Pharmacology	1
RAD240	Radiology Clinical Ed IV	3
RAD250	Radiographic Pathology	2
RAD260	Adv Imaging Systems	3
RAD270	Radiology Registry Review	3
RAD280	Radiology Clinical Ed V	3
<b>III. Related Requirements</b>		
AHS130	Medical Term for Patient Care	3
BIO202	Human Anatomy & Physiology II	4
COM134	Interpersonal Communication	3
PSY156	End of Life Issues & Options	1
<b>OR</b>	SOC120 AIDS A Modern Plague	1

# Associate of Applied Science - Social and Human Services

## Program Description

The Associate of Applied Science in Social and Human Services is designed to prepare students to work in health and social service agencies as well as prepare those students wishing to transfer to a Bachelor's degree program in Human Services/Social Work or a related Social and Behavioral Science discipline.

## Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Al Garbagnati (al.garbagnati@yc.edu), telephone: (928) 771-4852
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Social and Human Services Degree program, the learner will be able to:

1. Describe the history and policies of the current social welfare delivery system. (SOC 220)
2. Apply interpersonal and clinical counseling skills with clients in the therapeutic process. (PSY 175, PSY 275)
3. Utilize crisis and trauma counseling skills and intervention strategies. (PSY 262)
4. Employ case management techniques to identify and resolve client problems. (PSY 220)
5. Discuss the impact of psychological and substance abuse. (PSY 101, PSY 175, PSY 241)
6. Identify legal and ethical issues as they apply to social and human services. (PSY 220, PSY 296)
7. Provide intervention services within local community social and human service agencies. (PSY 296)

## Program Requirements

A minimum of 60 credit hours is required to complete the Social and Human Services Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved LList		
<b>b. Writing AND Communication (6 credits)</b>		
1.	Writing (3)	
2.	Communication (3)	
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved LList		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved LList		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved LList		
<b>2. Behavioral Science (3 credits)</b>		
	PSY101 Introductory Psychology	3
<b>II. Social and Human Services Requirements</b>		
	PSY175 Counseling Skills	3
	PSY220 Social Service Case Management	3
	PSY241 Substance Abuse	3
	PSY262 Crisis and Trauma Intervention	3
	PSY275 Group Skills and Processes	3

	Course	Course Title	Credit Hours
	PSY296	Internship: Psychology	3
<b>OR</b>	GRN295	Practicum in Gerontology	2
	SOC220	Intro to Social Work	3
<b>II. Related Requirements - Select 21 credit hours from the following courses:</b>			
	ANT102	Intro Cultural Anthro	3
	ECE200	Intro Early Childhood Ed	3
	ECE234	Child Development	3
<b>OR</b>	PSY234	Child Development	3
	GRN100	Intro Social Gerontology	3
	GRN101	Psychology of Aging	3
	GRN102	Health and Aging	3
	GRN294	Practices in Gerontology	3
	PSY240	Personality Development	3
	PSY245	Human Growth and Development	3
	PSY266	Abnormal Psychology	3
	SOC101	Intro to Sociology	3
	SOC140	Sociology Intimate Relationship	3
	SOC142	Race and Ethnic Relations	3
	SOC250	Social Problems	3
	SOC277	Human Sexuality	3

# Associate of Applied Science - Video Game Development

## Program Description

The Associate of Applied Science degree in Video Game Development prepares students for entry into the cutting edge career field of the design and creation of video games for commercial, casual and educational markets for use on PCs, MACs, Smartphones, tablets and game consoles.

## Program Contacts

- Program Director: Ruth Alsobrook-Hurich (ruth.alsobrook@yc.edu), telephone: (928) 776-2076
- Dean: Stacey Hilton (stacey.hilton@yc.edu), telephone: (928) 717-7775

## Program Outcomes

Upon successful completion of the Video Game Development Degree program, the learner will be able to:

1. Create video games suitable for use on a PC or MAC. (VGD 121, VGD 122, VGD 171, VGD 172)
2. Create video games suitable for use on the Web. (VGD 121, VGD 122)
3. Create video games suitable for use on handheld devices. (VGD 221, VGD 222)
4. Create static and animated 3D objects suitable for use in video games. (VGD 151, VGD 152, VGD 251, VGD 252)
5. Design and create video games in multiple genres. (VGD 122, VGD 221, VGD 222, VGD 281, VGD 282)
6. Design, create, and deploy a video game through a commercial marketing channel. (VGD 281, VGD 282, VGD 293, VGD 294)

## Program Requirements

A minimum of 61 credit hours is required to complete the Video Game Development Degree.

Course	Course Title	Credit Hours
<b>I. General Education</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved List		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved List		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
Choose from Approved List		
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Video Game Development Requirements</b>		
	VGD121 Vid Game Dev/Game Engines I	3
	VGD122 Vid Game Dev/Game Engines II	3
	VGD151 3D Modeling and Animation I	3
	VGD152 3D Modeling and Animation II	3

Course	Course Title	Credit Hours
VG171	Video Game Development I	3
VG172	Video Game Development II	3
VG221	Vid Game Dev/Game Engines III	3
VG222	Vid Game Dev/Game Engines IV	3
VG251	3D modeling and Animation III	3
VG252	3D Modeling and Animation IV	3
VG281	Game Design I	3
VG282	Game Design II	3
VG293	VG Project I	3
VG294	VG Project II	3

# Associate of Applied Science - Viticulture and Enology

## Program Description

The Viticulture and Enology degree program prepares students for a variety of careers in vineyards (vineyard workers, crew leaders, managers, viticulturists) to wineries (winemakers, cellar workers, lab technicians).

**Note:** Students must be 21 years of age or older to pursue the Viticulture and Enology Degree.

## Program Contacts

- Executive Dean: James Perey (james.perey@yc.edu), telephone: (928) 634-6513
- Interm Associate Dean: Barb Waak (Barb.Waak@yc.edu), telephone: (928) 634-6560
- Enology Director: Michael Pierce (michael.pierce@yc.edu), telephone: (928) 634-6586
- Viticulture Director: Nikki Bagley (nikki.check@yc.edu), telephone: (928) 634-6576
- Instructional Specialist: Teresa Schwickerath (teresa.schwickerath@yc.edu), telephone: (928) 634-6575
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Viticulture and Enology Degree program, the learner will be able to:

1. Evaluate, design and develop a site for vinefera production. (VEN 100, VEN 101)
2. Schedule and perform necessary seasonal vineyard operations for production of wine grapes. (VEN 102, VEN 195V)
3. Analyze and Maintain crop health. (AGS 105, AGS 107, AGS 274, VEN 100, VEN 102, VEN 195V)
4. Grow wine grapes. (VEN 100, VEN 101, VEN 102, VEN 195V)
5. Select, analyze and process grapes for winemaking. (VEN 195E, VEN 200)
6. Perform steps in the winemaking process. (VEN 195E, VEN 200, VEN 201, VEN 202)
7. Apply chemistry and microbiology concepts needed for winemaking. (VEN 195E, VEN 200, VEN 201, VEN 202)
8. Perform and analyze fermentations. (VEN 195E, VEN 200, VEN 201, VEN 202)
9. Produce wines. (VEN 195E, VEN 200, VEN 201, VEN 202)
10. Analyze wines. (VEN 120, VEN 121, VEN 195E, VEN 200, VEN 201, VEN 202)
11. Evaluate wines. (VEN 120, VEN 121, VEN 195E, VEN 200, VEN 201, VEN 202)

## Program Requirements

A minimum of 62 credit hours is required to complete the Viticulture and Enology Degree.

Course	Course Title	Credit Hours
<b>I. General Requirements</b>		
<b>A. Foundation Studies (12 credits)</b>		
<b>1. College Composition or Applied Communication - Select Option a, b, or c:</b>		
<b>a. Writing (6 credits)</b>		
Choose from Approved LList		
<b>b. Writing AND Communication (6 credits)</b>		
1. Writing (3)		
2. Communication (3)		
<b>c. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
Choose from Approved LList		
<b>3. Critical Thinking (3 credits)</b>		
Choose from Approved LList		

Course	Course Title	Credit Hours
<b>B. Area Studies (7 credits)</b>		
<b>1. Physical and Biological Science (4 credits)</b>		
CHM130	Fundamental Chemistry	4
<b>2. Behavioral and Social Science (3 credits)</b>		
a. Behavioral Science (3)		
b. Social Science (3)		
<b>II. Viticulture and Enology Requirements</b>		
AGS105	Soils	3
AGS107	Entomology	3
AGS274	Water Management	3
VEN100	Introduction to Viticulture	3
VEN101	Establishing Vinifera Vineyard	3
VEN102	Maintain Vinifera Vineyard	3
VEN120	Wines of the United States	2
VEN121	Wines of the World	2
VEN195E	Winemaking Practicum	2
VEN195V	Viticulture Practicum	2
VEN200	Science of Winemaking I	3
VEN201	Science of Winemaking II	3
VEN202	Science of Winemaking III	3



# Arizona General Education Curriculum (AGEC-A)

## Program Description

The Arizona General Education Curriculum (AGEC) is designed to fulfill all lower division General Education requirements at the public universities in Arizona. The core curriculum consists of three parts:

(A) Foundation Studies include critical literacy, precise writing, qualitative thinking, and the process of analysis and synthesis that underlie logical reasoning;

(B) Core Studies focus on the conceptual frameworks through which a thinker, a culture, or an academic discipline may approach an issue;

(C) Area Studies link foundation skills in thinking and communicating and the core emphasis on conceptual frameworks to the content orientation of academic disciplines.

Upon completion of all 35 credit hours of the AGEC-A with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript. Arizona residents who complete an AGEC-A and who have a cumulative GPA of 2.50 or higher have assured admission upon application to one of the state universities in Arizona.

The AGEC-A also fulfills general education requirements for the Associate of Arts degree at Yavapai College. A minimum of 12 credit hours in the AGEC-A certificate must be completed at Yavapai College.

**Note:** Courses applied to the Arizona General Education Curriculum (AGEC) may not be taken for Satisfactory/Unsatisfactory (S/U) Grading. **\*AGEC Special Awareness Requirements Students must complete a course from each of the following areas:**

- **Intensive Writing/Critical Inquiry (IWR)**
- **•Ethnic/Race/Gender (ERG) awareness**
- **Global/International or Historical (GIH) awareness**

## Program Contacts

- Dean: Dean Holbrook (dean.holbrook@yc.edu), telephone: (928) 717-7693

## Program Requirements

A minimum of 35 credit hours is required to complete the AGEC-A Certificate.

Course	Course Title	Credit Hours
<b>I. General Education (35 credits)</b>		
<b>A. Foundation Studies (9 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
	MAT142 College Mathematics	3
<b>OR</b>	MAT152 College Algebra	3
<b>B. Core Studies (6 credits)</b>		
<b>1. Historical Perspective (3 credits)</b>		
Choose from Approved List		
<b>2. Critical Thinking (3 credits)</b>		
Choose from Approved List		
<b>C. Area Studies (20 credits)</b>		
<b>1. Physical and Biological Science (8 credits)</b>		
Choose from Approved List		
<b>2. Arts and Humanities (6 credits)</b>		
Choose from Approved List		
<b>3. Behavioral Science (3 credits)</b>		

Course	Course Title	Credit Hours
Choose from Approved List		
<b>4. Social Science (3 credits)</b>		
Choose from Approved List		

## Arizona General Education Curriculum (AGEC-B)

### Program Description

The Arizona General Education Curriculum (AGEC) is designed to fulfill all lower division General Education requirements at the public universities in Arizona. The AGEC-B is primarily designed for business majors. Students pursuing this plan of study should consult an academic advisor regarding general education requirements related to the major (e.g. accounting, computer information systems, management, marketing, general business).

Upon completion of all 35 credit hours of the AGEC-B with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript. Arizona residents who complete an AGEC-B and who have a cumulative GPA of 2.50 or higher have assured admission upon application to one of the state universities in Arizona.

The AGEC-B also fulfills general education requirements for the Associate of Business degree at Yavapai College. A minimum of twelve credit hours in the AGEC-B certificate must be completed at Yavapai College.

**Note:** Courses applied to the Arizona General Education Curriculum (AGEC) may not be taken for Satisfactory/Unsatisfactory (S/U) Grading. **\*AGEC Special Awareness Requirements Students must complete a course from each of the following areas:**

- **Intensive Writing/Critical Inquiry (IWR)**
- **â€•Ethnic/Race/Gender (ERG) awareness**
- **Global/International or Historical (GIH) awareness**

### Program Contacts

- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Requirements

A minimum of 35 credit hours is required to complete the AGEC-B Certificate.

Course	Course Title	Credit Hours
<b>I. General Education (35 credits)</b>		
<b>A. Foundation Studies (9 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
	MAT212 Survey of Calculus	3
<b>B. Core Studies (3 credits)</b>		
<b>1. Historical Perspective (3 credits)</b>		
Choose from Approved List		
<b>C. Area Studies (20 credits)</b>		
<b>1. Physical and Biological Science (8 credits)</b>		
Choose from Approved List		
<b>2. Arts and Humanities (6 credits)</b>		
Choose from Approved List		
<b>3. Behavioral Science (3 credits)</b>		
Choose from Approved List		
<b>4. Social Science (3 credits)</b>		
Choose from Approved List		
<b>D. Computer Systems and Applications (3 credits)</b>		
	CSA110 Intro Computer Info System	3

# Arizona General Education Curriculum (AGEC-S)

## Program Description

The Arizona General Education Curriculum (AGEC) is designed to fulfill all lower division General Education requirements at the public universities in Arizona. The AGEC-S is the appropriate curriculum for students who major in fields with heavy requirements in mathematics and science. Students specializing in engineering, engineering technology, industrial technology, agriculture, health professions, mathematics, or science should select this general education core curriculum.

Upon completion of all 35 credit hours of the AGEC-S with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript. Arizona residents who complete an AGEC-S and who have a cumulative GPA of 2.50 or higher have assured admission upon application to one of the state universities in Arizona.

The AGEC-S also fulfills general education requirements for the Associate of Science degree at Yavapai College. A minimum of twelve credit hours in the AGEC-S certificate must be completed at Yavapai College.

**Note:** Courses applied to the Arizona General Education Curriculum (AGEC) may not be taken for Satisfactory/Unsatisfactory (S/U) Grading. **\*AGEC Special Awareness Requirements Students must complete a course from each of the following areas:**

- **Intensive Writing/Critical Inquiry (IWR)**
- **â€•Ethnic/Race/Gender (ERG) awareness**
- **Global/International or Historical (GIH) awareness**

## Program Contacts

- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

## Program Requirements

A minimum of 35 credit hours is required to complete the AGEC-S Certificate.

Course	Course Title	Credit Hours
<b>I. General Education (35 credits)</b>		
<b>A. Foundation Studies (9 credits)</b>		
<b>1. College Composition (6 credits)</b>		
	ENG101 College Composition I	3
<b>OR</b>	ENG103 College Composition I Honors	3
	ENG102 College Composition II	3
<b>OR</b>	ENG104 College Composition II Honors	3
<b>2. Numeracy (3 credits)</b>		
	MAT220 Calculus & Analytic Geometry I	5
<b>B. Area Studies (20 credits)</b>		
<b>1. Physical and Biological Science (8 credits)</b>		
<b>Complete one of the following two-course sequences appropriate to your major:</b>		
	BIO181 General Biology I	4
<b>AND</b>	BIO182 General Biology II	4
	CHM151 General Chemistry I	5
<b>AND</b>	CHM152 General Chemistry II	5
	PHY141 General Physics I	4
<b>AND</b>	PHY142 General Physics II	4
	PHY150 Physics Scientists/Engineer I	5
<b>AND</b>	PHY151 Physics Scientists/Engineer II	5
<b>2. Arts and Humanities (6 credits)</b>		
Choose from Approved List		
<b>3. Behavioral Science (3 credits)</b>		
Choose from Approved List		
<b>4. Social Science (3 credits)</b>		
Choose from Approved List		
<b>C. Other Requirements (6-8 credits)</b>		
1. Select 2 other courses based on your major from the following list:		

Course	Course Title	Credit Hours
BIO181	General Biology I	4
BIO182	General Biology II	4
BIO201	Human Anatomy & Physiology I	4
BIO202	Human Anatomy & Physiology II	4
BIO205	Microbiology	4
CHM151	General Chemistry I	5
CHM152	General Chemistry II	5
CHM235	General Organic Chemistry I	4
<b>AND</b> CHM235L	Gen Organic Chemistry I Lab	1
CHM236	General Organic Chemistry II	4
<b>AND</b> CHM236L	Gen Organic Chemistry II Lab	1
GEO103	Intro Physical Geography	4
GEO212	Intro to Meteorology	4
GLG101	Intro to Geology I	4
GLG102	Intro to Geology II	4
MAT230	Calculus & Analytic Geometry II	5
MAT241	Calculus III	4
MAT262	Elementary Differential Equations	3
PHY141	General Physics I	4
PHY142	General Physics II	4
PHY150	Physics Scientists/Engineer I	5
PHY151	Physics Scientists/Engineer II	5

# Accounting Assistant Certificate

## Program Description

The Accounting Assistant certificate program is designed to provide the student an expanded knowledge of basic accounting and business principles while emphasizing communication and computer skills.

The Accounting Assistant program prepares the student for entry-level employment as an accounting assistant and provides for the upgrading of skills of individuals already employed.

## Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Vikki Bentz (Vikki.Bentz@yc.edu), telephone: (928) 776-2154
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Accounting Assistant Certificate program, the learner will be able to:

1. Apply accounting principles to prepare general purpose financial and tax statements. (ACC 115, ACC 121, ACC 122, ACC 131, ACC 132, ACC 162, ACC 231, ACC 296)
2. Identify and analyze ethical issues in business. (ACC 115)
3. Synthesize basic accounting theory with financial accounting applications. (ACC 121, ACC 122, ACC 131, ACC 132, ACC 161, ACC 162, ACC 231)
4. Prepare basic income tax returns. (ACC 115, ACC 122, ACC 161)

## Program Requirements

A minimum of 27 credit hours is required to complete the Accounting Assistant Certificate.

Course	Course Title	Credit Hours
ACC115	Basic Tax Planning	3
ACC121	Introductory Accounting	3
ACC122	Payroll Accounting	3
ACC131	Principles of Accounting I	3
ACC132	Principles of Accounting II	3
ACC161	Cmptr Acct w/ QuickBooks	2
ACC162	Excel/Access-Accounting	3
ACC231	Intermediate Accounting I	4
<b>OR</b>	ACC296 Internship: Accounting	3
<b>AND</b>	BSA102 Career Search and Success	1
	CSA126 Microsoft Office	3

## Administrative Office Specialist Certificate

### Program Description

The Administrative Office Specialist certificate is designed to prepare students for entry-level clerical positions in the business office.

The program offers a series of skill-building courses with related courses in administrative office procedures and information processing.

**Note:** *The student is expected to have mastered basic keyboarding skills before beginning this program.*

### Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Administrative Office Specialist Certificate program, the learner will be able to:

1. Communicate effectively both orally and in writing. (BSA 105, BSA 225, CSA 113, CSA 114, CSA 126)
2. Design and implement procedures to achieve various office-related tasks. (ACC 121, BSA 225, CSA 113, CSA 114, CSA 126, CSA 172)
3. Employ individual and/or team organizational skills in accordance with the goals of the organization. (BSA 105, BSA 225, CSA 113, CSA 114, CSA 172)
4. Manage information systems and electronic media to accomplish office responsibilities. (ACC 121, BSA 225, CSA 113, CSA 114, CSA 126, CSA 172)

### Program Requirements

A minimum of 17 credit hours is required to complete the Administrative Office Specialist Certificate.

Course	Course Title	Credit Hours
ACC121	Introductory Accounting	3
BSA105	Business English	3
BSA225	Admin Office Management	3
BSA233	Business Communications	3
CSA111	Keyboarding	1
<b>OR</b>	CSA112 Keyboarding Skill Building	1
	CSA134 Microsoft Word Desktop Publish	2
<b>OR</b>	CSA140 Microsoft Word	2
	CSA138 Microsoft Excel	2
<b>OR</b>	CSA139 Microsoft Access	2

## Animal Care and Management Certificate

### Program Description

The Animal Care and Management Certificate Program is designed to prepare students for entry level positions in the pet and exotic animal industry including veterinary assistant, zookeeper, animal control officer, entrepreneur, pet store technician and boarding/grooming facilities management.

### Program Contacts

- Instructional Specialist: Karen Smith (karen.smith@yc.edu), telephone: (928) 717-7760
- Associate Dean: Karla Phillips (karla.phillips@yc.edu), telephone: (928) 717-7725
- Professor: Marnee Zazueta (marnee.zazueta@yc.edu), telephone: (928) 717-7727
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Outcomes

Upon successful completion of the Animal Care and Management Certificate program, the learner will be able to:

1. Develop and implement a comprehensive management program for exotic animals. (AGS 120, AGS 280, AGS 282)
2. Develop and implement a large-scale aquarium facility management program. (AGS 261, AGS 264)
3. Provide the Veterinarian assistance during surgical and outpatient procedures. (AGS 120)
4. Develop and implement a comprehensive management program for domestic animals. (AGE 100, AGS 120, AGS 280, AGS 282)

### Program Requirements

A minimum of 30 credit hours is required to complete the Animal Care and Management Certificate.

Course	Course Title	Credit Hours
AGE100	Intro to Equine Science	4
AGS120	Intro Animal Industry	4
AGS261	Aquaculture Science	4
AGS264	Aquaculture Management	4
AGS280	Zoo and Domestic Animal Care	4
AGS282	Zoo & Domestic Animal Behavior	4
<b>Select and complete 6 credits from the following courses:</b>		
AGS101	Microcomputers in Agriculture	3
<b>OR</b>	CSA126 Microsoft Office	3
	AGS102 Agribusiness Management	3
	AGS115 Agricultural Mechanics I	3
	AGS215 Agricultural Mechanics II	3



# Auto Body Paint and Collision Technology Certificate

## Program Description

The Auto Body Paint and Collision Technology certificate prepares students for entry-level employment in the auto body and collision industry. The program addresses all areas of basic auto body repair and refinishing including: frame and body repair, painting, special effects and graphic design, and upholstery.

## Program Contacts

- Professor: Ernie Hernandez (ernie.hernandez@yc.edu), telephone: (928) 717-7377
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Auto Body Paint and Collision Technology Certificate program, the learner will be able to:

1. Apply shop safety practices to an auto body work environment. (AUT 105)
2. Use tools specific to the auto body, paint, and collision repair industry. (AUT 105)
3. Repair a panel using plastic filler. (AUT 105)
4. Measure, mix, and spray primer. (AUT 105)
5. Choose and set-up a spray gun for the paint being applied. (AUT 106)
6. Measure and mix tints to achieve a desired color. (AUT 106)
7. Paint a vehicle. (AUT 106)
8. Airbrush graphics on a panel or vehicle. (AUT 107)
9. Paint auto bodies using special effects. (AUT 110)
10. Remove, replace, and weld a body panel. (AUT 111)
11. Straighten a frame. (AUT 111)
12. Measure and cut fabric. (AUT 275)
13. Re-upholster a seat. (AUT 275)

## Program Requirements

A minimum of 19 credit hours is required to complete the Auto Body Paint and Collision Technology Certificate.

Course	Course Title	Credit Hours
AUT105	Intro to Auto Body Repair	4
AUT106	Auto/Motorcycle Custom Paint	3
AUT107	Autographics/Airbrushing	3
AUT110	Advanced Airbrushing Technique	3
AUT111	Auto Body Weld/Collisn Repair	3
AUT275	Basic Automotive Upholstery	3

## Automotive Master Technician Certificate

### Program Description

Completion of this certificate program will prepare students for the National Automotive Service Excellence Certification examinations to become a Certified Master Automobile Technician and a Certified Engine Machinist. In addition, students will develop troubleshooting and analysis skills that will increase their diagnostic and repair abilities. Applied computer skills and information distribution within repair facilities are incorporated in this certificate.

**Note:** National Automotive Service Excellence (ASE) certification is essential to individuals preparing for positions in the automotive industry. ASE certification requires hands-on working experience as well as completion of written examinations. Two years of post high school educational training, such as that offered in the automotive certificate and degree programs at Yavapai College, may be substituted for up to one year of the hands on work experience requirement of the ASE certification.

### Program Contacts

- Professor: Jerrad Smith (jerrad.smith@yc.edu), telephone: (928) 717-7379
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Outcomes

Upon successful completion of the Automotive Master Technician Certificate program, the learner will be able to:

1. Identify the parts and rebuild a basic engine and a modified performance engine. (AUT 108, AUT 151)
2. Explain and diagnose electrical circuits, electrical components, and computer related problems. (AUT 109, AUT 252)
3. Rebuild an automatic transmission and transaxle manual transmission, and transaxle driveline and differential. (AUT 122, AUT 124)
4. Replace steering and suspension components and align a front-end. (AUT 126)
5. Diagnose and repair automotive air conditioning and heating systems. (AUT 128)
6. Tune up, adjust and diagnose an internal combustion engine system. (AUT 131)
7. Diagnose, remove, and replace an entire automotive brake system including ABS and traction control system. (AUT 123)

### Program Requirements

A minimum of 41 credit hours is required to complete the Automotive Master Technician Certificate.

Course	Course Title	Credit Hours
AUT100	Auto/Diesel Preventative Maint	2
AUT108	Engine Repair Technology	4
AUT109	Auto/Diesel Elect Systems	4
AUT122	Auto Transmission/Transaxle	4
AUT123	Automotive Brakes	4
AUT124	Auto/Diesel Manual Drive	4
AUT126	Auto/Diesel Steer/Suspension	4
AUT128	Auto/Diesel Heat & Air	4
AUT131	Auto Engine Diagnosis	5
AUT151	Auto Engine Repair	2
AUT252	Adv Automotive Systems	4

# Automotive Technician Certificate

## Program Description

The purpose of this certificate program is to prepare students with the technical skills to obtain direct employment in the automotive industry and to upgrade the skills of individuals already employed in the industry. The courses within this certificate program prepare students for the National Automotive Service Excellence certification examinations which are required for most entry-level employment opportunities in the industry. Upon completion of each course, the student will receive an Award of Completion which will identify the competencies achieved.

**Note:** *National Automotive Service Excellence (ASE) certification is essential to individuals preparing for positions in the automotive industry. ASE certification requires hands-on working experience as well as completion of written examinations. Two years of posthigh school educational training, such as that offered in the automotive certificate and degree programs at Yavapai College, may be substituted for up to one year of the hands-on work experience requirement of the ASE certification.*

## Program Contacts

- Professor: Jerrad Smith (jerrad.smith@yc.edu), telephone: (928) 717-7379
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Automotive Technician Certificate program, the learner will be able to:

1. Identify, diagnose and repair problems with internal combustion engines. (AUT 108)
2. Diagnose and repair basic electrical problems. (AUT 100, AUT 109)
3. Remove and replace friction brake pads, friction brake shoes, and bleed a hydraulic system. (AUT 123)
4. Identify major components of the automotive suspension and steering system. (AUT 126)

## Program Requirements

A minimum of 18 credit hours is required to complete the Automotive Technician Certificate.

Course	Course Title	Credit Hours
AUT100	Auto/Diesel Preventative Maint	2
AUT108	Engine Repair Technology	4
AUT109	Auto/Diesel Elect Systems	4
AUT123	Automotive Brakes	4
AUT126	Auto/Diesel Steer/Suspension	4

# Cisco Networking Specialist Certificate

## Program Description

The Cisco Networking Specialist certificate is designed for students to install and support medium to large computer networks with an emphasis on configuration of Cisco routers and switches. This program prepares students for the Cisco Certified Network Associate (CCNA) certification exam.

## Program Contacts

- Program Director: Greg Tomsho (greg.tomsho@yc.edu), telephone: (928) 776-2104
- Dean: Stacey Hilton (stacey.hilton@yc.edu), telephone: (928) 717-7775

## Program Outcomes

Upon successful completion of the Cisco Networking Specialist Certificate program, the learner will be able to:

1. Describe and configure the hardware and software used in a medium to large sized computer network. (CNT 100)
2. Discuss the methods and operation of local and wide area networks. (CNT 115)
3. Describe the function of TCP/IP and the OSI model and related devices. (CNT 140)
4. Configure Cisco routing technologies. (CNT 150)
5. Configure Cisco switching and wireless technologies. (CNT 160)
6. Configure and describe wide area network access technologies. (CNT 170)

## Program Requirements

A minimum of 20 credit hours is required to complete the Cisco Networking Specialist Certificate.

Course	Course Title	Credit Hours
CNT100	Intro to Computer Networking	3
CNT115	Network+: Networking Tech Cert	4
CNT140	Cisco Networking Fundamentals	4
CNT150	Cisco Network Router Tech	3
CNT160	Cisco LAN Switching & Wireless	3
CNT170	Accessing the WAN	3

# Computer Application Specialist Certificate

## Program Description

The Computer Application Specialist certificate is designed to provide students with the skills necessary to be proficient working with current software applications in the Microsoft environment.

## Program Contacts

- Dean: Stacey Hilton (stacey.hilton@yc.edu), telephone: (928) 717-7775

## Program Outcomes

Upon successful completion of the Computer Application Specialist Certificate program, the learner will be able to:

1. Accomplish a variety of office tasks using current software programs. (All courses within the program)
2. Develop the software skills necessary to solve various office problems/scenarios by using current software applications in the office environment. (All courses within the program)
3. Manage information systems and electronic media to accomplish office tasks efficiently. (All courses within the program)

## Program Requirements

A minimum of 19 credit hours is required to complete the Computer Application Specialist Certificate.

Course	Course Title	Credit Hours
CSA124	Creating Dynamic Forms Adobe	2
CSA133	Microsoft Publisher	2
CSA134	Microsoft Word Desktop Publish	2
CSA138	Microsoft Excel	2
CSA139	Microsoft Access	2
CSA140	Microsoft Word	2
CSA142	Microsoft PowerPoint	2
CSA144	Create Web Page/Dreamweaver	3
CSA172	Microsoft Windows	2

# Computer Networking Technician Certificate

## Program Description

This certificate is designed to provide students with the skills necessary to install, troubleshoot and support computers and servers in a small to medium-sized computer network. Students are prepared for two industry certifications: CompTIA A+ Certified IT Technician and CompTIA Network+. Successful students will have the skills required to gain employment in entry-level positions in the information technology field.

**Note:** *This certificate program is not Financial Aid eligible.*

## Program Contacts

- Program Director: Greg Tomsho (greg.tomsho@yc.edu), telephone: (928) 776-2104
- Dean: Stacey Hilton (stacey.hilton@yc.edu), telephone: (928) 717-7775

## Program Outcomes

Upon successful completion of the Computer Networking Technician Certificate program, the learner will be able to:

1. Install and support a small- to medium-sized computer network. (CNT 100, CNT 115, CNT 120)
2. Assemble, troubleshoot and support a personal computer in a network environment. (CNT 110)
3. Configure networking services on a server computer. (CNT 115, CNT 120)

## Program Requirements

A minimum of 14 credit hours is required to complete the Computer Networking Technician Certificate.

Course	Course Title	Credit Hours
CNT100	Intro to Computer Networking	3
CNT110	A+ Comp Tech Certification	4
CNT115	Network+: Networking Tech Cert	4
CNT120	Intro to Windows Server	3

# Computer Numerical Controlled (CNC) Machining Certificate

## Program Description

The CNC Machining certificate is designed to prepare students for entry level CNC machining and programming positions. The program offers a series of skill-building courses in CNC machining and CAM programming for the individual desiring full-time employment in the CNC manufacturing industry.

## Program Contacts

- Instructional Specialist: Susie Check (susie.check@yc.edu), telephone: (928) 717-7761
- Instructional Specialist: Stephanie Wiltcher (stephanie.wiltcher@yc.edu), telephone: (928) 717-7107
- Professor: Dick Hartley (rhartley@instructor.yc.edu), telephone: (928) 776-2002
- Professor: Richard Hartley (Richard.Hartley@yc.edu), telephone: (928) 634-6112
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Computer Numerical Controlled (CNC) Machining Certificate program, the learner will be able to:

1. Program and operate a CNC mill and lathe. (CNC 101, MAT 100 (or higher), MET 100)
2. Design a product for CNC machining. (CNC 201, CNC 202)
3. Reverse engineer a product for 3D replication. (CNC 202)
4. Set tools for CNC machining of a given product. (CNC 102)

## Program Requirements

A minimum of 18 credit hours is required to complete the Computer Numerical Controlled (CNC) Machining Certificate.

Course	Course Title	Credit Hours
CNC101	CNC Machine Operator	2
CNC102	CNC Machine Set Up	2
CNC201	Comp Aided Program CNC Mach	3
CNC202	3-D Program & Rapid Prototype	4
MET100	Intro Manufacturing Technology	4
MAT 100 or higher:		
MAT100	Technical Mathematics	3
OR	MAT122 Intermediate Algebra	3
OR	MAT142 College Mathematics	3
OR	MAT152 College Algebra	3
OR	MAT156 Math/Elementary Teachers I	3
OR	MAT157 Math/Elementary Teachers II	3
OR	MAT167 Elementary Statistics	3
OR	MAT183 Trigonometry	2
OR	MAT187 Precalculus	5
OR	MAT212 Survey of Calculus	3
OR	MAT220 Calculus & Analytic Geometry I	5
OR	MAT230 Calculus & Analytic Geometry II	5
OR	MAT241 Calculus III	4
OR	MAT262 Elementary Differential Equatn	3

## Creative Writing Certificate

### Program Description

### Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Laraine Herring (laraine.herring@yc.edu), telephone: (928) 776-2266

### Program Outcomes

Upon successful completion of the Creative Writing Certificate program, the learner will be able to:

1. Use a variety of approaches to generate ideas for creative writing. (All courses in the program)
2. Write creative work in a minimum of two genres. (All courses in the program)
3. Analyze, evaluate and critique one's own writing and the writing of others. (All courses in the program)
4. Identify resources and markets available to the creative writer. (CRW 139, CRW 140, CRW 141, CRW 142, CRW 143, CRW 250, CRW 251, CRW 252, CRW 295)

### Program Requirements

A minimum of 18 credit hours is required to complete the Creative Writing Certificate.

Course	Course Title	Credit Hours
<b>Select 6 credit hours from the following courses:</b>		
CRW139	Intro to Creative Writing	3
CRW140	Short Story Writing	3
CRW141	Intro to Poetry Writing	3
<b>Select 6 credit hours from the following courses:</b>		
CRW142	Creative Nonfiction Writing	3
CRW143	Memoir Writing	3
CRW144	Writing and Healing	3
<b>Select 3 credit hours from the following courses:</b>		
CRW249	Topics in CRW:	3
CRW295	Writers Wkshp:	3
<b>Select 3 credit hours from the following courses:</b>		
CRW250	Adv CRW: Poetry	3
CRW251	Adv CRW: Creative Non-Fiction	3
CRW252	Adv CRW: Fiction	3



# Criminal Justice and Security Certificate

## Program Description

This certificate program is designed for those individuals interested in training in the criminal justice field, particularly as it relates to security and international crime.

## Program Contacts

- Program Director: Michael Davis (michael.davis@yc.edu), telephone: (928) 717-7938
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Criminal Justice and Security Certificate program, the learner will be able to:

1. Explain the historical development of American criminal law from its English common law roots to the present. (AJS 101)
2. Analyze criminal conduct in the context of historical, social, political and legal developments. (AJS 101)
3. Analyze the intersection of law, morality, and ethics in our modern society. (AJS 123)
4. Discuss global business security issues and transnational events which have global repercussions. (AJS 250)
5. Analyze Homeland Security and homeland defense policies and strategies, with a focus on immigration and border security. (AJS 252)
6. Describe unique criminal justice challenges posed by international criminal activity and organizations. (AJS 254)
7. Discuss the history and causes of terrorism. (AJS 256)
8. Analyze the unique challenges to protection of information and computer security posed by cyberspace. (AJS 258)

## Program Requirements

A minimum of 21 credit hours is required to complete the Criminal Justice and Security Certificate.

Course	Course Title	Credit Hours
AJS101	Intro Admin of Justice	3
AJS123	Ethics & Criminal Justice	3
AJS250	Intro Global Security & Intel	3
AJS252	Homeland Security	3
AJS254	Global Crime and Criminal Just	3
AJS256	Terrorism	3
AJS258	Info Protect and Comp Security	3

## Diesel Technician Certificate

### Program Description

The Diesel Technician certificate is designed to prepare students for entry-level positions in heavy diesel mechanics.

### Program Contacts

- Professor: Edward Kessel (Edward.Kessel@yc.edu), telephone: (928) 771-6115
- Instructional Specialist: Stephanie Wiltcher (stephanie.wiltcher@yc.edu), telephone: (928) 717-7107
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Outcomes

Upon successful completion of the Diesel Technician Certificate program, the learner will be able to:

1. Analyze and repair automotive and light truck diesel engines. (AUT108)
2. Analyze and repair automotive and light truck diesel fuel system components. (AUT108, AUT225)
3. Analyze and repair automotive and diesel truck electrical system components. (AUT109, AUT 128, AUT225)
4. Perform basic service maintenance on diesel cars and diesel trucks. (AUT100, AUT126, AUT128, AUT135)
5. Analyze and repair drive trains. (AUT124)
6. Analyze diesel truck computer controlled systems. (AUT 109, AUT128, AUT225).

### Program Requirements

A minimum of 30 credit hours is required to complete the Diesel Technician Certificate.

Course	Course Title	Credit Hours
AUT100	Auto/Diesel Preventative Maint	2
AUT108	Engine Repair Technology	4
AUT109	Auto/Diesel Elect Systems	4
AUT124	Auto/Diesel Manual Drive	4
AUT126	Auto/Diesel Steer/Suspension	4
AUT128	Auto/Diesel Heat & Air	4
AUT135	Diesel Braking Systems	4
AUT225	Diesel Engine Performance	4

## Digital Filmmaking - Advanced Certificate

### Program Description

**Note:** Students must complete the first-year program in narrative or documentary and apply for admission into the program. An interview is part of the admission process. All students will be provided written notice of admittance into the program.

### Program Contacts

- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Requirements

A minimum of 36 credit hours is required to complete the Digital Filmmaking - Advanced Certificate.

Course	Course Title	Credit Hours
DFM203	Feature Film Directing	2
DFM205	Adobe After Effects for Film	4
DFM206	Adv Cinematography	2
DFM207	Feature Sound Design	3
DFM208	Feature Film Business Plan	4
DFM209	Feature Film Legal Issues	3
DFM210	Feature Production Design	2
DFM211	Feature Film Production	4
DFM212	Feature Film Post Production	3
DFM213	Feature Post Sound Design	3
DFM214	Post Visual Effects	3
DFM215	Feature Distribution Marketing	3

## Digital Filmmaking - Documentary Certificate

### Program Description

**Note:** All students will be required to submit a 1,000 word essay that describes in concept the film that the student desires to produce as well as the expectation to be realized in the program. Students will also participate in an interview process to further their educational goals in filmmaking. All students will be provided written notice of admittance into the program.

### Program Contacts

• Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Outcomes

Upon successful completion of the Digital Filmmaking - Documentary Certificate program, the learner will be able to:

1. Exhibit a working knowledge of filmmaking equipment. (DFM 102, DFM 103, DFM 106, DFM 107, DFM 108, DFM 109, DFM 201)
2. Create a short screenplay. (DFM 101, DFM 103, DFM 104)
3. Produce and direct a three act short film. (DFM 102, DFM 103, DFM 111, DFM 201)
4. Utilize team building techniques. (DFM 106, DFM 107, DFM 108, DFM 110)

### Program Requirements

A minimum of 40 credit hours is required to complete the Digital Filmmaking - Documentary Certificate.

Course	Course Title	Credit Hours
DFM101	Film Analysis	4
DFM102	Image and Sound	4
DFM103	Storytelling	4
DFM104	Screenwriting	1
DFM106	Camera Coverage	3
DFM107	Editing	3
DFM108	Guerilla Filmmaking	4
DFM109	Managing Post-Production	4
DFM110	Thesis Film Pre-Production	6
DFM111	Interview Techniques	1
DFM201	Thesis Film Production	6

## Digital Filmmaking - Narrative Certificate

### Program Description

**Note:** All students will be required to submit a 1,000 word essay that describes in concept the film that the student desires to produce as well as the expectation to be realized in the program. Students will also participate in an interview process to further their educational goals in filmmaking. All students will be provided written notice of admittance into the program.

### Program Contacts

• Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Outcomes

Upon successful completion of the Digital Filmmaking - Narrative Certificate program, the learner will be able to:

1. Exhibit a working knowledge of filmmaking equipment. (DFM 102, DFM 103, DFM 106, DFM 107, DFM 108, DFM 109, DFM 201)
2. Create a short screenplay. (DFM 101, DFM 103, DFM 104)
3. Produce and direct a three act short film. (DFM 102, DFM 103, DFM 105, DFM 201)
4. Utilize team building techniques. (DFM 106, DFM 107, DFM 108, DFM 110)

### Program Requirements

A minimum of 40 credit hours is required to complete the Digital Filmmaking - Narrative Certificate.

Course	Course Title	Credit Hours
DFM101	Film Analysis	4
DFM102	Image and Sound	4
DFM103	Storytelling	4
DFM104	Screenwriting	1
DFM105	Directing Actors	1
DFM106	Camera Coverage	3
DFM107	Editing	3
DFM108	Guerilla Filmmaking	4
DFM109	Managing Post-Production	4
DFM110	Thesis Film Pre-Production	6
DFM201	Thesis Film Production	6

# Early Childhood Education Advanced Certificate

## Program Description

The Early Childhood Education - Advanced certificate is designed to provide students with a working knowledge of Early Childhood Education.

This certificate fulfills the requirements of the Arizona Department of Education's Early Childhood Endorsement course work for current or Post Baccalaureate elementary education students and also fulfills the ECE course work necessary to qualify as an early childhood teaching assistant and/or teacher in many early care and education professional settings. All credits earned apply to the Associate of Applied Science degree in Early Childhood Education.

**Note:** A current Arizona fingerprint clearance card is required for students working in the Del E. Webb Family Enrichment Center. A current card in Pediatric First Aid and Safety will be required for graduation.

## Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Leanne Lawhead (leanne.lawhead@yc.edu), telephone: (928) 776-2306
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Early Childhood Education - Advanced Certificate program, the learner will be able to:

1. Articulate positive guidance techniques with young children. (ECE 200, ECE 234, ECE 240, ECE 260, ECE 290 or 291)
2. Examine historical and contemporary trends in Early Childhood. (ECE 200, ECE 222, ECE 234)
3. Plan developmentally appropriate curriculum and activities. (ECE 200, ECE 202, ECE 210, ECE 216, ECE 222, ECE 230, ECE 270, ECE 290 or 291)
4. Discuss issues of ethics and professionalism in the Early Childhood field. (ECE 200, ECE 222, ECE 240, ECE 290 or 291)
5. Identify theories and milestones of growth and development in children. (ECE 200, ECE 201, ECE 216, ECE 230, ECE 234, ECE 290 or ECE 291)
6. Prepare healthy and safe environments for young children. (ECE 210, ECE 270)
7. Illustrate proper and healthy nutritional habits for children. (ECE 210, ECE 270)
8. Enumerate and illustrate several components of quality childcare. (ECE 200, ECE 202, ECE 210, ECE 216, ECE 222, ECE 230, ECE 234, ECE 240, ECE 270, ECE 290 or 291)
9. Develop constructive use of community resources. (ECE 222, ECE 240)
10. Create relationships with parents through communication and involvement. (ECE 222, ECE 240, ECE 260)
11. Prepare a professional portfolio. (ECE 202, ECE 230, ECE 260, ECE 290 or 291)
12. Integrate examples of children's literature into lesson plans for young children. (ECE 230)
13. Validate and support inclusive environments and programs. (ECE 200, ECE 202, ECE 210, ECE 222)
14. Provide for the special needs of infants, toddlers and school-age children. (ECE 222)
15. Develop time management skills and apply them in the early childhood workplace. (ECE 250, ECE 291)

## Program Requirements

A minimum of 30 credit hours is required to complete the Early Childhood Education - Advanced Certificate.

Course	Course Title	Credit Hours
ECE200	Intro Early Childhood Ed	3
ECE202	Early Childhood Curriculum	3
ECE210	Infant and Toddler Development	3

	Course	Course Title	Credit Hours
<b>OR</b>	ECE216	Playing to Learn	3
	ECE222	Intro Exceptional Learner	3
<b>OR</b>	EDU222	Intro Exceptional Learner	3
	ECE230	Language & Literacy Experience	3
<b>OR</b>	EDU230	Language & Literacy Experience	3
	ECE234	Child Development	3
<b>OR</b>	PSY234	Child Development	3
	ECE240	Family & Comm Partnerships	3
	ECE260	Guidance of Young Children	3
	ECE270	Health, Safety and Nutrition	3
	ECE290	Practicum: DireTECH Field Exp	3
<b>OR</b>	ECE291	Adv Practicum: Supervsd Field	4

## Early Childhood Education Basic Certificate

### Program Description

The Early Childhood Education - Basic certificate is designed to prepare students for entry-level positions in center-based, home care provider settings, as well as other early care and education programs. It fulfills 12 credits toward the ECE-Advanced Certificate.

**Note:** A current Arizona fingerprint clearance card is required for students working in the Del E. Webb Family Enrichment Center. A current card in Pediatric First Aid and Safety will be required for graduation. **This certificate program is not Financial Aid eligible.**

### Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Leanne Lawhead (leanne.lawhead@yc.edu), telephone: (928) 776-2306
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Early Childhood Education - Basic Certificate program, the learner will be able to:

1. Articulate positive guidance techniques with young children. (ECE 240, ECE 260)
2. Examine historical and contemporary trends in early childhood. (ECE 200)
3. Develop constructive use of community resources. (ECE 240)
4. Identify theories and milestones of growth and development in children. (ECE 200, ECE 230, ECE 260)
5. Apply to become assessed and observed by the Council of Professional Recognition (applicable to students applying for national credential only). (ECE 190)

### Program Requirements

A minimum of 12 credit hours is required to complete the Early Childhood Education - Basic Certificate.

Course	Course Title	Credit Hours
ECE200	Intro Early Childhood Ed	3
ECE230	Language & Literacy Experience	3
<b>OR</b>	EDU230 Language & Literacy Experience	3
ECE240	Family & Comm Partnerships	3
ECE260	Guidance of Young Children	3
Optional Course for CDA National Credential		
ECE190	CDA Portfolio Preparation	3



# Electrical Instrumentation Technician Certificate

## Program Description

The Electrical Instrumentation Technician certificate is designed to prepare students for positions in the installation, repair and maintenance of commercial electrical and electronic equipment.

**Note:** Freeport McMoRan, Inc. and Asarco sponsor mining programs designed to prepare students for direct employment in the mining industry. There are special admission requirements for these programs. Contact (928) 776-2002 for details.

## Program Contacts

- Professor: Richard Peters (rick.peters@yc.edu), telephone: (928) 634-6114
- Instructional Specialist: Susie Check (susie.check@yc.edu), telephone: (928) 717-7761
- Professor: Elizabeth Peters (Elizabeth.Peters@yc.edu), telephone: (928) 717-7128
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Electrical Instrumentation Technician Certificate program, the learner will be able to:

1. Build, test, analyze and troubleshoot direct and alternating current circuits. (ELT 111, ELT 112)
2. Build, test, analyze and troubleshoot digital circuits. (ELT 183)
3. Build, test, analyze and troubleshoot solid state circuits. (ELT 126)
4. Build, test, analyze and troubleshoot microprocessor and programmable controller-based circuits. (ELT 161)
5. Build, test, analyze and troubleshoot process control instrumentation circuits. (ELT 171)
6. Design, fabricate and install safe electrical conduits and raceways. ( ELT 115)
7. Build, test, analyze and troubleshoot motors and motor control circuits. (ELT 272)

## Program Requirements

A minimum of 33 credit hours is required to complete the Electrical Instrumentation Technician Certificate.

Course	Course Title	Credit Hours
AGS101	Microcomputers in Agriculture	3
<b>OR</b>		
CSA126	Microsoft Office	3
ELT111	DC Electrical Systems	3
ELT112	AC Electrical Systems	3
ELT115	Conduits and Raceways	1
ELT126	Solid State Devices	3
ELT161	Microprocessors & Prog Control	3
ELT171	Process Control Instrumentatn	3
MAT100	Technical Mathematics	3
MET150	Surface Mine Safety Training	1
MET160	Basic Machine Hydr& Pneumatics	2
WLD113	Basic Welding II	2
<b>Additional Requirements - Select Option A or B</b>		
<b>Option A (Mining Students Only)</b>		
ELT295	Apprentice: Electrical Inst	3
<b>Option B (All Others - Select 6 Credits from the Following Courses)</b>		
CNT100	Intro to Computer Networking	3
CNT110	A+ Comp Tech Certification	4
CNT115	Network+: Networking Tech Cert	4
CSA170	PC Architecture	3
PHY140	The Physical World	4

# Electronics Technology Certificate

## Program Description

The Electronics Technology certificate prepares students for a wide variety of careers in Electronics Technology as an electronics technician, communications technician or field service engineer

## Program Contacts

- Instructional Specialist: Susie Check (susie.check@yc.edu), telephone: (928) 717-7761
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Electronics Technology Certificate program, the learner will be able to:

1. Build, test, analyze, and troubleshoot direct current circuits. (ELT 111)
2. Build, test, analyze, and troubleshoot alternating current circuits. (ELT 112)
3. Build, test, analyze, and troubleshoot digital circuits. (ELT 183)
4. Build, test, analyze, and troubleshoot solid state circuits. (ELT 126)
5. Build, test, analyze, and troubleshoot microprocessor and programmable controller-based circuits. (ELT 161)
6. Build, test, analyze, and troubleshoot communication circuits. (ELT 221)
7. Troubleshoot pre-bugged equipment including symptom recognition, fault isolation and repair. (ELT 258)

## Program Requirements

A minimum of 20 credit hours is required to complete the Electronics Technology Certificate.

Course	Course Title	Credit Hours
ELT111	DC Electrical Systems	3
ELT112	AC Electrical Systems	3
ELT126	Solid State Devices	3
ELT161	Microprocessors & Prog Control	3
ELT183	Digital Circuits	3
ELT221	Communication Systems/Circuits	3
ELT258	Electronic Troubleshooting	2

## Emergency Medical Technician Certificate

### Program Description

The Emergency Medical Technician certificate (EMS 132) provides fundamental knowledge about emergency medical procedures and techniques. These include artificial respiration, cardio-pulmonary resuscitation, control of bleeding, splinting, extrication and light rescue, and ten hours of hospital training and observation to give Emergency Medical Technicians improved clinical knowledge of the profession. Successful completion of EMS 132, with a grade of "C" or better, qualifies the student to take the National Registry of EMT Certification examination for EMT.

**Note: This certificate program is not Financial Aid eligible.**

### Program Contacts

- Program Director : Mary Brown (mary.brown@yc.edu), telephone: (928) 776-2255
- Instructional Specialist: Sandra Carney (sandra.carney@yc.edu), telephone: (928) 717-7937
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Emergency Medical Technician Certificate program, the learner will be able to:

1. Perform one and two person cardiopulmonary resuscitation (CPR) for the adult, child and infant patient according to the latest American Heart Association, Basic Life Support for Healthcare Provider standards. (EMS 132)
2. Manage scene safety including personal protective equipment in the workplace. (EMS 132)
3. Determine priorities of care. (EMS 132)
4. Define the role, scope of practice, legal and ethical responsibilities of an EMT. (EMS 132)
5. Assess, manage, and stabilize patients of all ages suffering airway obstructions, respiratory arrest and cardiac arrest with the use of CPR, automated external defibrillator, ventilatory assistance and oxygen. (EMS 132)
6. Assess, manage, and stabilize patients of all ages with medical emergencies and emergency childbirth. (EMS 132)
7. Assess, manage, and stabilize patients of all ages suffering bleeding, shock, soft tissue injuries, burns, fractures, nervous system injuries, head, chest and abdominal injuries. (EMS 132)
8. Prepare the patient for transport to an appropriate medical facility with a minimum of aggravation to the patient's illness or injury. (EMS 132)
9. Prepare a comprehensive patient care report for each patient assessed in the hospital clinical setting. (EMS 132)

### Program Requirements

A minimum of 10 credit hours is required to complete the Emergency Medical Technician Certificate.

Course	Course Title	Credit Hours
EMS132	Emergency Medical Technician	10

## Equine Practitioner Certificate

### Program Description

The Equine Practitioner certificate prepares students for entrepreneurship, employment, or advancement in a variety of equine fields including business management, training, breeding, shoeing, sales marketing and nutrition.

### Program Contacts

- Professor: Gary Gang (GGANG@instructor.yc.edu)
- Associate Dean: Karla Phillips (karla.phillips@yc.edu), telephone: (928) 717-7725
- Instructional Specialist: Brenda Giese (Brenda.Giese@yc.edu), telephone: (928) 717-7729
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Outcomes

Upon successful completion of the Equine Practitioner Certificate program, the learner will be able to:

1. Design, operate, and implement a business plan to manage an equine facility, business or event. (AGE 100, AGE 140, AGE 141, AGE 230, AGE 260, AGS 115, AGS 215)
2. Identify external parts of a horse and apply that knowledge to everyday functions of the horse. (AGE 100, AGE 125, AGE 140, AGE 152, AGE 220)
3. Explain herd psychology and implement it into a training program. (AGE 100, AGE 125, AGE 260)
4. Identify reproductive anatomy and apply current trends and techniques in reproduction management. (AGE 100, AGE 220)
5. Identify the anatomy of the hoof and explain correct shoeing procedures. (AGE 100, AGE 140, AGE 141)
6. Recognize a variety of horse illnesses, lameness and diseases, and recommend the proper treatment for each. (AGE 100, AGE 140, AGE 141, AGE 220)
7. Identify digestive anatomy and physiology and design a feed program for a variety of equine breeds. (AGE 100, AGE 220)
8. Compare popular training techniques from ground work to under saddle/harness. (AGE 101, AGE 155, AGE 201, AGE 260)
9. Identify and correct behavioral problems in relation to riding and training. (AGE 100, AGE 101, AGE 201, AGE 260)
10. Explain and use basic riding techniques and associated equipment needed for each. (AGE 101, AGE 201)

### Program Requirements

A minimum of 31 credit hours is required to complete the Equine Practitioner Certificate.

Course	Course Title	Credit Hours
AGE100	Intro to Equine Science	4
AGE101	Fundamentals of Riding	2
AGE125	Equine Behavior and Psychology	3
AGE140	Equine Hoof Care	3
AGE201	Advanced Riding Methods	2
AGE220	Horse Nutrit/Health/First Aid	3
AGE230	Fac Mangmt and Special Events	2
AGE260	Ground Skills/Training Tech	3
AGS115	Agricultural Mechanics I	3
AGS215	Agricultural Mechanics II	3
<b>Select 3 credit hours from the following courses:</b>		
AGE141	Basic Horseshoeing	1
AGE152	Fitness for the Horse & Rider	2
AGE154	Rope Halters & Other Equip	1
AGE155	Equine Driving	1

## Exercise Science/Sports Medicine Certificate

### Program Description

The Exercise Science/Sports Medicine certificate is designed to provide students with a cross disciplinary foundation in the fields of exercise science, wellness, sports nutrition, and first aid as applied to the prevention, treatment and rehabilitation of activity related injuries. Courses in this program may apply toward a transfer degree in a similar area of study.

### Program Contacts

- Instructional Specialist: Jennifer Taylor (jennifer.taylor@yc.edu), telephone: (928) 776-2304
- Professor: Josh Schmidt (joshua.schmidt@yc.edu), telephone: (928) 717-7176
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Exercise Science/Sports Medicine Certificate program, the learner will be able to:

1. Identify terms and functions pertaining to the systems of the body as they relate to exercise, wellness, fitness and sport. (BIO 181, BIO 201, PHE 152, PHE 157, PHE 251)
2. Explain the basic functions of the biological, anatomical, biomechanical and physiological mechanisms of human motor performance as they relate to exercise, wellness, fitness and sport. (BIO 181, BIO 201, PHE 150, PHE 251)
3. Measure, identify, design and evaluate effectiveness of injury prevention, treatment and rehabilitation across diverse populations pertaining to human motor performance as it relates to exercise and sport. (PHE 150, PHE 153, PHE 251)

### Program Requirements

A minimum of 22 credit hours is required to complete the Exercise Science/Sports Medicine Certificate.

Course	Course Title	Credit Hours
BIO181	General Biology I	4
BIO201	Human Anatomy & Physiology I	4
PHE150	Preventing Athl Injury/Em Care	3
PHE152	Personal Health & Wellness	3
PHE153	First Aid/CPR/AED and Safety	2
PHE157	Nutrition for Health/Fit/Sport	3
PHE251	Integrated Exercise Science	3

## Fire Science - Basic Firefighter Certificate

### Program Description

The Basic Firefighter certificate program is designed to prepare students for positions as career and volunteer firefighters at the entry level. Some students may already be employed at the entry level and are seeking to enhance their knowledge and skills.

### Program Contacts

- Program Director: Kenny Krebbs (kkrebbs@instructor.yc.edu), telephone: (928) 717-7911
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Fire Science - Basic Firefighter Certificate program, the learner will be able to:

1. Explain the proper uses for various equipment/tools, the care and use of fire equipment ladders, and perform basic ladder raises for multi-person ladders. (FSC 105)
2. Describe and perform standard hose rolls and carries used by the fire service. (FSC 105)
3. Explain the need for proper ventilation. (FSC 105)
4. Explain the method and theory of fire cause determination as it applies to the firefighter to include securing the scene and legal considerations. (FSC 105)
5. Identify and explain the components and value of automatic sprinkler systems. (FSC 105)
6. Perform various drags, lifts, carries, wall breaching, narrow-space manipulation and hoisting techniques directly related to firefighter safety and self-survival. (FSC 105)
7. Identify various hazardous materials and their potential dangers. (FSC 104)
8. Perform CPR for victims of all ages and demographics. (EMS 132)
9. Provide first aid for victims of all ages and demographics. (EMS 132)
10. Describe principles and techniques of emergency medical care as performed by the EMT-Basic in accordance with national and state curriculum. (EMS 132)

### Program Requirements

A minimum of 24 credit hours is required to complete the Fire Science - Basic Firefighter Certificate.

Course	Course Title	Credit Hours
EMS132	Emergency Medical Technician	10
FSC104	Haz Mat First Responder Op	2
FSC105	Firefighter I & II Cert Acad	12

## Fire Science Community Risk Manager Certificate

### Program Description

The Fire Science Community Risk Manager certificate is designed for those interested in training in the area of risk management with a fire prevention emphasis.

### Program Contacts

- Program Director: Kenny Krebbs (kkrebbs@instructor.yc.edu), telephone: (928) 717-7911
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Fire Science Community Risk Manager Certificate program, the learner will be able to:

1. Identify various hazardous materials and their potential dangers. (FSC104)
2. Explain issues related to fire prevention and the components and steps of inspection and enforcement. (FSC135)3.
3. Define types of laws, explain their basic differences, and their function in society. (FSC225)
4. Identify the main elements determining fire behavior, fuels and fuel properties. Analyze arson, conduct investigations, and present evidence and testimony in court. (FSC234)
5. Describe fire detection systems and applications, and operate and test fire protection and detection systems. (FSC235)
6. Determine factors and principles related to fire resistance, building codes and fire suppression issues. (FSC241)
7. Define and use basic terms and concepts associated with the chemistry and dynamics of fire. (FSC210)

### Program Requirements

A minimum of 21 credit hours is required to complete the Fire Science Community Risk Manager Certificate.

Course	Course Title	Credit Hours
FSC104	Haz Mat First Responder Op	2
FSC135	Fire Prevention	3
FSC210	Adv Fire Behavior & Combustion	3
FSC225	Legal Aspects of Emerg Serv	4
FSC234	Fire Investigation	3
FSC235	Fire Protection Systems	3
FSC241	Bldg Const for Fire Protection	3

## Fire Science Driver/Operator Certificate

### Program Description

The Fire Science Driver/Operator certificate is designed to prepare the student to become a driver/operator of fire service pumping apparatus and hydraulics as it relates to the fire service.

### Program Contacts

- Program Director: Kenny Krebbs (kkrebbs@instructor.yc.edu), telephone: (928) 717-7911
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Fire Science Driver/Operator Certificate program, the learner will be able to:

1. Describe principles and characteristics of hydraulics and operate fire hydraulic pumps currently in use in the fire service. Compute nozzle pressures and characterize related hydraulics problems. (FSC137)
2. Deploy and operate fire apparatus and equipment and explain the principles and characteristics of water pressure. Identify types of pumps used in fire apparatus. (FSC138)
3. Prescribe safety procedures for personnel operating in the fire ground. (FSC236)
4. Direct firefighting operations to achieve maximum property conservation. (FSC238)
5. Lead and manage functions and processes as the emergency scene commander. (FSC239)
6. Determine factors and principles related to fire resistance, building codes and fire suppression issues. (FSC241)

### Program Requirements

A minimum of 18 credit hours is required to complete the Fire Science Driver/Operator Certificate.

Course	Course Title	Credit Hours
FSC137	Fire Protection Hydraulics/Wat	3
FSC138	Fire Department Apparatus	3
FSC236	Occupational Safety/Hlth Emer	3
FSC238	Strategy and Tactics	3
FSC239	Fire Department Co Officer	3
FSC241	Bldg Const for Fire Protection	3



## Fire Service Officer/Manager Certificate

### Program Description

The Fire Science Officer/Manager certificate is designed for those interested in fire service leadership/management and in becoming a fire service officer.

### Program Contacts

- Program Director: Kenny Krebbs (kkrebbs@instructor.yc.edu), telephone: (928) 717-7911
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Fire Service Officer/Manager Certificate program, the learner will be able to:

1. Identify and analyze the major cause of firefighter deaths in the line of duty related to health, fitness, wellness and vehicle operations. (FSC 225)
2. Prescribe safety procedures for personnel operating in the fire ground. (FSC 236)
3. Define and use basic terms and concepts associated with the chemistry and dynamics of fire. (FSC 210)
4. Direct firefighting operations to achieve maximum property conservation. (FSC 238)
5. Lead functions and processes as the emergency scene commander. (FSC 239)
6. Incorporate and manage cost containment, budgeting, data analysis, personnel evaluation, community planning, and departmental and public organization. (FSC 240)
7. Determine factors and principles related to fire resistance, building codes and fire suppression issues. (FSC 241)

### Program Requirements

A minimum of 22 credit hours is required to complete the Fire Service Officer/Manager Certificate.

Course	Course Title	Credit Hours
FSC210	Adv Fire Behavior & Combustion	3
FSC225	Legal Aspects of Emerg Serv	4
FSC236	Occupational Safety/Hlth Emer	3
FSC238	Strategy and Tactics	3
FSC239	Fire Department Co Officer	3
FSC240	Principles of Fire/Emerg Serv	3
FSC241	Bldg Const for Fire Protection	3

## Fitness Trainer/Instructor Certificate

### Program Description

The Fitness Trainer/ Instructor certificate provides students with a cross-disciplinary foundation in the fields of exercise science, sports nutrition, wellness and first aid as applied to personal training and group fitness programming and instruction. It is an ideal path for students needing ACE exam review preparation, for those planning to pursue a bachelor's degree in a similar area of study, or for current professionals seeking to update and enhance their knowledge and skills.

### Program Contacts

- Instructional Specialist: Jennifer Taylor (jennifer.taylor@yc.edu), telephone: (928) 776-2304
- Professor: Charles Lohman (charles.lohman@yc.edu), telephone: (928) 649-5487
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Fitness Trainer/Instructor Certificate program, the learner will be able to:

1. Identify terms and functions pertaining to the systems of the body as they relate to exercise, wellness, fitness and sport. (BIO 160 or higher, PHE 152, PHE 157, PHE 251)
2. Explain the basic functions of the biological, anatomical, biomechanical, and physiological mechanisms of human motor performance as it relates to exercise, wellness, fitness and sport. (BIO 160 or higher, PHE 251)
3. Measure, identify, design and evaluate effectiveness of basic regiments of exercise across diverse populations pertaining to human motor performance as it relates to exercise, wellness and fitness. (PHE 153, PHE 167, PHE 251, PHE 252)

### Program Requirements

A minimum of 18 credit hours is required to complete the Fitness Trainer/Instructor Certificate.

Course	Course Title	Credit Hours
BIO160	Intro Human Anat & Physiology	4
	OR Higher level Anatomy & Physiology course	
PHE152	Personal Health & Wellness	3
PHE153	First Aid/CPR/AED and Safety	2
PHE157	Nutrition for Health/Fit/Sport	3
PHE167	ACE Group Fitness Instr Prep	3
<b>OR</b>	PHE252 ACE Personal Trainer Prep	3
	PHE251 Integrated Exercise Science	3

# Gerontology Certificate

## Program Description

The Gerontology certificate program provides students with a multidisciplinary approach to understanding aging as seen from the social, psychological, economic, physical and practice perspectives.

This certificate is relevant for entry-level individuals as well as professionals in the field of aging.

**Note: The Gerontology certificate is not financial aid eligible.**

## Program Contacts

- Dean: Dennis Garvey (dennis.garvey@yc.edu), telephone: (928) 776-2371
- Instructional Assistant: Nancy Bennett (nancy.bennett@yc.edu), telephone: (928) 717-7607

## Program Outcomes

Upon successful completion of the Gerontology Certificate program, the learner will be able to:

1. Describe the variables between theory and practice in the field of aging. (GRN100, GRN101, GRN294, GRN295)
2. Apply practice concepts in the field of gerontology. (GRN294, GRN295)
3. Describe and apply the social psychological physiological economic and practice competencies needed to function effectively in the field of aging. (GRN100, GRN101, GRN102, GRN294, GRN295)

## Program Requirements

A minimum of 14 credit hours is required to complete the Gerontology Certificate.

Course	Course Title	Credit Hours
GRN100	Intro Social Gerontology	3
GRN101	Psychology of Aging	3
GRN102	Health and Aging	3
GRN294	Practices in Gerontology	3
GRN295	Practicum in Gerontology	2

# Graphic Design Technician Certificate

## Program Description

Completion of this program of study prepares students for entry-level employment in printing and design firms.

Students will develop technical competencies in print, digital imaging, and website design using Adobe Creative Suite. Application of basic design principles.

## Program Contacts

- Program Director: Lauren McCrea (lauren.mccrea@yc.edu), telephone: (928) 717-7616
- Instructional Specialist: Michelle Peters (Michelle.Peters@yc.edu), telephone: (928) 776-2035
- Program Director: Laura Bloomenstein (Laura.Bloomenstein@yc.edu), telephone: (928) 776-2039

## Program Outcomes

Upon successful completion of the Graphic Design Technician Certificate program, the learner will be able to:

1. Employ Adobe Creative Suite Software. (ART 130, ART 131, ART 132, ART 137, ART 154, ART 231, ART 236)
2. Work independently or as part of a team to successfully complete graphic design projects. (ART 130, ART 131, ART 132, ART 137, ART 231, ART 236)
3. Develop creative solutions to visual problems. (ART 110, ART 112, ART 130, ART 131, ART 132, ART 137, ART 154, ART 231, ART 236)
4. Use typography in design solutions. (ART 130, ART 131, ART 132, ART 231)
5. Identify, analyze, synthesize and communicate design principles. (ART 110, ART 112, ART 130, ART 131, ART 132, ART 137, ART 154, ART 231, ART 236)
6. Articulate traditional and non-traditional art examples and how those examples affect popular visual literacy. (ART 110, ART 112, ART 130, ART 131, ART 132, ART 137, ART 231)

## Program Requirements

A minimum of 29 credit hours is required to complete the Graphic Design Technician Certificate.

Course	Course Title	Credit Hours
ART110	Drawing I	3
ART112	Two-Dimensional Design	3
ART130	Web Site Design I	3
<b>OR</b>		
WEB130	Web Site Design I	3
ART131	Graphic Design I	4
ART132	Graphic Design II	4
ART137	Adobe Photoshop I	3
ART154	Digital Photo I	3
ART231	Graphic Design Illustration	4
ART236	Digital Pre-Press	2

## Gunsmithing - Advanced Certificate

### Program Description

The Advanced Gunsmithing certificate prepares students with highly specialized training in their choice in the areas of CNC machining, competition firearms, and guild firearms production.

**Note:** *Special admission to this program is required. Students should contact an academic advisor or the program director for detailed information.*

### Program Contacts

- Professor: Alan Lohr (alan.lohr@yc.edu), telephone: (928) 776-2348
- Instructional Specialist: Susie Check (susie.check@yc.edu), telephone: (928) 717-7761
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Outcomes

Upon successful completion of the Gunsmithing - Advanced Certificate program, the learner will be able to:

1. Safely operate hand and machine tools necessary for gun building. (GST 270, GST 280)
2. Build traditional sporting firearms at a guild quality level. (GST 270)
3. Build competition firearms that perform at or above accepted levels. (GST 280)
4. Program and operate CNC machinery. (CNC 101, CNC 102, CNC 201, CNC 202)
5. Operate CAM programs relevant to the firearms industry. (CNC 201, GST 280)

### Program Requirements

A minimum of 20 credit hours is required to complete the Gunsmithing - Advanced Certificate.

Course	Course Title	Credit Hours
<b>Select Two of the Three Following Blocks:</b>		
<b>Block 1 - Guild Firearms</b>		
GST270	Guild Firearms	10
<b>Block 2 - Competition Firearms</b>		
GST280	Competition Firearms	10
<b>Block 3 - CNC Machining</b>		
CNC101	CNC Machine Operator	2
CNC102	CNC Machine Set Up	2
CNC201	Comp Aided Program CNC Mach	3
CNC202	3-D Program & Rapid Prototype	4

## Gunsmithing Certificate

### Program Description

The Gunsmithing certificate prepares the student for direct employment as a gunsmith in an established shop.

**Note:** *There is a special admission process for this program. Prospective students should contact an academic advisor for detailed information.*

### Program Contacts

- Professor: Alan Lohr (alan.lohr@yc.edu), telephone: (928) 776-2348
- Instructional Specialist: Susie Check (susie.check@yc.edu), telephone: (928) 717-7761
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Outcomes

Upon successful completion of the Gunsmithing Certificate program, the learner will be able to:

1. Safely operate hand and machine tools common to the gunsmithing trade.
2. Use measuring tools such as micrometers, indicators, verniers and various gauges.
3. Use a computer to develop ballistic data and to document research assignments.
4. Completely disassemble firearms for metal refinishing and re-assembly.
5. Identify different rifle operating systems.
6. Identify different shotgun operating systems including maintenance, repair and customization.
7. Lay out, duplicate, inlet, fit, glass bed, install accessories, apply finish and checker the Classic American rifle stock.

### Program Requirements

A minimum of 40 credit hours is required to complete the Gunsmithing Certificate.

Course	Course Title	Credit Hours
GST100	Apprentice Gunsmithing	10
GST150	Journeyman Gunsmithing	10
GST200	Professional Gunsmithing	10
GST250	Master Gunsmithing	10

## Horticulture Science Certificate

### Program Description

The Horticulture Science Certificate program is designed to prepare students for potential careers in the horticulture and greenhouse industry including grower, nursery technician, integrated pest management, greenhouse management and entrepreneur.

### Program Contacts

• Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Outcomes

Upon successful completion of the Horticulture Science Certificate program, the learner will be able to:

1. Establish a greenhouse-growing program with timelines for flowers, fruits, and vegetables. (AGS 250, AGS 252)
2. Integrate an IPM system for insect control in greenhouses. (AGS 250, AGS 252)
3. Determine appropriate greenhouse styles and geographical locations for specific crops in the industry. (AGS 250, AGS 252)
4. Implement a production management schedule. (AGS 250, AGS 252)
5. Develop a marketing plan for a specific crop. (AGS 250, AGS 252)
6. Utilize technology in crop production, marketing, and sales. (AGS 101 or CSA 126, AGS 250, AGS 252)
7. Control a greenhouse environment through computer and mechanical means. (AGS 250, AGS 252)
8. Manage a crew of greenhouse laborers. (AGS 250, AGS 252)
9. Grow a hydroponics and flower crop of high economic value. (AGS 250, AGS 252)

### Program Requirements

A minimum of 27 credit hours is required to complete the Horticulture Science Certificate.

Course	Course Title	Credit Hours
AGS103	Plant Biology	4
AGS105	Soils	3
AGS107	Entomology	3
AGS250	Horticulture Science I	4
AGS252	Horticulture Science II	4
AGS274	Water Management	3
Select and complete 6 credits from the following courses:		
AGS101	Microcomputers in Agriculture	3
<b>OR</b>	CSA126 Microsoft Office	3
AGS102	Agribusiness Management	3
AGS115	Agricultural Mechanics I	3
AGS215	Agricultural Mechanics II	3

# Industrial Plant Technician Certificate

## Program Description

The Industrial Plant Technician certificate is designed to prepare students for an entry-level career in plant machinery installation, maintenance, and fabrication.

## Program Contacts

- Professor: Charles Allmon (charles.allmon@yc.edu), telephone: (928) 771-6113
- Instructional Specialist: Susie Check (susie.check@yc.edu), telephone: (928) 717-7761
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Industrial Plant Technician Certificate program, the learner will be able to:

1. Troubleshoot, replace, and repair hydraulic and pneumatic system components. (IPT 110, IPT 120, IPT 160, IPT 295, MET 160)
2. Fabricate and repair industrial machinery components. (IPT 260, IPT 295, WLD 112, WLD 113, WLD 250)
3. Utilize machine shop equipment. (AGS 101 or CSA 126, IPT 260, IPT 261, IPT 295, MET 116, MET 150)
4. Troubleshoot and repair conveyance systems. (IPT 260)
5. Troubleshoot and repair bulk material handlers. (IPT 140, IPT 260, IPT 261)
6. Repair and replace valves. (IPT 130)

## Program Requirements

A minimum of 35 credit hours is required to complete the Industrial Plant Technician Certificate.

Course	Course Title	Credit Hours
AGS101	Microcomputers in Agriculture	3
<b>OR</b>	CSA126 Microsoft Office	3
	IPT110 Industrial Shop Practices	3
	IPT120 Industrial Pump Maint/Repair	3
	IPT130 Industrial Valve Maint/Repair	3
	IPT140 Bulk Materials Handling	3
	IPT160 Machinery Maint/Troubleshoot	3
	MET150 Surface Mine Safety Training	1
	MET160 Basic Machine Hydr& Pneumatics	2
	WLD112 Basic Welding I	2
	WLD113 Basic Welding II	2
	WLD250 Welded Metal Fabrication	4
<b>Additional Requirements - Select Option A or B</b>		
<b>Option A (Mining Students Only)</b>		
	IPT295 Apprentice: Industrial Plant	3
<b>AND</b>	IPT295 Apprentice: Industrial Plant	3
<b>Option B (All Others - Select 6 Credits from the Following Courses)</b>		
	AUT100 Auto/Diesel Preventative Maint	2
	AUT151 Auto Engine Repair	2
	BSA110 Personal Finance	3
	BSA220 Principles of Management	3
	CNC101 CNC Machine Operator	2
	CNC102 CNC Machine Set Up	2
	CNC201 Comp Aided Program CNC Mach	3
	WLD145 Arc II	4
	WLD156 Blueprint Reading	4
	WLD200 Tig I	4
	WLD210 Gas Metal Arc Welding	4



## Justice Studies Certificate

### Program Description

The Justice Studies certificate program is designed for students interested in a broad range of criminal justice careers, without a law enforcement focus. The program includes the study of crime and delinquency and the theories, policies and practices of the criminal justice system.

**Note:**

### Program Contacts

- Program Director: Michael Davis (michael.davis@yc.edu), telephone: (928) 717-7938
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Justice Studies Certificate program, the learner will be able to:

1. Explain the historical development of American criminal law from its English common law roots to the present. (AJS 101)
2. Analyze criminal conduct in the context of historical, social, political and legal developments. (AJS 101)
3. Analyze the intersection of law, morality, and ethics in modern society. (AJS 123)
4. Analyze current issues and trends in crime rates, criminal behavior, and social trends as they impact the criminal justice process. (AJS 200)
5. Outline the modern philosophies, organization and treatment/intervention goals of the juvenile justice system. (AJS 212)
6. Identify and summarize the various theories of the causes of criminal behavior. (AJS 225)
7. Describe the economic and psychological impact of crime on society. (AJS 225)
8. Analyze the role of the U.S. Supreme Court in defining the Constitutional protections and procedural due process safeguards in the criminal justice system. (AJS 260)
9. Identify the key provisions of the Bill of Rights and the U.S. Constitution that pertain to civil liberties and civil rights, and explain various competing theories of constitutional interpretation and judicial review. (AJS 290)
10. Identify and describe global business security issues and transnational events and their global repercussions. (AJS 250)

### Program Requirements

A minimum of 24 credit hours is required to complete the Justice Studies Certificate.

Course	Course Title	Credit Hours
AJS101	Intro Admin of Justice	3
AJS123	Ethics & Criminal Justice	3
AJS200	Curr Issue/Criminal Just	3
AJS212	Juvenile Justice Procedure	3
AJS225	Criminology	3
AJS250	Intro Global Security & Intel	3
AJS260	Procedural Criminal Law	3
AJS290	Constitutional Law/Civil Lib	3

## Law Enforcement and Corrections Certificate

### Program Description

The Law Enforcement and Corrections certificate is designed for those interested in training in the law enforcement/corrections field. Emphasis is on the study of crime and delinquency within the criminal justice system, particularly as to the response of law enforcement, corrections and the courts to violations of the law.

The Intensive Police Academy (AIS 291) is accredited by the Arizona Peace Officers Standards and Training Board (AZ POST) in providing Basic Peace Officer training to individuals meeting the requirements of the training board and appointing police agencies. The curriculum includes the study of criminal investigations, police community relations, traffic accident investigation, introduction to administration of justice, law, legal principles, patrol procedures, vehicle operations, report and technical writing, physical conditioning, defense tactics, impact weapons, firearm proficiency and safety, first aid, fundamentals of hazardous materials, stress management and use of force. Students must be screened and appointed by an Arizona Law Enforcement Agency. Upon successful completion of AJS 291, students are eligible to be hired as police officers in the state.

**Note:** Students enrolling in AJS 291 must be screened and appointed by an Arizona Law Enforcement Agency.

### Program Contacts

- Program Director: Michael Davis (michael.davis@yc.edu), telephone: (928) 717-7938
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Law Enforcement and Corrections Certificate program, the learner will be able to:

1. Explain the historical development of American criminal law from its English common law roots to the present. (AJS 101, AJS 291)
2. Analyze criminal conduct in the context of historical, social, political and legal developments. (AJS 101, AJS 109, AJS 291)
3. Identify the organization and jurisdiction of local, state and federal law enforcement, courts and correctional systems. (AJS 101, AJS 230, AJS 240, AJS 291)
4. Describe the relationships between the three components of the criminal justice system. (AJS 109, AJS 230, AJS 240, AJS 291)
5. Summarize the philosophy of legal sanctions and corrections and the historical development of theories of punishment and rehabilitation. (AJS 109, AJS 240, AJS 291)
6. Analyze the intersection of law, morality and ethics in our modern society. (AJS 123, AJS 291)
7. Summarize the modern scientific tools used in criminal investigation. (AJS 170, AJS 291)
8. Analyze the role of the US Supreme Court in defining the Constitutional protections and procedural due process safeguards in the criminal justice system. (AJS 260, AJS 291)
9. Describe the economic and psychological impact of crime on society. (AJS 240, AJS 291)
10. Write a concise public services report using basic word processing skills. (AJS 103, AJS 291)
11. Apply all types, purposes and techniques of patrol procedures (AJS 230, AJS 291)

### Program Requirements

A minimum of 24 credit hours is required to complete the Law Enforcement and Corrections Certificate.

Course	Course Title	Credit Hours
<b>Option 1 Requirements:</b>		
AJS101	Intro Admin of Justice	3
AJS103	Public Safety Report Writing	3
AJS109	Substantive Criminal Law	3
AJS123	Ethics & Criminal Justice	3
AJS170	Forensic Science	3
AJS230	The Police Function	3
AJS240	The Correction Function	3

Course	Course Title	Credit Hours
AJS260	Procedural Criminal Law	3
<b>Option 2 Requirement:</b>		
AJS291	Intensive Police Academy	24

## Legal Office Clerk Certificate

### Program Description

The Legal Office Clerk certificate is designed to prepare students for entry-level clerical positions in law offices.

**Note:** *The student is expected to have mastered basic keyboarding skills before beginning this program. This certificate program is not Financial Aid eligible.*

### Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Michael Davis (michael.davis@yc.edu), telephone: (928) 717-7938
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Legal Office Clerk Certificate program, the learner will be able to:

1. Use computer applications including word processing, database, spreadsheet, presentation, and internet skills to the law office setting. (LAW 105)
2. Define legal terms and describe legal principles in the areas of tort, contract and criminal law. (LAW 100, LAW 107)
3. Describe basic court systems and court procedures. (LAW 100, LAW 107)
4. Create, format, revise, and print letters, memos, tables, and legal documents. (CSA 140, LAW 105, LAW 107)
5. Perform standard office practices including office communications, telephone skills, mailing methods, time management and prioritizing. (BSA 111 or BSA 112 or BSA 113, LAW 107)
6. Apply office-related professional etiquette skills. (LAW 107)
7. Use multi-tasking and initiative techniques. (BSA 111, or BSA 112, or BSA 113, LAW 107)
8. Describe legal office procedures. (LAW 100, LAW 107)
9. Complete law office billing. (LAW 105, LAW 107)
10. Use filing systems as they pertain to the legal office. (LAW 107)
11. File legal documents with the courts using docketing procedures. (LAW 107)
12. Maintain confidentiality as prescribed in Canons of Ethics. (LAW 101, LAW 107)
13. Use the Harvard Law Review Bluebook uniform system of legal citations. (LAW 107)

### Program Requirements

A minimum of 12 credit hours is required to complete the Legal Office Clerk Certificate.

	Course	Course Title	Credit Hours
	BSA111	Creative Leadership	1
<b>OR</b>	BSA112	Lead: Juggling Mult Priorities	1
<b>OR</b>	BSA113	Leading Out Loud	1
	CSA140	Microsoft Word	2
	LAW100	Intro to Paralegal Studies	3
	LAW101	Legal Ethics & Prof Respsnbly	1
	LAW105	Legal Computer Apps	2
	LAW107	Law Office Management	3

## Legal Office Secretary Certificate

### Program Description

The Legal Office Secretary certificate is designed to prepare students for entry-level secretarial positions in law offices.

**Note:** *The student is expected to have mastered basic keyboarding skills before beginning this program.*

### Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Michael Davis (michael.davis@yc.edu), telephone: (928) 717-7938
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Legal Office Secretary Certificate program, the learner will be able to:

1. Use computer software applications including word processing, database, spreadsheet, presentation, operating systems, and internet skills to the law office setting. (CSA 172, LAW 105)
2. Produce documents using advanced word processing skills. (CSA 112, CSA 140, LAW 105, LAW 107)
3. Define legal terms and describe legal principles in the areas of tort, contract and criminal law. (LAW 100, LAW 107)
4. Describe basic court systems and court procedures. (LAW 100, LAW 107)
5. Transcribe, create, punctuate, proofread, format, revise, and print letters, memos, reports, tables, and legal documents. (BSA 105, BSA 233, LAW 105, LAW 107)
6. Perform standard office practices including office communications, telephone skills, mailing methods, and time management. (BSA 111 or BSA 112 or BSA 113, LAW 107)
7. Apply office-related professional etiquette skills. (LAW 107)
8. Use multi-tasking and initiative techniques. (BSA 111 or BSA 112 or BSA 113, LAW 107)
9. Describe legal office procedures and set priorities. (BSA 111 or BSA 112 or BSA 113, LAW 107)
10. Complete law office billing. (LAW 105, LAW 107)
11. Use filing systems as they pertain to the legal office. (CSA 172, LAW 107)
12. File legal documents with the courts using appropriate procedures. (LAW 107)
13. Maintain confidentiality as prescribed in Canons of Ethics. (LAW 101, LAW 107)
14. Use the Harvard Law Review Bluebook uniform system of legal citations. (LAW 107)
15. Use general ledger bookkeeping and prepare financial statements. (ACC 121)

### Program Requirements

A minimum of 24 credit hours is required to complete the Legal Office Secretary Certificate.

Course	Course Title	Credit Hours
ACC121	Introductory Accounting	3
BSA105	Business English	3
BSA111	Creative Leadership	1
<b>OR</b>	BSA112 Lead: Juggling Mult Priorities	1
<b>OR</b>	BSA113 Leading Out Loud	1
BSA233	Business Communications	3
CSA112	Keyboarding Skill Building	1
CSA140	Microsoft Word	2
CSA172	Microsoft Windows	2
LAW100	Intro to Paralegal Studies	3
LAW101	Legal Ethics & Prof Respsnbilty	1
LAW105	Legal Computer Apps	2
LAW107	Law Office Management	3

# Management Certificate

## Program Description

The Management certificate program prepares students to use management theory to solve basic business problems and formulate plans for the future.

## Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Joy D'Angelo (joy.dangelo@yc.edu), telephone: (928) 776-2343
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

## Program Outcomes

Upon successful completion of the Management Certificate program, the learner will be able to:

1. Apply basic management tools and techniques to the operation of a business. (All courses in the program)
2. Analyze and define problems to make appropriate decisions and implement required business solutions. (All courses in the program)
3. Use team-building strategies. (All courses in the program)

## Program Requirements

A minimum of 24 credit hours is required to complete the Management Certificate.

Course	Course Title	Credit Hours
BSA120	Principles of Supervision	3
BSA132	Ethics in Business	3
BSA140	Human Relations in Business	3
BSA220	Principles of Management	3
BSA223	Human Resource Management	3
BSA229	Management Problems	3
BSA230	Principles of Marketing	3
BSA233	Business Communications	3

## Medical Assistant Certificate

### Program Description

The Medical Assistant certificate program prepares students for employment in health care offices including primary care and specialty physicians' offices, ambulatory care, and urgent care facilities.

### Program Contacts

- Program Director: Nancy Bowers (nancy.bowers@yc.edu), telephone: (928) 776-2252
- Instructional Specialist: Petra Bresee (petra.bresee@yc.edu), telephone: (928) 771-6122
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Medical Assistant Certificate program, the learner will be able to:

1. Manage medical records upholding security and privacy standards as outlined in HIPAA regulations. (AHS 100)
2. Use computer programs commonly found in health care settings. (CSA 126)
3. Deliver health care to clients with multiple health care needs. (AHS 100, AHS 120, AHS 121, AHS 130, AHS 296, BIO 160 or BIO 201 & 202)
4. Document how diversity and culture affect delivery of health care. (AHS 100, AHS 120)
5. Obtain specimens for diagnostic evaluation and testing. (AHS 103, AHS 121, AHS 296)
6. Describe the structural organization of the body. (AHS 120, AHS 121, BIO 160 or BIO 201 & 202)
7. Calculate medical dosages. (AHS 296, MAT 100)
8. List the indications for use, dosage forms, usual dosage, side effects, interactions with other drugs, storage requirements, generic and trade names and mechanism of action for common used medications. (AHS 140)
9. For all major body systems, describe common diseases and conditions, methods of diagnosis, short and long term effects of disease processes, treatment and therapy and restoration strategies. (HIM 140)
10. Distinguish if it is appropriate to release patient records in accordance with policies and procedure for access and disclosure of personal health information. (HIM 173)

### Program Requirements

A minimum of 34 credit hours is required to complete the Medical Assistant Certificate.

Course	Course Title	Credit Hours
AHS100	Fundamentals of Health Care	3
AHS103	Phlebotomy	3
AHS120	Foundations of Med Assisting I	3
AHS121	Foundations of Med Assisting II	4
AHS130	Medical Term for Patient Care	3
AHS140	Pharmacology for Allied Hlth	2
AHS296	Internship: Allied Health Serv	3
BIO160	Intro Human Anat & Physiology	4
<b>OR</b>	BIO201 Human Anatomy & Physiology I	4
<b>AND</b>	BIO202 Human Anatomy & Physiology II	4
CSA126	Microsoft Office	3
HIM140	Disease Process	4
HIM173	Legal & Ethical Aspects of HIM	2
MAT100	Technical Mathematics	3

## Medical Records Technician Certificate

### Program Description

The Medical Records Technician certificate prepares students for employment in a physician's office, acute care setting and/or long-term care setting.

### Program Contacts

- Program Director: Nancy Bowers (nancy.bowers@yc.edu), telephone: (928) 776-2252
- Instructional Specialist: Petra Bresee (petra.bresee@yc.edu), telephone: (928) 771-6122
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Medical Records Technician Certificate program, the learner will be able to:

1. Describe the Health Information Management (HIM) process including legal and ethical implications. (HIM 110, HIM 173)
2. Define elements in the medical word building system. (AHS 130)
3. Correctly spell and pronounce medical terms. (AHS 130)
4. Apply basic computer skills. (CSA 126)
5. Identify and describe the structure and function of major organs and body systems. (BIO 160, BIO 201 & BIO 202)

### Program Requirements

A minimum of 16 credit hours is required to complete the Medical Records Technician Certificate.

Course	Course Title	Credit Hours
AHS130	Medical Term for Patient Care	3
BIO160	Intro Human Anat & Physiology	4
<b>OR</b>	BIO201 Human Anatomy & Physiology I	4
<b>AND</b>	BIO202 Human Anatomy & Physiology II	4
BSA102	Career Search and Success	1
CSA126	Microsoft Office	3
HIM110	Intro to Hlth Info Mgmt	3
HIM173	Legal & Ethical Aspects of HIM	2



## Nursing Assistant Certificate

### Program Description

The Nursing Assistant Certificate program prepares students to work as nursing assistants and prepares them to take the state competency exams leading to certification.

**Note:** AHS 114 requires an application with the following documentation: Skin test or chest x-ray negative for TB, or equivalent within 12 months; current DPS fingerprint clearance card; and CPR for the Healthcare Provider. Must be at least 16 years old. **This certificate program is not Financial Aid eligible.**

### Program Contacts

- Program Director: Nancy Bowers (nancy.bowers@yc.edu), telephone: (928) 776-2252
- Instructional Specialist: Petra Bresee (petra.bresee@yc.edu), telephone: (928) 771-6122
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Nursing Assistant Certificate program, the learner will be able to:

1. Apply basic nursing assistant skills safely. (AHS114)
2. Use restorative care skills and emergency procedures safely. (AHS114)
3. Utilize infection control principles and procedures. (AHS114)
4. Identify and report changes in the client's condition. (AHS114)
5. Describe and protect client rights. (AHS114)
6. Assist and promote client independence. (AHS114)
7. Apply the legal and ethical aspects of the nursing assistant role. (AHS114)
8. Employ effective written and verbal communication skills. (AHS114)
9. Adapt to individual client behaviors and needs. (AHS114)
10. Adapt to the unique needs of the client with cognitive impairment. (AHS114)
11. Describe the role of the nursing assistant as a member of the health care team. (AHS114)
12. Explain basic body structure and function. (AHS114)
13. Identify the signs and symptoms of common diseases. (AHS114)

### Program Requirements

A minimum of 5 credit hours is required to complete the Nursing Assistant Certificate.

Course	Course Title	Credit Hours
AHS114	Nursing Assistant	5

## Paralegal Studies - Legal Nurse Certificate

### Program Description

Legal nurses work as part of the legal team in a law office, insurance or healthcare firm and deal with the medical aspects of litigation. Legal nurses may interview clients and witnesses, do medical/legal research, assist in various aspects of discovery, draft pleadings and assist attorneys at trial.

Legal nurses work as part of the legal team in a law office, insurance or healthcare firm and deal with the medical aspects of litigation. Legal nurses may interview clients and witnesses, do medical/legal research, assist in various aspects of discover, draft pleadings and assist attorneys at trial.

**Note:** Candidates for the Legal Nurse certificate program must have already earned a Registered Nurse degree (RN), and have attained a minimum of an associate degree. In addition, candidates for the program must submit a letter from a medical institution offering evidence that 2,000 hours of experience have been completed. The Legal Nurse certificate program is an intensive program of study. Extensive writing, research and critical thinking are required in all the law courses in this certificate program. All courses in this program must be completed with a grade of "C" or better.

### Program Contacts

- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Paralegal Studies - Legal Nurse Certificate program, the learner will be able to:

1. Interview witnesses and interact with clients, conduct medical/legal research, assist in various aspects of discovery, draft legal pleadings and assist attorneys at trial.
2. Identify legal/medical ethical issues and apply the values of professional responsibility.
3. Apply written, oral and interpersonal skills in the legal medical and business settings.
4. Identify and evaluate technology needs and apply and adapt technology as necessary.
5. Use word processing software proficiently and adapt to different types of computer applications.

### Program Requirements

A minimum of 22 credit hours is required to complete the Paralegal Studies - Legal Nurse Certificate.

Course	Course Title	Credit Hours
LAW100	Intro to Paralegal Studies	3
LAW105	Legal Computer Apps	2
LAW207	Intro Legal Nurse Prac/Eth	3
LAW215	Legal Research and Writing I	4
LAW216	Legal Research and Writing II	4
LAW220	Civil Tort Litigation I	3
LAW221	Civil Tort Litigation II	3

## Paralegal Studies - Post Degree Certificate

### Program Description

The Paralegal Studies certificate program is designed to prepare the student who has already earned a baccalaureate degree and is seeking a certificate program in the legal specialty areas required for employment as a paralegal.

Paralegals work under the supervision of an attorney and their work includes preparing legal documents, researching and compiling information, and communicating with clients. Excellent written and oral skills, as well as computer literacy skills, are essential to the paralegal.

### Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Michael Davis (michael.davis@yc.edu), telephone: (928) 717-7938
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Paralegal Studies - Post Degree Certificate program, the learner will be able to:

1. Interview witnesses and interact with clients, conduct investigative work, manage cases, conduct legal research, draft legal pleadings, prepare legal documents and apply legal procedures in areas of real estate, corporate law, probate, mediation, litigation, family law, administrative law, bankruptcy law and criminal law.
2. Apply written, oral and interpersonal skills in the legal and business settings.
3. Identify and evaluate technology needs and apply and adapt required skills to the rapidly changing legal and business community.
4. Proficiently use word processing software and identify and adapt to different types of computer applications.
5. Identify ethical issues and apply the values of professional responsibility.

### Program Requirements

A minimum of 32 credit hours is required to complete the Paralegal Studies - Post Degree Certificate.

Course	Course Title	Credit Hours
LAW100	Intro to Paralegal Studies	3
LAW101	Legal Ethics & Prof Respsnbly	1
LAW105	Legal Computer Apps	2
LAW106	Adv Legal Computer Apps	2
LAW203	Family Law	3
<b>OR</b>		
RES201	Real Estate Law	3
LAW215	Legal Research and Writing I	4
LAW216	Legal Research and Writing II	4
LAW220	Civil Tort Litigation I	3
LAW221	Civil Tort Litigation II	3
LAW296	Internship: Paralegal Studies	3
Select 4 credit hours from the following courses:		
LAW104	Wills, Trusts and Probate	3
LAW201	Criminal Law and Procedure	2
LAW206	Contracts	2
LAW208	Business Organizations	2
LAW295	Special Legal Topics	2
LAW210	Bankruptcy Procedures	2

## Paramedicine Certificate

### Program Description

The Paramedicine certificate program prepares students for direct entry as paramedics in emergency care, stabilization, and immobilization of victims of illness and injury: recognizing and documenting signs and symptoms of illness and injury, intervening, and evaluating the intervention; performing assessment of basic electrocardiograph rhythm identification; administration of oxygen and medications approved by the Arizona Department of Health Services, office of Emergency Medical Services; advanced airway techniques; use of specific immobilization devices, peripheral, interosseus, and central intravenous techniques, defibrillation, synchronized cardioversion, transcutaneous pacing; and preparing for transportation.

**Note:** *Since there is a special admission process for this program, prospective students should contact an academic advisor for detailed information.*

### Program Contacts

- Program Director : Mary Brown (mary.brown@yc.edu), telephone: (928) 776-2255
- Instructional Specialist: Sandra Carney (sandra.carney@yc.edu), telephone: (928) 717-7937
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Paramedicine Certificate program, the learner will be able to:

1. Explain the human anatomy and function of the cells in systemic organs. (EMS 240)
2. Identify the roles, responsibilities, medical, legal and ethical issues that impact decisions within an EMS system. (EMS 241, EMS 242)
3. Perform patient assessments, analyzing medical history, physical exam and/or mechanisms of injury to formulate a patient treatment plan. (EMS 241, EMS 242, EMS 244)
4. Describe standards and guidelines that help ensure safe and effective ground and air medical care and transport for all types of incidents. (EMS 241)
5. Perform all aspects of patient care procedures including communication documentation, administration of medications and readiness of equipment and personnel. (EMS 244, EMS 245, EMS 246)

### Program Requirements

A minimum of 43 credit hours is required to complete the Paramedicine Certificate.

Course	Course Title	Credit Hours
EMS240	Paramedic Anatomy & Physiology	4
EMS241	Paramedicine I	14
EMS242	Paramedicine II	13
EMS244	Paramedicine III	3
EMS245	Paramedicine IV	3
EMS246	Paramedicine V	6

# Pharmacy Technician Certificate

## Program Description

The Pharmacy Technician certificate program prepares the student to perform a wide variety of pharmacy related tasks under the direct supervision of a registered pharmacist, either in an out-patient setting or an inpatient setting. Successful completion of the program will qualify the student to take a National Certification Exam.

**Note:** *Students must be at least 18 years of age prior to the start of the third semester of the program and have a high school diploma or GED; an Arizona Department of Public Safety Fingerprint Clearance Card; TB skin test or chest X-ray specifying absence of tuberculosis; CPR for Healthcare Providers card; immunizations outlined in application; reading proficiency. Admission to program is once yearly in the summer session. An application for the program is available online at [www.yc.edu/pharmacy](http://www.yc.edu/pharmacy).*

## Program Contacts

- Program Director: Nancy Bowers ([nancy.bowers@yc.edu](mailto:nancy.bowers@yc.edu)), telephone: (928) 776-2252
- Instructional Specialist: Petra Bresee ([petra.bresee@yc.edu](mailto:petra.bresee@yc.edu)), telephone: (928) 771-6122
- Dean: Scott Farnsworth ([scott.farnsworth@yc.edu](mailto:scott.farnsworth@yc.edu)), telephone: (928) 776-2234

## Program Outcomes

Upon successful completion of the Pharmacy Technician Certificate program, the learner will be able to:

1. Manage medical records adhering to security and privacy guidelines as outlined in HIPAA regulations. (PHT120)
2. Use communication skills essential for the healthcare provider. (PHT100, PHT120)
3. Identify the relationship between anatomy/physiology, disease states and drugs affecting the respiratory, cardiovascular, renal, nervous, integumentary, endocrine, gastrointestinal, reproductive, ENT systems and over-the-counter drugs. (PHT110, PHT125)
4. Prepare, dispense, package and label drugs. (PHT120, AHS296)
5. Apply technical skills to unit-dose dispensing, non-sterile aseptic techniques, and controlled substance procedures in an inpatient and outpatient setting. (PHT120, AHS296)
6. Calculate drug dosages: oral, parenteral, pediatric and by body surface area. (PHT110, AHS296)
7. Show mastery of content by passing the Pharmacy Technician Certification Board (PTCB) exam. (PHT100, PHT110, PHT120, PHT125, PHT200, AHS296)

## Program Requirements

A minimum of 20 credit hours is required to complete the Pharmacy Technician Certificate.

Course	Course Title	Credit Hours
AHS296	Internship: Allied Health Serv	3
PHT100	Fundamentals of Pharmacy Tech	3
PHT110	Pharmaceutical Calculations	3
PHT120	Pharmacy Practice	4
PHT125	Pharmacology	4
PHT200	Pharmacy Tech Cert Review	3

## Phlebotomy Technician Certificate

### Program Description

The Phlebotomy Technician certificate will prepare students to work as phlebotomists. Upon completing, students will be eligible to take the national phlebotomy certification exam.

**Note:** *This certificate program is not Financial Aid eligible.*

### Program Contacts

- Program Director: Nancy Bowers (nancy.bowers@yc.edu), telephone: (928) 776-2252
- Instructional Specialist: Petra Bresee (petra.bresee@yc.edu), telephone: (928) 771-6122
- Dean: Scott Farnsworth (scott.farnsworth@yc.edu), telephone: (928) 776-2234

### Program Outcomes

Upon successful completion of the Phlebotomy Technician Certificate program, the learner will be able to:

1. Safely collect and process specimens. (AHS 103)
2. Perform basic phlebotomy skills in a working environment. (AHS 296)
3. Manage medical records upholding security and privacy standards as outlined in HIPAA regulations. (AHS 100)

### Program Requirements

A minimum of 9 credit hours is required to complete the Phlebotomy Technician Certificate.

Course	Course Title	Credit Hours
AHS100	Fundamentals of Health Care	3
AHS103	Phlebotomy	3
AHS296	Internship: Allied Health Serv	3

# Photography Certificate

## Program Description

The Photography certificate focuses on proficiency in analog and digital photography skills, basic design skills, and marketing skills to prepare students for entry-level employment in the various photography fields.

Students will develop technical competencies in analog and digital photographic processes.

## Program Contacts

- Instructional Specialist: Michelle Peters (Michelle.Peters@yc.edu), telephone: (928) 776-2035
- Program Director: Laura Bloomenstein (Laura.Bloomenstein@yc.edu), telephone: (928) 776-2039

## Program Outcomes

Upon successful completion of the Photography Certificate program, the learner will be able to:

1. Articulate and use compositional elements of the photographic image. (ART 112, ART 150, ART 151, ART 154, ART 156, ART 157, ART 258)
2. Identify properties of light and their visual impact. (ART 150, ART 151, ART 154, ART 156, ART 157, ART 258)
3. Construct lighting set-ups for various commercial and fine art applications. (ART 150, ART 151, ART 154, ART 156, ART 157, ART 258)
4. Edit images for output in the traditional and digital darkroom. (ART 130, ART 137, ART 150, ART 151, ART 154, ART 156, ART 157, ART 230, ART 237, ART 258)
5. Work independently or as a team to successfully complete photographic projects. (ART 130, ART 137, ART 150, ART 151, ART 154, ART 156, ART 157, ART 230, ART 237, ART 296)
6. Articulate and apply industry standard business practices. (ART 232, BSA 221, SBE 201, SBE 202, SBE 212)
7. Develop creative solutions to visual problems. (ART 112, ART 130, ART 137, ART 150, ART 151, ART 154, ART 156, ART 157, ART 230, ART 232, ART 237, ART 258, ART 296)
8. Identify, analyze, synthesize and communicate design principles. (ART 112, ART 130, ART 137, ART 150, ART 151, ART 154, ART 156, ART 157, ART 230, ART 232, ART 237, ART 258, ART 296)
9. Identify and articulate traditional and non-traditional art examples and how those examples affect popular visual literacy. (ART 112, ART 130, ART 137, ART 150, ART 151, ART 154, ART 156, ART 157, ART 230, ART 232, ART 237, ART 258, ART 296)

## Program Requirements

A minimum of 32 credit hours is required to complete the Photography Certificate.

Course	Course Title	Credit Hours
ART112	Two-Dimensional Design	3
ART137	Adobe Photoshop I	3
ART150	Photography I	3
ART154	Digital Photo I	3
ART156	Photographic Lighting	3
ART157	Digital Photography II	3
ART232	Portfolio Development	2
ART237	Adobe Photoshop II	3
BSA221	Entrepreneurship	3
<b>OR</b>	SBE201 Small Business Entrepreneur	1
<b>AND</b>	SBE202 Small Business Marketing	1
<b>AND</b>	SBE212 Business Plan/Sm Business	1
<b>Select 6 credit hours from the following courses:</b>		
	ART130 Web Site Design I	3
<b>OR</b>	WEB130 Web Site Design I	3
	ART151 Photography II	3
	ART230 Digital Printing Tech	3

Course	Course Title	Credit Hours
ART258	Photographic Lighting II	3
ART296	Internship: Art	3



## Small Business Entrepreneurship Certificate

### Program Description

The Small Business Entrepreneurship certificate is designed to lead to further study. Students completing the certificate will be oriented toward further development of their small business management capabilities, indicated by their own skills, knowledge, and expertise as they develop their business.

**Note: This certificate is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.**

### Program Contacts

- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Small Business Entrepreneurship Certificate program, the learner will be able to:

1. Create and manage a successful small business.
2. Create a marketing plan for a small business.
3. Identify the methods for raising capital for a small business venture.
4. Conduct an advertising campaign for a small business.
5. Create and utilize a small business accounting system.
6. Describe Internet marketing opportunities for a small business.
7. Describe legal issues related to owning and operating a small business.
8. Implement techniques related to success in small business retail and service management.
9. Describe tax issues related to owning and operating a small business management.
10. Prepare to recruit train and retain employees for a small business.
11. Develop a business plan to secure financing for a small business.

### Program Requirements

A minimum of 10 credit hours is required to complete the Small Business Entrepreneurship Certificate.

Course	Course Title	Credit Hours
SBE201	Small Business Entrepreneur	1
SBE202	Small Business Marketing	1
SBE203	Small Business Acct Principles	1
SBE204	Small Business Acc Systems	1
SBE205	Small Business Finance	1
SBE207	Internet Mktg for Sm Business	1
SBE208	Small Business Legal Issue	1
SBE209	Small Business Tax Issues	1
SBE210	Customer Service Sm Business	1
SBE212	Business Plan/Sm Business	1

## Social and Human Services Certificate

### Program Description

The Social and Human Services certificate is designed to prepare students to work in health and social service agencies as well as provide a core of courses which directly apply to the Associate of Applied Science degree in Social and Human Services.

### Program Contacts

- Instructional Specialist: Holly Molina (holly.molina@yc.edu), telephone: (928) 776-2295
- Program Director: Al Garbagnati (al.garbagnati@yc.edu), telephone: (928) 771-4852
- Dean: Jill Fitzgerald (jill.fitzgerald@yc.edu), telephone: (928) 776-2277

### Program Outcomes

Upon successful completion of the Social and Human Services Certificate program, the learner will be able to:

1. Describe the history and policies of the current social welfare delivery system. (SOC 220)
2. Apply interpersonal and clinical counseling skills with clients in the therapeutic process. (PSY 175, PSY 275)
3. Utilize crisis and trauma counseling skills and intervention strategies. (PSY 262)
4. Employ case management techniques to identify and resolve client problems. (PSY 220)
5. Discuss the impact of psychological and substance abuse. (PSY 101, PSY 175, PSY 241)
6. Identify legal and ethical issues as they apply to social and human services. (PSY 220, PSY 296)
7. Provide intervention services within local community social and human service agencies. (PSY 296)
8. Write concise clinical notes and reports. (ENG 101, ENG 103 or ENG 136)

### Program Requirements

A minimum of 24 credit hours is required to complete the Social and Human Services Certificate.

	Course	Course Title	Credit Hours
	ENG101	College Composition I	3
<b>OR</b>	ENG103	College Composition I Honors	3
<b>OR</b>	ENG136	Technical Writing	3
	PSY101	Introductory Psychology	3
	PSY175	Counseling Skills	3
	PSY220	Social Service Case Management	3
	PSY262	Crisis and Trauma Intervention	3
	PSY275	Group Skills and Processes	3
	SOC220	Intro to Social Work	3
	PSY296	Internship: Psychology	3

# Video Game Developer Certificate

## Program Description

The Video Game Developer certificate focuses on providing students with skills in high level object oriented programming. Applications used for skill development are 2-D and 3-D video game applications for use on PCs, MACs, Smartphones, the Web, and commercial video game consoles.

## Program Contacts

- Program Director: Ruth Alsobrook-Hurich (ruth.alsobrook@yc.edu), telephone: (928) 776-2076
- Dean: Stacey Hilton (stacey.hilton@yc.edu), telephone: (928) 717-7775

## Program Outcomes

Upon successful completion of the Video Game Developer Certificate program, the learner will be able to:

1. Use professional programming development environment (IDE) tools to create and test object oriented programs. (VGD171, VGD172, VGD122)
2. Apply refined programming concepts to game structure and assets to create a functional 3D Video game. (VGD121, 122, VGD172)
3. Create code that incorporates elementary artificial intelligence into game coding. (VGD122, VGD172)
4. Create video games suitable for use in instructional settings. (VGD122)
5. Create games for use on Smartphones and the Web. (VGD121, VGD122)
6. Use professional quality software tools to create object models for use in 3D video games. (VGD151, VGD152)

## Program Requirements

A minimum of 18 credit hours is required to complete the Video Game Developer Certificate.

Course	Course Title	Credit Hours
VGD121	Vid Game Dev/Game Engines I	3
VGD122	Vid Game Dev/Game Engines II	3
VGD151	3D Modeling and Animation I	3
VGD152	3D Modeling and Animation II	3
VGD171	Video Game Development I	3
VGD172	Video Game Development II	3

## Viticulture Certificate

### Program Description

The Viticulture certificate is designed to prepare individuals for various careers in the grape growing industry. Classroom instruction, laboratory and field applications of viticultural principles and practices are included in the program of study.

### Program Contacts

- Executive Dean: James Perey (james.perey@yc.edu), telephone: (928) 634-6513
- Interm Associate Dean: Barb Waak (Barb.Waak@yc.edu), telephone: (928) 634-6560
- Enology Director: Michael Pierce (michael.pierce@yc.edu), telephone: (928) 634-6586
- Viticulture Director: Nikki Bagley (nikki.check@yc.edu), telephone: (928) 634-6576
- Instructional Specialist: Teresa Schwickerath (teresa.schwickerath@yc.edu), telephone: (928) 634-6575
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

### Program Outcomes

Upon successful completion of the Viticulture Certificate program, the learner will be able to:

1. Evaluate, design and develop a site for vinefera production. (VEN 100, VEN 101)
2. Schedule and perform necessary seasonal vineyard operations for production of wine grapes. (VEN 102, VEN 195)
3. Analyze and maintain crop health. (AGS 105, AGS 107, AGS 274, VEN 100, VEN 102, VEN 195)
4. Grow wine grapes. (VEN 100, VEN 101, VEN 102, VEN 195)

### Program Requirements

A minimum of 24 credit hours is required to complete the Viticulture Certificate.

Course	Course Title	Credit Hours
AGS105	Soils	3
AGS107	Entomology	3
AGS274	Water Management	3
VEN100	Introduction to Viticulture	3
VEN101	Establishing Vinifera Vineyard	3
VEN102	Maintain Vinifera Vineyard	3
VEN195V	Viticulture Practicum	2

# Welding Certificate

## Program Description

The Welding certificate prepares students for employment in welding positions requiring competencies in oxyacetylene and arc welding. For those already employed in welding occupations, coursework also may upgrade skills and assist in career advancement.

## Program Contacts

- Professor: Robert Smith (robert.smith@yc.edu)
- Dean: John Morgan (john.morgan@yc.edu), telephone: (928) 717-7721

## Program Outcomes

Upon successful completion of the Welding Certificate program, the learner will be able to:

1. Practice welding safety techniques. (WLD 130, WLD 140, WLD 145, WLD200, WLD 210, WLD 250, WLD 255, WLD 282)
2. Use mastery skills for oxyacetylene cutting brazing and welding. (WLD 130)
3. Use mastery skills for ARC, TIG, MIG and pipe welding. (WLD 140, WLD 145, WLD 200, WLD 210, WLD 250, WLD 255)
4. Read interpret and use blueprints including special symbols specifically related to welding tasks. (WLD 156, WLD 250, WLD 255)

## Program Requirements

A minimum of 31 credit hours is required to complete the Welding Certificate.

Course	Course Title	Credit Hours
WLD130	Oxyacetylene	4
WLD140	Arc I	4
WLD145	Arc II	4
WLD156	Blueprint Reading	4
WLD200	Tig I	4
WLD210	Gas Metal Arc Welding	4
WLD250	Welded Metal Fabrication	4
<b>OR</b>		
WLD255	Adv Proj Welded Metal Fab	3
WLD282	Pipe Welding I	4

# Windows Server Administrator Certificate

## Program Description

The Windows Server Administrator certificate program is designed to prepare students to manage a Windows server and network infrastructure. Students acquire skills in directory services, server configuration, and network services. Students are prepared for server administrator and support positions. Prepares students for the MCITP: Server Administrator certification.

## Program Contacts

- Dean: Stacey Hilton (stacey.hilton@yc.edu), telephone: (928) 717-7775

## Program Outcomes

Upon successful completion of the Windows Server Administrator Certificate program, the learner will be able to:

1. Describe and configure the hardware and software used in a small- to medium-sized computer network. (CNT 100)
2. Discuss the methods and operation of local and wide area networks. (CNT 115)
3. Perform administrative and troubleshooting tasks on Windows server operating systems. (CNT 120)
4. Manage and maintain a Microsoft Windows Server Active Directory environment. (CNT 122)
5. Manage and support a Microsoft Windows Server network infrastructure. (CNT 123)
6. Plan and manage a Windows server infrastructure in an enterprise environment. (CNT 220)

## Program Requirements

A minimum of 20 credit hours is required to complete the Windows Server Administrator Certificate.

Course	Course Title	Credit Hours
CNT100	Intro to Computer Networking	3
CNT115	Network+: Networking Tech Cert	4
CNT120	Intro to Windows Server	3
CNT122	Windows Server I	4
CNT123	Windows Server II	3
CNT220	Windows Server Adm	3

# Course Outlines

Fall 2013  
Mar 26, 2017



Official Yavapai College Course Outlines listed below.

#### **ACC 106F - Quickbooks Basics**

##### **COURSE DESCRIPTION:**

ACC 106F. QuickBooks Basics (.5). Use of QuickBooks Basics to perform the basic accounting operations needed in operating a small business. Operations will include cash and credit sales, basic inventory management, basic payroll, and preparation of end of period reports. One lab.

##### **COURSE CONTENT:**

1. Introduction to QuickBooks
2. Setting up a chart of accounts
3. Entering cash and/or credit sales
4. Processing customer payments, returns, and credits
5. Working with account payable transactions including a vendor list
6. Tracking credit card charges and payment
7. Processing a basic payroll
8. Bank account reconciliation
9. Setting up and tracking an inventory
10. Preparing list, register, summary, and transaction reports
11. Record cash and credit sales

##### **LEARNING OUTCOMES:**

1. Record payments from customers and apply the payments to the proper account.
2. Process customer returns and credits.
3. Print customer statements.
4. Set up a vendor list.
5. Manage account payable transactions.
6. Track credit card charges and payments.
7. Process payroll using QuickBooks payroll.
8. Reconcile company bank accounts.
9. Set up inventory parts and handle transactions involving them.
10. Prepare list, register, summary, and transaction reports.

0.500 Credit hours  
0.000 Lecture hours  
1.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Business & Computer ScienceOBS Division  
Accounting Department

#### **ACC 115 - Basic Tax Planning**

##### **COURSE DESCRIPTION:**

ACC 115. Basic Tax Planning (3). Techniques of federal individual, partnership and corporation income tax preparation. Emphasis on tax return preparation, with review of individual income tax law and applications of that law to tax return forms. Three lecture.

##### **COURSE CONTENT:**

1. The individual income tax return
2. Gross income and exclusions
3. Adjustments to income and employee expenses
4. Itemized deductions
5. Credits and special taxes
6. Self-employment income
7. Accounting periods, methods and depreciation
8. Capital gains and losses
9. Withholding, estimated payments, and payroll taxes
10. Partnership taxation
11. Corporate taxation
12. Tax planning

##### **LEARNING OUTCOMES:**

1. Identify and discuss basic individual income tax law and individual income tax planning issues.
2. Complete Federal individual income tax returns of moderate complexity.
3. Compute withholding and complete simple employment tax forms.
4. Complete simple federal partnership tax returns and related schedules.
5. Complete simple federal corporate tax returns and related schedules.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Accounting Department

#### **ACC 116 - Advanced Tax Planning and Preparation**

##### **COURSE DESCRIPTION:**

ACC 116. Advanced Tax Planning and Preparation (4) (Spring). Advanced study in individual, corporate, and partnership taxation. Prerequisite: ACC 115. Four lecture.

##### **COURSE CONTENT:**

1. Individual component:



- a. Review of basic tax planning concepts
  - b. Identifying active, investment, and passive types of income
  - c. Tax deferred and tax free transactions
  - d. Capital and 4797 transactions
  - e. Carryover and transition items
  - f. Tax planning considerations
2. Corporate component:
    - a. Structure of the corporate tax system
    - b. Tax planning considerations
  3. Partnership component:
    - a. Structure of the partnership tax system
    - b. Tax planning considerations

**LEARNING OUTCOMES:**

1. Solve individual income tax problems of moderate to advanced complexity.
2. Demonstrate knowledge of moderate to advanced individual income tax planning issues.
3. Solve problems of basic to moderate complexity involving C corporations, S corporations, and partnerships.
4. Demonstrate knowledge of basic to moderate C corporation, S corporation, and partnership tax planning issues.
5. Prepare individual, corporate, and partnership tax returns using a personal computer.

4.000 Credit hours  
 4.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Accounting Department

**ACC 121 - Introductory Accounting****COURSE DESCRIPTION:**

ACC 121. Introductory Accounting (3). General ledger bookkeeping and preparing financial statements. Three lecture.

**COURSE CONTENT:**

1. Analyzing and recording transactions: general journal and general ledger
2. Trial balance and adjusting entries
3. Financial statements
4. Closing entries and post-closing trial balance
5. The accounting cycle for a merchandising concern - periodic inventory method
6. Cash accounting and banking procedures
7. Sales and cash receipts
8. Purchases and cash payments
9. Ethics in accounting

**LEARNING OUTCOMES:**

1. Use generally accepted accounting principles to perform general ledger bookkeeping for a service business. (1, 2, 4, 6)
2. Analyze and record financial transactions into a general ledger bookkeeping system for a merchandising concern. (5-8)
3. Prepare general-purpose financial statements for service and merchandising concerns. (3, 5)
4. Prepare a bank reconciliation report. (6)
5. Appraise financial scenarios for ethical concerns. (9)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Accounting Department

**ACC 122 - Payroll Accounting****COURSE DESCRIPTION:**

ACC 122. Payroll Accounting (3). Payroll functions for a business including timekeeping techniques, payroll accounting records, check writing, preparation of federal and state payroll reports, insurance reports, and retirement plan reports. Manual recordkeeping and report submission as well as computerized payroll will be covered. Prerequisite: ACC 121. Three lecture.

**COURSE CONTENT:**

1. Payroll laws and regulations
2. New employee records
3. Time and work records
4. Human Resources and payroll accounting systems
5. Determining gross earnings
6. Determining payroll deductions
7. The payroll register
8. Employee earnings records
9. Paying the payroll
10. Self-employment taxes
11. Federal payroll taxes and tax returns
12. State payroll taxes and tax returns
13. Analyzing and Journalizing payroll transactions
14. Payroll accounting for retirement plans
15. Social Security benefits
16. Electronic Filing
17. The use of Microsoft Excel in payroll applications
18. Computerized payroll accounting

**LEARNING OUTCOMES:**

1. Prepare a business's weekly, biweekly, semi-monthly, and monthly payroll and reports. (1-10, 12-15)
2. Prepare both state and federal government tax reports. (10-15)
3. Use a computerized system to prepare a business's payroll and tax reports. (12-14 16, 18)
4. Use Microsoft Excel in various payroll applications. (17,18)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours


Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Accounting Department

### ACC 131 - Principles of Accounting I

#### COURSE DESCRIPTION:

ACC 131. Principles of Accounting I (3).  ACC 2201. Principles and procedures of accrual accounting applied to preparation and interpretation of general purpose financial statements. Prerequisite: ACC 121 or assessment into MAT 212. Three lecture.

#### COURSE CONTENT:

1. The accounting cycle
2. Accounting for merchandising operations
3. Inventories and cost of sales-- perpetual inventory method
4. Cash and internal controls
5. Accounting for receivables
6. Plant assets, natural resources, and intangibles
7. Current liabilities and payroll accounting
8. Accounting for corporations
9. Long-term liabilities
10. Reporting the Statement of Cash Flows
11. Financial statement interpretation and analysis
12. Ethics in business and accounting

#### LEARNING OUTCOMES:

1. Identify and apply generally accepted accounting principles. (1-11)
2. Perform general ledger bookkeeping for service and merchandising concerns. (1-4)
3. Perform advanced general ledger bookkeeping for sole proprietorships and corporations. (5-9)
4. Prepare and interpret financial statements for sole proprietorships and corporations. (1, 2, 10, 11)
5. Define and assess financial scenarios for ethical concerns. (12)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours  
0.000 Other hours

Levels: Credit

Schedule Types: Additional Activity, Lecture


Business & Computer ScienceOBS Division  
Accounting Department

#### Course Attributes:

SUN# ACC 2201

### ACC 132 - Principles of Accounting II

#### COURSE DESCRIPTION:

ACC 132. Principles of Accounting II (3).  ACC 2202. Fundamentals of managerial accounting with an emphasis on cost accounting, budgeting, and managerial decision-making. Prerequisite: ACC 131. Three lecture.

#### COURSE CONTENT:

1. Accounting for partnerships
2. Managerial accounting principles and concepts
3. Job order cost accounting
4. Process cost accounting
5. Cost allocation and performance measurement
6. Cost-volume-profit analysis
7. Master budgets and planning
8. Flexible budgets and standard costs
9. Capital budgeting and managerial decisions
10. Ethics in business and accounting

#### LEARNING OUTCOMES:

1. Perform advanced general ledger bookkeeping for partnerships. (1)
2. Identify and apply cost accounting principles and procedures. (2-5)
3. Prepare and interpret a variety of managerial cost accounting reports. (2- 5)
4. Prepare and analyze budget scenarios. (2, 5-9)
5. Use a variety of managerial decision-making tools to recommend profit-maximizing business strategies. (2, 6, 9)
6. Appraise financial scenarios for ethical concerns. (10)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Accounting Department

#### Course Attributes:

SUN# ACC 2202

**ACC 161 - Computer Accounting with QuickBooks****COURSE DESCRIPTION:**

ACC 161. Computer Accounting with QuickBooks (2). Use of QuickBooks for general ledger bookkeeping and personal finance. Emphasis on solving advanced accounting simulations. Prerequisite: ACC 121 or ACC 131. One lecture. Three lab.

**COURSE CONTENT:**

1. Tour of QuickBooks
2. Customizing QuickBooks and the chart of accounts
3. Banking
4. Customers and sales
5. Vendors, purchases and inventory
6. Employees and payroll
7. Reports and graphs
8. New company setup
9. Accounting for a service company
10. Merchandising
11. Advanced QuickBooks features for accountants

**LEARNING OUTCOMES:**

1. Navigate and customize QuickBooks. (1,2,8,9)
2. Complete standard accounting functions using QuickBooks accounting software. (1,2,7-9,11)
3. Process banking, payroll, accounts receivable, accounts payable and reports using QuickBooks. (3-7,9,11)
4. Use QuickBooks for merchandising functions. (4,10,11)

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
Accounting Department

**ACC 162 - Microsoft Excel and Access in Accounting Applications****COURSE DESCRIPTION:**

ACC 162. Microsoft Excel and Access in Accounting Applications (3). Use of the spreadsheet software Microsoft Excel and the database software Microsoft Access in the analysis of financial data and generating accounting reports. Three lecture.

**COURSE CONTENT:**

1. Excel financial statements
2. Excel depreciation charts
3. Excel amortization schedules
4. Excel budgets
5. Graphs in Excel
6. Access tables
7. Access queries
8. Access forms
9. Access reports

**LEARNING OUTCOMES:**

1. Analyze financial statements using Excel functions and formulas. (1)
2. Use Excel to complete straight line, double-declining, and sum of the year's digits depreciation schedules. (2)
3. Produce amortization schedules with Excel. (3)
4. Develop budgets and forecasts using Excel. (4)
5. Design, save, and print graphs in Excel. (5)
6. Develop and modify Access tables to organize financial data. (6)
7. Extract data using Access queries. (7)
8. Create Access forms to facilitate user input of financial information into a database. (8)
9. Create, modify, save, and print Access reports. (9)

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, [Lecture](#), Lecture/Lab

Business & Computer ScienceOBS Division  
Accounting Department

**Course Attributes:**  
Quantitative Lit (QL)

**ACC 217 - Uses of Financial Information****COURSE DESCRIPTION:**

ACC 217. Uses of Financial Information (3) (Spring). Financial statements used by managers, owners, lenders, and other stakeholders in publicly-held corporations. Emphasis on valuation and related economic consequences. Prerequisite: ACC 132 (May be taken concurrently). Three lecture.

**COURSE CONTENT:**

1. Financial statements
2. Accounting process
3. Income measurement & reporting
4. Measuring cash flow
5. Valuing receivables, inventories, and plant assets
6. Liability recognition and disclosure
7. Stockholder's equity, residual valuation
8. Valuation analysis

## 9. Formal comprehensive corporate analysis report

## LEARNING OUTCOMES:

1. Apply the fundamental concepts of Financial Statement Analysis. (1,2,4-9)
2. Analyze and identify uses of the Balance Sheet. (1,2,5,6,8)
3. Analyze and identify uses of the Income Statement. (1-4,7,8)
4. Analyze and identify uses of the Statement of Cash Flows (4,8,9)
5. Identify valuation issues as they apply to historical financial statements. (7,8,9)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Accounting Department

**ACC 231 - Intermediate Accounting I**

## COURSE DESCRIPTION:

ACC 231. Intermediate Accounting I (4) . Financial accounting topics, including generally accepted accounting principles application, as well as rationale and clarification of the reasons for specific accounting principles. Includes analysis and use of balance sheets, cash and receivables, inventories, and temporary and long-term investments. Prerequisite: ACC 131. Four lecture.

## COURSE CONTENT:

1. Financial accounting and accounting standards
2. Conceptual framework underlying financial accounting
3. Accounting information systems
4. Income statements and reporting issues
5. Balance sheet and statement of cash flows
6. Cash and receivables
7. Inventories
8. Tangible fixed assets
9. Depreciation, impairments and depletion
10. Intangible assets and natural resources

## LEARNING OUTCOMES:

1. Apply the foundations of accounting theory and practices to solve problems and case studies of moderate to advanced complexity. (1-10)
2. Prepare financial reports in problems and case studies of moderate to advanced complexity. (3-6)
3. Use mathematical principles and applications for calculations related to the time value of money. (5)
4. Analyze and manage cash and temporary investments. (6,7)
5. Solve problems involving accounts receivables in case studies of moderate to advanced complexity. (6,7)
6. Analyze and solve inventory accounting problems of moderate to advanced complexity. (7-10)
7. Calculate, control and record long-term investment transactions. (9)
8. Determine acquisition price, useful life, and methods of cost allocation of tangible and intangible assets. (8-10)
9. Solve problems of moderate to advanced complexity related to the acquisition, utilization and retirement of tangible and intangible assets. (8-10)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Accounting Department

Course Attributes:  
Creative Thinking (CR)

**ACC 296 - Internship: Accounting**

## COURSE DESCRIPTION:

ACC 296. Internship: Accounting (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

## COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

## LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Internship

Business & Computer ScienceOBS Division  
Accounting Department

**Course Attributes:**  
Civic Engagement (CE)

### **ACC 299 - Independent Study Accounting**

**COURSE DESCRIPTION:**

ACC 299. Independent Study Accounting (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Business & Computer ScienceOBS Division  
Accounting Department

### **AGE 100 - Introductory Equine Science**

**COURSE DESCRIPTION:**

AGE 100. Introductory Equine Science (4). Introduction to horses as they relate to humans including history and development, adaptation, basic anatomy, types and classes, breeds, and horsemanship. Four lecture.

**COURSE CONTENT:**

1. History and development of the horse industry
2. Selecting and judging horses
3. Functional anatomy
4. Physiology
5. Types, classes, and breeds of horses
6. Buildings and equipment
7. Horsemanship
8. Management

**LEARNING OUTCOMES:**

1. Explain the history and development of the horse and horse industry. (1, 5)
2. Identify the status and future of the horse industry and its role in the global economy. (1, 8)
3. Categorize breeds, types, and classes of horses along with selection and conformation. (3-5)
4. Describe functional anatomy and physiology of the horse. (3, 4)
5. Investigate basic reproduction and breeding practices. (2-5)
6. Explain digestion and nutrition. (3, 4)
7. Establish appropriate feed programs for several types of horses. (3-5)
8. Identify common equine management practices. (5, 6, 8)
9. Identify appropriate facilities for safe horse keeping. (6, 8)
10. Review horse behavior and its relationship to training. (4, 7)
11. Describe necessary skills for safe horsemanship and equitation. (7)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Career & Technical Education Division  
Agriculture Science Department

### **AGE 101 - Fundamentals of Riding**

**COURSE DESCRIPTION:**

AGE101 Fundamentals of Riding (2). Basics in pre-ride preparation, tacking, mounting, controlling and directing a horse at the walk and trot. Emphasis on safety, fundamental patterns, and smooth transitions. Includes exercises to develop focus, feel and balance to create fluid synchronization between horse and rider. One lecture. Two lab. Horse ownership required.

**COURSE CONTENT:**

1. Safety
2. Grooming
3. Tack
4. Warm Up
5. Mounting and Dismounting
6. Riding Aids
7. Walk, Trot, Halt, Back
8. Cool Down

**LEARNING OUTCOMES:**

1. Apply safety procedures while handling and riding horses. (1 – 8)
2. Groom a horse. (2)
3. Distinguish styles, fit and condition of tack. (3)
4. Tack a horse. (3)
5. Prepare a horse for riding. (1 - 4)
6. Mount and dismount safely. (1, 5)
7. Develop effective use of riding aids of legs, seat, hands and voice. (1, 6)
8. Perform transitions between the walk, trot, halt and back. (1, 7)
9. Apply focus, feel and balance methods while riding. (1, 6, 7)
10. Perform cool-down exercises. (1, 8)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Agriculture Science Department

**[AGE 111 - Equine Massage and Alternative Therapies](#)****COURSE DESCRIPTION:**

AGE 111. Equine Massage and Alternative Therapies (3) (Fall). Identifying the muscles of the horse for alternative therapy. Includes musculoskeletal anatomy, bony landmarks, pressure points, and veterinary vocabulary. Use the Equiken system to identify the musculoskeletal system. Three lecture.

**COURSE CONTENT:**

1. Deep layer muscles
2. Skeletal structure
3. Superficial muscles
4. Skeletal structure
5. Myofascial release
6. Veterinary vocabulary

**LEARNING OUTCOMES:**

1. Massage deep layer muscles of a horse.
2. Identify the skeletal structure directly on the horse.
3. Identify the superficial muscles on the horse.
4. Explain the functions of the skeletal muscles.
5. Apply basic myofascial release techniques to a horse.
6. Using the Equiken model, identify the musculoskeletal system of a horse.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

**[AGE 125 - Equine Behavior and Psychology](#)****COURSE DESCRIPTION:**

AGE125. Equine Behavior and Psychology (3) (Fall). Exploration of how and why horses behave the way they do. Developmental timelines, perception, learning, social organization, and play. Includes observation and discussion of the elements that cultivate the horse/human connection. Three lecture.

**COURSE CONTENT:**

1. Horse behavior
2. The 'physical' horse
3. Horse/human connection

**LEARNING OUTCOMES:**

1. Distinguish between the various life-stage characteristics and behaviors of horses through developmental timelines. (1)
2. Describe horses' senses and their role in behavior. (1)
3. Explain how horses learn. (1,2)
4. Describe the differences between domestic and natural behavior. (1)
5. Report the elements of the physical horse that affect behavior. (1,2)
6. Structure behavior reinforcement/modification plans for various temperaments and situations. (1-3)
7. Discuss methods and activities to cultivate the horse/human connection. (1,3)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Agriculture Science Department

#### [AGE 140 - Equine Hoof Care](#)

**COURSE DESCRIPTION:**

AGE 140. Equine Hoof Care (3). Basic anatomy and physiology of the legs and feet, equine conformation, basic horseshoeing, and trimming. Evaluating proper horseshoeing Three lecture.

**COURSE CONTENT:**

1. Anatomy of the lower limbs
2. Physiology of the lower limbs
3. Trimming
4. Shoeing
5. Equipment

**LEARNING OUTCOMES:**

1. Identify the parts of the legs and feet of a horse. (1)
2. Explain the locomotion of the legs and feet. (1)
3. Diagnose injury and disease of the legs and feet.(1)
4. Describe proper horse conformation. (1, 2)
5. Measure and trim a foot. (3,4)
6. Prepare a shoe for fitting. (5)
7. Identify equipment by name, use and purpose. (5)
8. Assess a horse for balance, soundness and performance. (3,4)
9. Evaluate proper trimming and horseshoeing (3,4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, [Lecture](#), Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

#### [AGE 141 - Basic Horseshoeing](#)

**COURSE DESCRIPTION:**

AGE 141. Basic Horseshoeing (1). Shoeing techniques including keg shoe modification, hot shoeing, treating disease and injury, and corrective shoeing. Prerequisite: AGE 140. Two lab.

**COURSE CONTENT:**

1. Bones and joints of the lower limb
2. Disease and injury
3. Gaits
4. Movement problems
5. Keg shoe modification

**LEARNING OUTCOMES:**

1. Describe the suspensory apparatus and its impact on the hoof and leg when shoeing. (3,4)
2. Identify and list scientific names, definitions, functions, origin, and insertion of all tendons and major ligaments of the lower limbs. (3,1)
3. Determine anatomy involved and possible causes of the following conditions: lameness. (4 1,2,5)
4. Outline factors in identifying the affected limb and locating lameness. (4,2)
5. Identify the four basic gaits: walk, trot, pace, and canter. (5,3,4)
6. Identify contributing causes of gait faults. (1,5)
7. Apply structural modifications to horseshoes. (5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

#### [AGE 152 - Fitness for the Horse and Rider](#)

**COURSE DESCRIPTION:**

AGE 152. Fitness for the Horse and Rider (2). Emphasis on a relaxed, supple horse and a centered, balanced rider with a secure seat. Includes yoga and Pilates exercises for the rider on a mat and in saddle. Flexibility and strengthening exercises for the horse through ground work, passive stretching and under saddle. Horse ownership required. One lecture. Two lab.

**COURSE CONTENT:**

1. Stretching, core strengthening and balance exercises for horse and rider
2. Breathing exercises for the rider
3. Horse and rider weight distribution
4. Group activities and maneuvering course obstacles

**LEARNING OUTCOMES:**

1. Use stretching, core strengthening and balance exercises on the ground and in saddle. (1, 2, 4)
2. Explain and utilize breathing techniques of the rider that influence relaxation and transitions at various gaits. (2, 3)
3. Balance the weight distribution of horse and rider for smooth transitions. (1, 3, 4)
4. Maneuver course obstacles in saddle applying fitness principles. (1 - 4)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

#### AGE 154 - Making Rope Halters & Other Horse-Handling Equipment

**COURSE DESCRIPTION:**

AGE 154. Making Rope Halters & Other Horse-Handling Equipment (1). Basic knot tying and rope splicing principles to make custom rope halters, bridles, reins and lead ropes for horses, mules, llamas, etc. Includes basics of creating a home-based business using this craft. Two lab.

**COURSE CONTENT:**

1. Basic knot tying for horsemen
2. Material selection
3. Principles, procedures and techniques for constructing rope halters, bridles, reins and lead ropes
4. Measuring animals for custom-fit halters and bridles
5. Creating a home-based business making rope horse-handling equipment

**LEARNING OUTCOMES:**

1. Identify and tie five common knots used by horsemen. (1)
2. Identify and select materials used in making horse-handling equipment. (2)
3. Construct eye splices and back splices on lead ropes and reins. (2,3)
4. Chart measurements for custom-sized rope halters and bridles. (3,4)
5. Construct custom rope halters, bridles, reins and lead ropes. (1-4)
6. Identify and explain: wholesale sourcing of materials, product assembly, resale pricing and marketing strategies. (5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture

Career & Technical Education Division  
Agriculture Science Department

#### AGE 155 - Equine Driving

**COURSE DESCRIPTION:**

AGE 155. Equine Driving (1). Principles of driving horses. Emphasis on picking the right horse, harness use and function, vehicle maintenance, styles of driving, training requirements, and competitions. Emphasis on horse and driver safety. Three lab.

**COURSE CONTENT:**

1. Picking the right horse
2. Harness types
3. Vehicles
4. Safety
5. Ground Work
6. Hitching
7. Training Problems
8. Reinsmanship
9. Pairs and Teams
10. Caring for harness and carriage
11. Competitions

**LEARNING OUTCOMES:**

1. Identify the parts of the harness.
2. Distinguish between the styles of harnesses and their functions.
3. Identify basic vehicle parts.
4. Fit a harness on the horse using approved safety measures.
5. Clean and maintain a vehicle for safety.
6. Categorize the training steps needed to start a horse driving.
7. Manage a horse on a long-line.
8. Describe the different gaits and how to get them.
9. Critique the common faults and training problems that develop.
10. Remove wheel and grease bearings.
11. Fit a horse to vehicle properly.
12. Identify the various competitions available to drivers.
13. Complete basic repairs to the harness.
14. Explain the difference between pairs and teams.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Career & Technical Education Division  
Agriculture Science Department

#### AGE 201 - Advanced Riding Methods

**COURSE DESCRIPTION:**

AGE 201. Advanced Riding Methods (2). Advanced riding skills for any discipline. Emphasis on safety, tack, grooming, horsemanship, and applicable gaits for various breeds. Focus on balance, control, posting, transitions, lateral work, training patterns and basic trail obstacles. One lecture. Two lab. Horse ownership required or lease option available; contact instructor. Prerequisite: AGE 101.

**COURSE CONTENT:**

1. Safety and etiquette
2. Grooming and saddling
3. Contact and control



4. Aids
5. Walk, trot/jog or gait, and canter/lope
6. Transitions
7. Lateral work
8. Patterns and basic trail obstacles

## LEARNING OUTCOMES:

1. Apply safety rules when engaging a horse. (1,2)
2. Apply show ring etiquette in events. (1,2)
3. Identify and fit the tack used in English and Western riding. (2)
4. Use correct seat and aids for specific styles of riding. (1,3,4)
5. Present a horse in a walk, jog/posting trot or alternative gait and canter/lope. (3-7)
6. Present transitions through the gaits. (3-6)
7. Turn a horse on forehand and haunch – half and side pass. (1,3-7)
8. Ride a horse through patterns including figure eight and serpentine. (1,3-8)
9. Navigate basic trail obstacles (1-8)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

**AGE 220 - Principles of Horse Nutrition, Health, and First Aid**

## COURSE DESCRIPTION:

AGE 220. Principles of Horse Nutrition, Health, and First Aid (3) (Fall). Principles of horse nutrition and horse health. Emphasis on identifying potential problems associated with health and nutrition. Includes relationship of nutrition and health to horse breeding and methods of communicating with health care practitioners. Prerequisite: AGE 100. Three Lecture.

## COURSE CONTENT:

1. Functions of feeds
2. Nutrient needs
3. Vaccinations and disease control
4. Diseases and ailments
5. Vital signs
6. First aid, orthopedic emergencies and postoperative care
7. Poisonous plants

## LEARNING OUTCOMES:

1. Describe what constitutes good health in a horse. (4,5)
2. Describe the digestive track of a horse. (2)
3. Explain equine nutritional requirements. (1,2)
4. Identify feed management practices for several types of horses. (1,2)
5. Describe horse physiology. (1-7)
6. Explain necessary nutrition and health for equine reproduction. (2,3,5)
7. Describe diseases and disorders related to nutrition, reproduction, and body systems. (3-5)
8. Summarize first aid procedures for medical emergencies. (6)
9. Identify and discuss the effects of poisonous plants. (5,6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

**AGE 230 - Facilities Management and Special Events**

## COURSE DESCRIPTION:

AGE 230. Facilities Management and Special Events (2) (Fall). Aspects of managing boarding and training operations and special events. Includes buildings and equipment, local building codes, budgets, advertising and promotion, fences, and insurance for the welfare of the horse. Two lecture.

## COURSE CONTENT:

1. Managing a facility
2. Planning an equine event

## LEARNING OUTCOMES:

1. Design facilities for various types of equine pursuits. (1)
2. Identify steps in the planning stages of an equine business and equine event. (1,2)
3. Analyze budgets for different types of equine businesses and events. (1,2)
4. List local codes, permits, insurance and legal requirements for an equine business and equine events. (1,2)
5. Construct marketing material for an equine business and equine event. (1,2)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

**AGE 260 - Ground Skills and Training Techniques in Horsemanship**

**COURSE DESCRIPTION:**

AGE 260. Ground Skills and Training Techniques in Horsemanship (3) (Spring). Ground skills necessary for safety, control and cooperation with horses. Various training philosophies as well as methodologies involved in preparing individuals to train their own horse. Includes hands-on sessions with horses to build ground manners for liberty and riding. Personal horses welcome but not required. Two lecture. Two lab.

**COURSE CONTENT:**

1. Ground skills and handling safety
2. The language of the horse
3. Renowned horsemen past and present
4. Training basics
5. Common problems and their solutions

**LEARNING OUTCOMES:**

1. Handle a horse with control and safety. (1)
2. Interpret the language of the horse and related behavior. (2)
3. Compare and discuss similarities and differences in training methods of renowned horsemen. (3, 4)
4. Explain and implement methods for developing a working foundation with a horse. (1 – 5)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Agriculture Science Department

**[AGE 296 - Internship: Equine](#)****COURSE DESCRIPTION:**

AGE 296. Internship: Equine (3) (Fall). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Career & Technical Education Division  
Agriculture Science Department

**[AGE 299 - Independent Study Agriculture Science Equine](#)****COURSE DESCRIPTION:**

AGE 299. Independent Study Agriculture Science Equine (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal

skills; initiative and follow-through.

6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.

7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours

0.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Career & Technical Education Division

Agriculture Science Department

### **AGS 101 - Microcomputers in Agriculture**

**COURSE DESCRIPTION:**

AGS 101. Microcomputers in Agriculture (3) (Fall). Use of Microsoft Word, Excel, and PowerPoint for documentation, accounting and presentations in the agriculture industry. Two lecture. Three lab.

**COURSE CONTENT:**

1. Contemporary computer use in the agriculture industry
2. Computer hardware
3. Using Microsoft Word in an agricultural setting
4. Using Excel in an agricultural setting
5. Using PowerPoint in an agricultural setting

**LEARNING OUTCOMES:**

1. Use and understand email.
2. Use and understand Windows 98.
3. Manage Files.
4. Use Internet Explorer.
5. Use the Internet.
6. Create a document.
7. Use and understand Microsoft Word.
8. Edit a document.
9. Format a document.
10. Create a report.
11. Use and understand Desktop Publishing.
12. Create outlines.
13. Create tables.
14. Create a table of contents.
15. Merge documents.
16. Create equations.
17. Use and understand Microsoft Excel.
18. Create worksheets.
19. Format worksheets.
20. Create charts.
21. Manage information.
22. Use and understand Microsoft Power Point.
23. Create a presentation.
24. Create and import graphics in slides.
25. Use and understand Microsoft Access.
26. Create a database.
27. Maintain a database.
28. Query a database.
29. Use and understand integration.
30. Integrate documents.
31. Use and understand web page design.
32. Create a web page.
33. Load web page onto Internet.

**REQUIRED ASSESSMENT:**

1. Compilation of portfolio in 1" notebook with cover sheet.

3.000 Credit hours

2.000 Lecture hours

3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division

Agriculture Science Department

**Course Attributes:**

Digital Lit (DL)

### **AGS 102 - Agribusiness Management**

**COURSE DESCRIPTION:**

AGS 102. Agribusiness Management (3). Introduction to the latest functions of agribusiness including history, starting and running a business, small business plans, input and output sectors, daily financial operations, and basic economic principles. Emphasizes principles of agricultural economics, and economic activity and analysis. Three lecture.

**COURSE CONTENT:**

1. Agriculture and agribusiness
2. Size and importance of agribusiness
3. Emerging agribusiness technologies
4. Planning and organizing an agribusiness
5. Types of agribusiness
6. Personal financial management
7. Agribusiness record keeping and accounting
8. Input sector

9. Output sector
10. Agricultural economics

## LEARNING OUTCOMES:

1. Explain agribusiness.
2. Discuss the size and importance of production agriculture.
3. Analyze the efficiency of production agriculture.
4. Explain the importance of agribusiness and foreign trade.
5. Describe the latest emerging technologies in agriculture.
6. Prepare a small business plan.
7. Compare proprietorships, partnerships, and corporations.
8. Plan and prepare a personal budget.
9. Analyze a potential agribusiness venture.
10. Explain the differences between sole proprietorships, partnerships, and corporations.
11. Describe the characteristics of franchises and cooperatives.
12. Complete a budget for a small agribusiness.
13. Complete a journal and ledger.
14. Complete a trial balance.
15. Explain basic accounting considerations.
16. Describe the single and double entry bookkeeping.
17. Prepare an income statement, balance sheet, and statement of cash flow.
18. Prepare a statement of owner equity.
19. Discuss the size and scope of the agribusiness input sector.
20. Discuss the private agribusiness sector.
21. Discuss the public agribusiness sector.
22. Identify the sources for credit.
23. Explain six types of economic systems.
24. Explain agricultural economics.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lecture

Career & Technical Education Division  
 Agriculture Science Department

## Course Attributes:

Diversity (DA)

**AGS 103 - Plant Biology**

## COURSE DESCRIPTION:

AGS 103. Plant Biology (4). An introduction to the growth, development, reproduction, and structure of vascular plants. Fundamental activities of plants including photosynthesis and respiration. Emphasis on agricultural and horticultural crops of Arizona. This course is cross-listed with BIO 103. Prerequisite: Reading Proficiency. Three lecture. Three lab.

## COURSE CONTENT:

1. Classification of plants
2. Cell structures of plants
3. Cellular activity of plants
4. Chemical activity of plants
5. Mitosis and Meiosis
6. Plant tissues
7. Vegetative components
8. Plant growth improvement
9. Plant propagation
10. Plant growth environments
11. Economic and ecological importance
12. The scientific method

## LEARNING OUTCOMES:

1. Use scientific reasoning to evaluate physical and natural phenomena. (2-5, 7, 8, 10, 12) (PBS 3)
2. Identify the unifying themes of the scientific field of study. (2-5, 7, 8, 10, 12)
3. Interpret the numerical and/or graphical presentation of scientific data. (12) (PBS 1)
4. Use the tools and equipment necessary for basic scientific analysis and research. (9, 12)
5. Record the results of investigation through writing. (3, 4, 10, 12) (PBS 2)
6. Discuss the role of plants in the living world. (10)
7. Classify and name plants (1)
8. Compare monocots and dicots. (1, 7, 9)
9. Describe the plant cell structure. (2)
10. Describe cellular activity during meiosis. (3)
11. Explain the process and implications of mitosis and meiosis. (5)
12. Differentiate between various plant tissues. (6)
13. Identify the components of roots, stems, flowers, and leaves. (7)
14. Describe the origin and domestication of cultivated plants. (8)
15. Identify basic concepts in plant improvement. (8)
16. Distinguish between effective and ineffective plant propagation methods for specific plants. (9)
17. Summarize vegetative and reproductive growth and development principles. (7, 10, 12)
18. Identify the properties of photosynthesis, respiration, and translocation in vascular plants. (4)
19. Identify the physical and chemical properties of soil and soil water. (10)
20. Discuss the climactic factors affecting plant growth. (10)
21. Identify major economic crops in Arizona. (11)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Agriculture Science Department

**Course Attributes:**

Physical &amp; Biol Science (AGEC), Scientific (SL)

**AGS 105 - Soils****COURSE DESCRIPTION:**

AGS 105. Soils (3) (Fall). Comprehensive overview of the types of soils commonly found in North America with special emphasis on Southwestern soils. Course investigates the origin, formation, physical and chemical properties of soils and emphasizes soil testing, fertilization, and modifications to soils commonly found in landscapes, gardens and turf. Three lecture.

**COURSE CONTENT:**

1. Components of soil
2. Soil and water relationships
3. Soil textural triangle
4. Modifications to soil for improvement
5. Drainage systems
6. Soil fertility
7. Soil pH
8. Soil testing
9. Cost factors
10. Southwestern soils

**LEARNING OUTCOMES:**

1. Describe the components of soil including sand, silt, and clay. (1)
2. Explain the relationship between soil and water. (2)
3. Using the soil textural triangle, determine the structure of soil and its effect on turfgrass. (3)
4. Identify components of a soil profile. (3)
5. Identify macro- and micro-nutrients needed for plant growth. (4)
6. Identify common soil amendments used to improve soil. (4)
7. Describe drainage systems used to remove excess water from soil. (5)
8. Describe the principles associated with soil fertility. (6)
9. Explain pH of soil and the methods used to modify pH. (7)
10. Using soil test kits, test soils for basic composition. (8)
11. Identify agencies to assist in soils testing. (8)
12. Calculate soil test results for nitrogen, phosphorus, iron and potassium. (8)
13. Describe soils common to the Southwest. (10)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Agriculture Science Department

**Course Attributes:**

Written Comm (WC)

**AGS 107 - Entomology****COURSE DESCRIPTION:**

AGS 107. Entomology (3) (Spring). Fundamental approaches in the control of greenhouse pests. Categories of pests, management practices, herbicide use, alternative pest control techniques, safety, and integrated pest management. Three lecture.

**COURSE CONTENT:**

1. Insects and related pests
2. Pest Identification and Classification
3. Economic Damage
4. Control Methodologies
5. Integrated Pest Management
6. Safety Practices

**LEARNING OUTCOMES:**

1. Investigate the relationships between insects and people. (1)
2. Identify insects of economic importance. (3)
3. Describe the basic external morphology of insects and how it is used in classification. (1,2)
4. Describe the basic internal anatomy of insects. (1)
5. Describe the objectives and elements of insect classification. (2)
6. Classify insects by visual inspection. (1,2)
7. Identify unknown insects by use of standard taxonomic keys. (2)
8. Identify insects to Order by inspection, and identify common forms to Family. (1,2)
9. Describe the life cycles of important insect groups. (1)
10. Identify agents of biological control. (4,5)
11. Identify insecticide names and formulations. (1,2,5)
12. Explain the concepts involved in insect pest management. (5,6)
13. Discuss alternative pest control techniques. (4,5,6)
14. Formulate an integrated pest management plan to control insects. (5)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Agriculture Science Department

**AGS 115 - Agricultural Mechanics I**

**COURSE DESCRIPTION:**

AGS 115. Agricultural Mechanics I (3). Develop basic principles and operative skills in electricity, and welding/cutting applications which are part of agricultural mechanics operations in the areas of Agriscience and Technology. Two lecture. Three lab.

**COURSE CONTENT:**

1. Oxyacetylene equipment setup and safety
2. Basic oxyacetylene welds
3. Oxyacetylene cutting
4. Welding equipment and safety
5. Basic Arc and Mig welding
6. Classification system for wire and gases
7. Principles of electricity
8. Electrical safety conductors and overcurrent protection
9. Electrical repair
10. Simple circuit installation and testing

**LEARNING OUTCOMES:**

1. Electric arc weld using the SMAW to construct lap, butt and fillet welds in the flat position.
2. Gas weld and construct beads without filler rod, corner welds, beads with filler rod, and butt welds with filler rod.
3. Use the oxyacetylene cutting torch and the plasma arc process to make straight, bevel and pierce holes in steel.
4. Construct a welded steel project when given the specifications and raw materials.
5. Apply basic principles of electrical energy in solving problems of electrical distribution.
6. Wire horticultural and agriculture simulations utilizing principles of electromagnetic induction, single and three-phase circuits, low voltage timers and controls, and conductor sizing.
7. Measure electric power.
8. Protect wiring, electrical devices, and people with overcurrent protection devices and ground fault interrupters.

3.000 Credit hours

2.000 Lecture hours

3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Agriculture Science Department

**Course Attributes:**

Quantitative Lit (QL)

**[AGS 120 - Introduction to the Animal Industry](#)****COURSE DESCRIPTION:**

AGS 120. Introduction to the Animal Industry (4). Classification of agricultural animals, the reproductive process, behavior, basic genetics, growth and development, basic nutrition, welfare and consumer concerns. Emphasis on beef, sheep, swine, poultry, horses and fish. Alternative animals including rabbits, llamas, ostrich, baitfish, and honeybees. Three lecture. Three lab.

**COURSE CONTENT:**

1. Animal agriculture as a science
2. Classification of animals
3. Beef industry
4. Dairy industry
5. Swine industry
6. Poultry industry
7. Sheep industry
8. Horse industry
9. Aquaculture industry
10. Small animal industry
11. Alternative animal industry
12. Behavior
13. Genetics
14. Selection
15. Reproduction
16. Growth and development
17. Nutrition
18. Meat science
19. Disease
20. Welfare
21. Consumer concerns

**LEARNING OUTCOMES:**

1. Cite scientific discoveries that have made food better and less expensive for the consumer.
2. List the pharmaceuticals that are derived from animals.
3. List characteristics of animals that place them in different classifications.
4. Describe methods of classifying animals by means other than scientific classification.
5. Classify agricultural animals according to breed.
6. Explain the importance of beef in the human diet.
7. Describe the various segments of the beef industry.
8. Describe how cattle make use of feed stuff that cannot be consumed by humans.
9. Describe the process by which milk is produced.
10. Explain the process of pasteurization.
11. Describe the biological processes used to produce cheese.
12. Define hybrid vigor or heterosis.
13. Explain why pork is healthier to eat than it once was.
14. Describe the biological processes involved in the production of eggs in birds.
15. Describe modern layer operations.
16. Describe modern broiler operations.
17. Explain the characteristics of wool that make it good to humans.
18. Discuss the importance of mutton and lamb in the American diet.
19. List the various uses for horses in the United States.
20. Discuss the importance of the horse industry.
21. Discuss the different ways of classifying horses.
22. List the reasons why aquaculture is a rapidly growing industry.
23. Discuss the problems associated with fish production.
24. Describe the importance of the pet industry to the United States.

25. Explain the regulations governing the raising and importing of companion animals.
26. List the animals that are most often used in scientific research.
27. Discuss the orderly society of honeybees.
28. Explain how bees make honey.
29. Describe the types of social behavior in animals.
30. Describe the sexual and reproductive behavior in animals.
31. Explain how producers use the laws of genetics to predict genetic differences in animals.
32. Explain how performance data are used in the selection process.
33. Describe the phases of the female reproductive cycle.
34. Explain the processes by which fertilization takes place.
35. Describe estrus synchronization.
36. Define the lean-to-fat ratio.
37. Explain the steps in the slaughter of meat animals.
38. List the wholesale cuts of beef, pork and lamb.
39. Discuss the various methods of meat preservation.
40. Explain how livestock diseases are spread.
41. List examples of diseases in livestock caused by microorganisms.

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

### **AGS 121 - Agricultural Marketing Technology**

#### **COURSE DESCRIPTION:**

AGS 121. Agricultural Marketing Technology (3) (Fall). Introduction to marketing in agriculture as well as the concepts of the modern agriculture industry. Includes how to select and develop a marketing plan, the agriculture industry in free enterprise, marketing for profit, motivating consumers and the process of communicating. Three lecture.

#### **COURSE CONTENT:**

1. Strategic planning for competitive advantage
2. The marketing environment and marketing ethics
3. Developing a global vision
4. Consumer decision making
5. Segmenting and targeting markets
6. Decision support systems and marketing research
7. Developing and managing products.
8. Services and nonprofit organizations marketing
9. Marketing channels and supply chain management
10. Advertising and public relations
11. Sales promotion and personal selling
12. Pricing decisions
13. Technology driven marketing

#### **LEARNING OUTCOMES:**

1. Define agricultural marketing and discuss what it entails.
2. Discuss how environmental factors affect agriculture marketing activities.
3. Describe the factors involved in consumer decision making.
4. Segment markets and develop the profile of a targeted agricultural market.
5. Develop agriculture product strategies and discuss how services and nonprofit "products" differ from traditional ones.
6. Develop distribution, promotion and pricing strategies for agriculture products.
7. Explain the importance of internet market, customer relationship marketing and one-to-one marketing.
8. Develop a marketing plan for an agriculture product.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

### **AGS 125 - Conservation and Natural Resources**

#### **COURSE DESCRIPTION:**

AGS 125. Conservation and Natural Resources (3) (Fall). General concepts related to the conservation and maintenance of natural resources including water, forests, rangelands and wildlife. Includes ecology concepts and foundations for a sustainable future. Three lecture.

#### **COURSE CONTENT:**

1. Waste management
2. Air pollution
3. Nonrenewable energy resources
4. Energy efficiency and renewable energy
5. World hunger
6. Nature of soils
7. Sustainable agriculture
8. Pesticides
9. Water resources
10. Rangeland management
11. Fisheries conservation
12. Forest management
13. Animal Extinction

#### **LEARNING OUTCOMES:**

1. Describe the methodologies used for managing waste.
2. Predict potential global problems resulting from air pollution.

3. Classify natural resources.
4. Describe the flow of energy through an ecosystem.
5. Identify challenges associated with human population growth including world hunger.
6. Discuss pesticide regulations.
7. Analyze rangeland conditions.
8. Investigate problems facing marine fisheries and aquaculture.
9. Cite current laws surrounding the use of pesticides.
10. Describe current mineral conservation strategies.
11. Project timelines for extinction of specific plant and animal species.
12. Determine the role of the USFS in the management of forests.
13. Factor needs for creating a sustainable and renewable energy strategy.
14. Choose appropriate methods for conservation of wildlife.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

#### AGS 150 - The Greenhouse Environment

##### COURSE DESCRIPTION:

AGS 150. The Greenhouse Environment (3) (Fall). Components of greenhouses including structure types, construction, locating a greenhouse, layout of a greenhouse range, and greenhouse temperature control mechanisms. Emphasis on advantages and disadvantages of each and the appropriate selection of houses for given areas in the horticulture industry. Three lecture.

##### COURSE CONTENT:

1. Greenhouse structure types
2. Greenhouse construction
3. Locating a greenhouse
4. Layout of a greenhouse range
5. Greenhouse environment

##### LEARNING OUTCOMES:

1. Greenhouse structure types
  - a. Define greenhouse structure
  - b. Explain the various design styles of greenhouses
  - c. Illustrate the structural parts of a greenhouse
  - d. Explain the differences between the transparent coverings
2. Greenhouse construction
  - a. Identify local building regulations and permit requirements
  - b. Interpret plans
  - c. Estimate costs of construction
3. Locating a greenhouse
  - a. Describe the factors involved in locating a greenhouse range
  - b. Identify available water sources
  - c. Identify restrictions
  - d. Identify primary wind direction
4. Layout of a greenhouse range
  - a. Name the different types of benches and bench arrangements used in greenhouses
  - b. Plot a layout for bedding plant production
  - c. Plot a layout for vegetable production
5. Controlling greenhouse temperature
  - a. Explain the different methods used in controlling greenhouse temperature
  - b. Select the appropriate heating and cooling devices for a given greenhouse
  - c. Identify the various shade coverings used in greenhouses
  - d. Identify humidity control devices used in greenhouses

##### REQUIRED ASSESSMENT:

1. Design a greenhouse utilizing all necessary components.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lecture

Career & Technical Education Division  
Agriculture Science Department

#### AGS 155 - Hydroponics for the Home and Classroom

##### COURSE DESCRIPTION:

AGS 155. Hydroponics for the Home and Classroom (1). Construction, design, and use of hydroponic growing units for vegetable production. Includes basic nutrition, lighting, media and growth chambers. One lecture.

##### COURSE CONTENT:

1. Growing chambers
2. Artificial Media
3. Nutrition
4. Lighting
5. Plant Culturing
6. Equipment
7. History
8. Sanitation

##### LEARNING OUTCOMES:

1. Distinguish between the major types of hydroponics growing methods.



2. Formulate an appropriate fertilizer mixture.
3. List the components needed for a hydroponics growing system.
4. Build a small hydroponics growth chamber.
5. Select appropriate crops for hydroponics vegetable production.
6. Implement basic sanitation practices.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

### AGS 156 - Organic Home Gardening

#### COURSE DESCRIPTION:

AGS 156. Organic Home Gardening (1). Introduction to organic gardening in Yavapai County. Includes basic plant selection, soils, nutrients, and practices consistent with organic production for the home and small hobby farm. One lecture.

#### COURSE CONTENT:

1. Nutrients
2. Soils
3. Composting
4. Vermiculture
5. Plant selection
6. Water systems
7. Pest management

#### LEARNING OUTCOMES:

1. Select appropriate crops. (5)
2. Design a production schedule. (1, 2, 5-7)
3. Identify pests common to Yavapai County. (7)
4. List appropriate soil conditioning products and techniques. (2-4)
5. Distinguish practices common to organic, compared to conventional, gardening. (1-5, 7)
6. Formulate a nutrient management plan. (1, 3-6)

1.000 Credit hours  
1.000 Lecture hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

### AGS 180 - Canine Behavior and Psychology I

#### COURSE DESCRIPTION:

AGS 180. Canine Behavior and Psychology I (2). Introduction to canine behavior in the human society, methods of affecting positive outcomes and compatible lifestyles. Includes reinforcement techniques, characteristics of major dog groups, health care issues, puppy socialization and canine management. Two lecture.

#### COURSE CONTENT:

1. Canine senses and behavior
2. Reinforcement and punishment, operant and classical conditioning
3. Classifications and characteristics of dog breeds
4. Children and dog interactions
5. Canine management and equipment
6. Canine health care
7. Critical stages in the life of the puppy and socialization
8. Canine body language

#### LEARNING OUTCOMES:

1. Explain the role of canine senses in behavior. (1)
2. Select and apply techniques for behavior modification. (2)
3. Identify major groups of dogs and explain characteristics of each. (3)
4. Identify safety issues between children and dogs. (4)
5. Recognize and determine proper equipment for management of canines. (5)
6. Identify and make choices regarding the health care issues of dogs. (6)
7. Describe a puppy's learning curve and factors influencing optimum socialization. (7)
8. Identify and interpret significant body postures of dogs. (8)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

### AGS 181 - Canine Massage Therapy

#### COURSE DESCRIPTION:

AGS 181. Canine Massage Therapy (1) (Fall). Basic canine massage therapy techniques including function and location, landmark identification, contraindications, full massage routine, and muscle locations. One lecture.

#### COURSE CONTENT:

1. Muscle location
2. Full massage

3. Landmarks
4. Full stretching
5. Contraindications
6. Benefits of massage
7. Dental issues

**LEARNING OUTCOMES:**

1. Identify the specific muscle locations for massage (1,2)
2. Explain the function of each muscle on the dog (1,3,5)
3. Describe the benefits of canine massage (6)
4. Predict results from improper stretching of the sport dog (5,6)
5. Determine contraindications for massage (5)
6. Explain proper body mechanics for the working and sport dog (3,6,2)
7. Determine exercises for the homebound dog (4,6)
8. Apply alternative therapies to an injured dog (2)
9. Explain the performance issues associated with improper dental maintenance (7)
10. Apply massage therapy to a dog (2)

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Agriculture Science Department

### **AGS 182 - Canine Behavior and Psychology II**

**COURSE DESCRIPTION:**

AGS 182. Canine Behavior and Psychology II (2). Psychology and behavior of canines. Includes types and causes of aggression, complex behavior problems, and dealing with fearful or stressed dogs. Emphasis on in-depth observation of canine body postures and communication with humans. Prerequisite: AGS 180. Two lecture.

**COURSE CONTENT:**

1. Play and predatory behavior patterns
2. Types and causes of aggressive behavior
3. Complex behavior problems
4. Dealing with fear in canines
5. Stress in canines
6. Neurobiology of learning in canines
7. Client communications

**LEARNING OUTCOMES:**

1. Compare play and predatory motor patterns in the context of behavior. (1)
2. Identify the causes of aggressive behavior. (2)
3. Categorize types of aggressive behavior. (2)
4. Analyze and propose solutions to complex behavior issues. (3)
5. Develop strategies for changing emotional reactions in fearful dogs. (4)
6. Assess stress producing situations and design appropriate modifications. (5)
7. Apply contemporary neurobiological research to canine training and behavior modification. (6)
8. Develop communication strategies for coaching individuals or groups in regard to canine behavior. (7)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Agriculture Science Department

### **AGS 183 - Introduction to Canine Health Care**

**COURSE DESCRIPTION:**

AGS 183. Introduction to Canine Health Care (2). Introduction to health needs of canines both physiologically and anatomically. Includes general first aid and CPR techniques, traditional and alternative disease management methods, grooming and hygiene essentials for dogs, and breeding practices including spay and neuter theories. Two lecture.

**COURSE CONTENT:**

1. General canine anatomy and physiology
2. Nutrition needs and function
3. First aid and CPR
4. Disease control
5. Grooming
6. Breeding practices

**LEARNING OUTCOMES:**

1. Describe and explain fundamentals of canine anatomy and physiology. (1)
2. Explain the overall nutritional needs and general physiological function of nutrition in dogs. (2)
3. Apply first aid care and canine CPR. (3)
4. Perform crisis management techniques for canines with injuries and prepare for transport. (3)
5. Explain protocols of traditional and alternative disease control methods. (4)
6. List various disease symptoms. (4)
7. Identify grooming and hygiene needs of dogs. (5)
8. Discuss breeding practices and spay/neuter theories. (6)

2.000 Credit hours  
 2.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

#### AGS 184 - Canine Business Management

##### COURSE DESCRIPTION:

AGS 184. Canine Business Management (2). Communication skills and vocabulary, business documentation and forms, and facilities management practices for canine businesses such as rescue organizations, breeding kennels, and boarding facilities. Field trips required to various community veterinarians, boarding facilities, businesses, rescue organizations, and events where the public and canines interact. Two lecture.

##### COURSE CONTENT:

1. Canine related occupations and organizations
2. Communication skills
3. Veterinary related terms
4. General facility management
5. Business documentation
6. Boarding practices

##### LEARNING OUTCOMES:

1. Differentiate various canine related occupations and organizations. (1)
2. Utilize communication skills required for working with and around the public. (2)
3. Utilize communication skills used in interacting with employees and employers. (2)
4. Define and apply veterinary related terms used in documentation. (3, 5)
5. Describe and prepare canine business documentation. (5)
6. Describe boarding or fostering facilities and their operations. (4, 5)
7. Identify facility upkeep requirements. (4, 6)
8. Differentiate various boarding styles and requirements. (6)

2.000 Credit hours  
2.000 Lecture hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

#### AGS 213 - Veterinary Technician State and National Exam Review

##### COURSE DESCRIPTION:

AGS 213. Veterinary Technician State and National Exam Review (3) (Fall). Principles of veterinary medicine as they apply to preparation for the Arizona and National Veterinary Technician exams. Prerequisite: Two years full time (or equivalent) experience in veterinary field. Three lecture.

##### COURSE CONTENT:

1. Restraint and handling of animals
2. Anatomy and Physiology
3. Parasitology, zoonoses and public health
4. Laboratory procedures
5. Diagnostic imaging
6. Emergency nursing and supportive care
7. Husbandry of domesticated species
8. Surgical assisting, surgical instruments, and aseptic techniques
9. Dentistry
10. Pharmacology and pharmaceutical principles
11. Veterinary oncology
12. Infectious and non-infectious diseases

##### LEARNING OUTCOMES:

1. Identify and describe the following systems and their uses with detail to species specificity:
  - a. cells and tissues
  - b. circulatory
  - c. digestive
  - d. endocrine
  - e. integumentary
  - f. mammary glands and lactation
  - g. muscular
  - h. nervous
  - i. reproductive
  - j. respiratory
  - k. sensory
  - l. skeletal
  - m. urinary
2. Identify and describe terminology in the following areas:
  - a. anesthetics
  - b. anesthetic machines and equipment
  - c. intubation
  - d. monitoring and anesthetized patient
  - e. anesthetic emergencies
3. Identify and describe specificity of common husbandry practices for the following species:
  - a. swine
  - b. rodents
  - c. birds
  - d. canine/feline
  - e. cattle
  - f. horses
  - g. llamas
  - h. sheep
  - i. goats
4. Identify and recite the basic anatomy and uses of different types of teeth.
5. Identify and describe pathological conditions of the tooth.
6. Identify the basic dentition of the dog and cat
7. Identify and describe emergency medical procedures.
8. Identify and describe procedures for first aid

9. Identify situations that are deemed to be emergencies.
10. Identify common equipment/drugs for emergency procedures
11. Identify and describe supportive procedures for the critical care patient.
12. Identify and describe the basics in the following areas of hospital management:
  - a. record keeping
  - b. ethics and jurisprudence with special detail to the State of Arizona Veterinary Practice Act.
13. Identify and describe details in the following areas of laboratory medicine:
  - a. common genus and species name of laboratory animals
  - b. The Animal Welfare Act
  - c. NIH guidelines
  - d. AALAS
  - e. AALAC
  - f. basic husbandry practices of laboratory animals
14. Identify and describe the following laboratory procedures:
  - a. normal and abnormal body fluid values for common species of animals
  - b. species specific idiosyncrasies
  - c. quality control
  - d. sample handling, collection and storage
  - e. blood chemistry/hematology
  - f. components of blood and body fluids
  - g. common in house test kits and their components
15. Mathematically compute drug dosages.
16. Identify and use common pharmaceutical abbreviations.
17. Identify proper handling techniques for domestic animals.
18. Identify normal values in the common domestic animals.
19. Identify and name common husbandry procedures for domestic animals.
20. Identify infectious agents and their symptoms.
21. Identify symptoms of common non-infectious diseases in domestic animals.
22. Identify and describe common veterinary terminology and abbreviations
23. Identify and describe common drugs of the animal industry and their uses.
24. Identify common radiological terminology.
25. Describe the safety procedures needed when taking x-rays.
26. Describe terminology used when positioning animals for x-rays.
27. Identify and describe the equipment used for sterilization of surgical equipment.
28. Identify and describe aseptic technique.
29. Identify surgical equipment/instruments and their uses.

**REQUIRED ASSESSMENT:**

1. Completion of course with 80% accuracy and application to take state and national test.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Agriculture Science Department

**AGS 215 - Agricultural Mechanics II****COURSE DESCRIPTION:**

AGS 215. Agricultural Mechanics II (3) (Spring). Develop principles and operative skills in small engine maintenance and repair, hydraulic design and use, agriculture equipment maintenance and problem solving which are part of agricultural mechanics operations in the area of Agriscience and Technology. Two lecture. Three lab.

**COURSE CONTENT:**

1. Engine types and operating cycles
2. Engine operating principles
3. Engine disassembly and reassembly
4. Equipment operation safety
5. Agriculture equipment troubleshooting and maintenance
6. Hydraulic systems
7. Hydraulic troubleshooting and maintenance
8. Agricultural pumps

**LEARNING OUTCOMES:**

1. Apply the principles of internal combustion engines to the operation, disassembly, re-assembly and operation of small engines.
2. Diagnose and perform maintenance on small gas engines.
3. Diagnose and perform routine maintenance on agricultural equipment, including oil filters, air filters, fuel filters, batteries and belts.
4. Apply principles of hydraulic applications, including systems, parts and operations.
5. Design a hydraulic system utilizing all system components.
6. Identify and apply principles of agricultural pumps.
7. Disassemble and reassemble agricultural pumps.

3.000 Credit hours  
 2.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Agriculture Science Department

**AGS 224 - Agricultural Sales Techniques****COURSE DESCRIPTION:**

AGS 224. Agricultural Sales Techniques (3) (Fall). Processes involved in moving food and fiber from the producer to the consumer. Emphasis on communicating with and motivating consumers including selling, distributing, advertising, displays, and human relations. Three lecture.

**COURSE CONTENT:**

1. Selling in the agricultural industry

2. Distributing in the agricultural industry
3. Advertising and displaying
4. Handling human relations

## LEARNING OUTCOMES:

1. Selling in the agriculture Industry
  - a. Describe the functions of selling in agriculture
  - b. Explain the history of selling
  - c. List the four groups of customers dealt with in agriculture
  - d. Describe what motivates people to buy
  - e. Select questions and methods for determining customer wants and needs
  - f. Explain the five steps in making a sale
  - g. Describe the types of customers that salespeople deal with every day
  - h. Explain the process of prospecting for customers
  - i. Describe the kinds of product information a sales person needs
  - j. Explain at least three approaches for opening a sales presentation
  - k. Describe common ways of handling customer objections
  - l. Describe common closing techniques used in selling
  - m. Give a sales presentation using an agricultural product or service
  - n. Perform a telephone sale
  - o. Perform an in house sale
2. Distributing in the agricultural industry
  - a. Describe the physical distribution and list major distribution functions
  - b. List and describe distribution outlets
  - c. Explain the elements of a physical distribution system
  - d. Describe packaging and labeling
  - e. Evaluate transportation methods
  - f. Describe important areas of safety in physical distribution
3. Advertising and displaying
  - a. Explain advertising and it's relationship to selling and marketing
  - b. Identify three forms of advertising media
  - c. Describe the role of advertising and display in selling agricultural products
  - d. Describe the major elements of a good print advertisement
  - e. List the types of newspapers and categories of advertisements
  - f. Describe the rough layout of a newspaper advertisement
  - g. Design a newspaper advertisement
  - h. Describe the use of radio and television advertising
  - i. Design and record a radio advertisement
  - j. Explain the purpose and use of direct mail advertising
  - k. List the types of displays used in agribusinesses
  - l. Describe considerations in designing a display
  - m. Explain how to develop a plan for an agricultural display.
  - n. Design a display for an agricultural commodity
4. Handling human relations
  - a. Explaining the importance of human relations in selling and marketing
  - b. Describe the role of communication in human relations
  - c. Explain why people respond the way they do
  - d. Describe areas in personal development
  - e. Describe how to deal with conflict and anger
  - f. List rules for good human relations

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
 Agriculture Science Department

**AGS 238 - Pesticide Management Certification**

## COURSE DESCRIPTION:

AGS 238. Pesticide Management Certification (2) (Fall). Includes pre-emergent and post-emergent pesticides, systemics, contacts, annual weed pests, biennial weed pests, insect and rodent control, applications, equipment, safety procedures, and management programs for the turf industry, home and landscape industry. Two lecture.

## COURSE CONTENT:

1. Biennials
2. Annuals
3. Insects
4. Rodents
5. Methods of control
6. Management programs
7. Safety
8. Equipment
9. Application
10. Formulations

## LEARNING OUTCOMES:

1. Identify the most common annual weeds found in the turf and landscape industry.
2. Identify the most common biennial weeds found in the turf and landscape industry.
3. Formulate mixtures of pesticides.
4. Identify rodents and the corresponding damage to a turf plot.
5. Identify insects and the corresponding damage to a turf plot.
6. Establish a long-term turf pest management program.
7. Compare pesticides for cost effectiveness.
8. Classify pesticides by use.
9. Select the most appropriate pesticide for a given pest.
10. Assemble pesticide application equipment.
11. Calibrate pesticide sprayers.
12. Use safety precautions when spraying.
13. Calculate the appropriate pesticide application amounts for a given area.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Agriculture Science Department

#### AGS 250 - Horticulture Fall Production

##### COURSE DESCRIPTION:

AGS 250. Horticulture Science I (4) (Fall). Greenhouse production activities including cuttings, seedlings, sowing, tagging, fertilizers, sanitation, nutrition, and elements of container grown crops. Emphasis on production of tomatoes, lettuce, flowers, foliage plants, and bedding plants. Operation of industry standard computer control systems for greenhouses. Emphasis on the ARGUS system for environmental control, watering, fertilization, and shipping. Two lecture. Six lab.

##### COURSE CONTENT:

1. Fertilizers
2. Water
3. Sexual propagation
4. Asexual propagation
5. Container grown crops
6. Sanitation practices
7. Computer applications
8. The Micro-Grow system
9. Programming for vents, shade, humidity, light, cooling, heating, fertilizers, watering, shipping
10. Suppliers

##### LEARNING OUTCOMES:

1. Operate a potting machine. (5)
2. Tag plants. (5)
3. Apply computer applications to operated and program a sowing machine. (5,7)
4. Apply computer applications to operate and program a spray boom or chemicals and for application. (6,7)
5. Adjust a spray boom or speed and volume. (6)
6. Adjust a computer for environmental control of a specific crop. (7,8)
7. Observe crop for physiological changes. (1,2,6)
8. Mix and apply fertilizers. (9)
9. Test soil for pH. (9)
10. Test water for alkalinity. (2,9)
11. Operate and program a transplanter. (4)
12. Propagate poinsettia plants asexually. (4)
13. Identify containers used for plants. (5)
14. Identify machinery used in greenhouses. (3,4,7,8)
15. Practice appropriate sanitation techniques. (6)
16. Identify the correct environments for plant propagation both sexually and asexually. (4)
17. Adjust light, temperature, and moisture requirements for plants. (9)
18. Identify biocontrol suppliers. (10)
19. Prepare a hydrating solution. (2)
20. Identify venting, shade, cooling, hardening and humidity requirements for plants and program the computer with those requirements. (9)
21. Identify light, cooling and hardening, heating needs, fertilizer needs, and watering need requirements for plants and program the computer with those requirements. (9)
22. Program for shipping. (9)

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

##### Course Attributes:

Info Literacy (L)

#### AGS 252 - Horticulture Science II

##### COURSE DESCRIPTION:

AGS 252. Horticulture Science II (4) (Spring). Activities conducted in commercial greenhouses including propagation, sowing, distribution, light and temperature management, hardening off, preharvest and post harvest handling, inventory, deliveries, and sanitation. Emphasis on final stages of production and care of production. Computerized scheduling of greenhouse operations. Two lecture. Six lab.

##### COURSE CONTENT:

1. Advanced propagation
2. Inventories
3. Shipping scheduling
4. Supply ordering
5. Transplanting, potting, and repotting, clay pots, plastic pots
6. Market preparation
7. Cultural disorders
8. Insect scouting
9. Micropropagation
10. Fertilization
11. Computerized environmental control (Micro-Grow system)
12. Production scheduling
13. 98% capacity scheduling
14. Germination chamber scheduling
15. Indoor/outdoor scheduling
16. Restocking

##### LEARNING OUTCOMES:

1. Identify the advantages and disadvantages of clay pots and plastic pots. (5)
2. Select appropriate methods for potting plants. (1,5)
3. Recommend fertilization for mature plants. (10)
4. Control growth, disease and insects. (7-9)
5. Identify factors affecting stretch. (7,10,11)
6. Identify common foliage and bedding plants by scientific and common name. (1)
7. Explain cultural methods for high quality tomatoes, bedding plants, and lettuce. (7-11,14,15)
8. Identify mass-market outlets. (2,6,15,16)
9. Prepare plants for market. (4,6,9,12,13)
10. Package tomatoes by size. (6)
11. Package lettuce for shipping. (3,6)
12. Price tomatoes by lug or flat. (6)
13. Coordinate truck routes for efficiency. (6)
14. Predict space availability in a greenhouse for short and long term production. (1,12)
15. Ensure a 98% greenhouse fill rate. (13)
16. Identify a greenhouse's carrying capacity. (13)
17. Calculate square footage of a greenhouse. (12,13)
18. Maintain control of inventory. (2,16)
19. Establish shipping and germination times. (2,14)
20. Restock inventories in accordance with market demand. (16)
21. Determine ongoing space availability for hardening off and for outside operations. (13)
22. Utilize the Micro-Grow system. (11)

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

**Course Attributes:**  
Scientific (SL)

#### **AGS 255 - Micro Propagation of Plant Tissue**

##### **COURSE DESCRIPTION:**

AGS 255. Micro Propagation of Plant Tissue (2) (Fall). Plant tissue culture techniques for cloning, reproduction, and manufacturing including media mixing, cell growth and development, aseptic transfer, manipulation, observation, and documentation. One lecture. Three lab.

##### **COURSE CONTENT:**

1. Aseptic Technique
2. Hemocytometer Operation
3. Media components and mixing
4. Laminar flow hoods
5. Gel Electrophoresis
6. Cell Lines
7. Culture maintenance
8. Plant reproduction
9. Safety procedures in the laboratory
10. Disposal of contaminants

##### **LEARNING OUTCOMES:**

1. Filter-sterilize and mix tissue culture media components.
2. Adjust pH for a given tissue culture media formulation.
3. Test a culture for sterility.
4. Monitor cell growth through in-vitro observation.
5. Determine and dispose of contaminants in a safe manner.
6. Use aseptic transfer skills in a laminar flow hood.
7. Operate an autoclave.
8. Identify and use laboratory equipment.
9. Maintain healthy tissue culture cells from a given plant for several weeks under in-vitro conditions.
10. Document all tissue manipulations, observations and procedures in a scientific notebook.
11. Use a hemocytometer to count viable cells.
12. Recommend procedures for freezing down cells and bringing up cells from a frozen state.
13. Calculate cell concentrations from cell counts.
14. Calculate the amount of cells to transfer to maintain optimum concentrations for running stock and for freezing.
15. Manufacture a given number of plants from cell to transfer stage.
16. Employ laboratory safety procedures at all times.
17. Apply volumetric measurements when mixing media.
18. Load and adjust micropipette dispensers.
19. Sterilize the work and body surfaces.
20. Prepare an explant for culturing.
21. Explain the history of cell tissue culture.
22. Describe the media composition.
23. Analyze callus and callus derived systems.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

#### **AGS 261 - Aquaculture Science**

**COURSE DESCRIPTION:**

AGS 261. Aquaculture Science (4). Introduction to the aquaculture and fisheries industry and the related career opportunities. Basic fish culturing environments and species identification of fresh and saltwater fish. Fish biology, diseases, prevention and treatments. Includes fish feeds and feeding techniques. Three lecture. Three lab.

**COURSE CONTENT:**

1. Careers in the aquaculture and fisheries industry
2. Species identification
3. Land requirements
4. Water requirement and management
5. Parasitic, bacterial diseases, and potential viruses in fish
6. Disease identification, treatment, prevention and control.
7. Feeds and feeding techniques
8. Morphology and biology of fish

**LEARNING OUTCOMES:**

1. Identify the common species in the aquaculture and fisheries industry in Arizona. (2)
2. Calculate stocking densities. (3,4)
3. Test water and apply corrective measures as needed. (4)
4. Visually identify the diseases most common to economically important fish through behavioral means, microscope imaging, and physical signs. (6)
5. Potential parasitic, bacterial and viral diseases in fish. (5)
6. Apply corrective measures for control or eradication of disease. (5,6)
7. Identify and apply approved treatments using chemicals on diseased fish. (6)
8. Identify and describe the external and internal anatomy of fish including neurons, circulatory, and digestive systems. (8)
9. Select appropriate feeds for a given species of fish. (7)
10. Identify basic components of common aquaculture systems. (3,4)
11. Identify the careers in the aquaculture fisheries industry. (1)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

**Course Attributes:**

Oral Communication (OC)

**AGS 264 - Aquaculture Management****COURSE DESCRIPTION:**

AGS 264. Aquaculture Management (4) (Spring). Methodologies used in managing aquaculture systems. Including breeding and rearing procedures of common fin fish, saltwater fish and crustaceans. Field experience in maintaining a rearing facility and producing a food fish from incubation to stocker or market size. Three lecture. Three lab.

**COURSE CONTENT:**

1. Fish containers
2. Aeration systems
3. Filtration media
4. Aquaculture systems
5. Solid waste removal
6. Environmental conditions
7. Reproduction
8. Data collection
9. Business principles
10. Feeding

**LEARNING OUTCOMES:**

1. Design a recirculating and flow through aquaculture system. (1-4)
2. Identify appropriate feed and develop a feeding schedule. (10)
3. Breed fish from brood stock. (7)
4. Hatch eggs and grow out through harvesting. (7)
5. Manage water systems and environmental controls for recirculating aquaculture systems. (4-6)
6. Perform maintenance on recirculating aquaculture systems. (4)
7. Collect data and keep hatchery records. (8)
8. Determine costs and revenue for recirculating aquaculture systems. (9)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

**Course Attributes:**

Creative Thinking (CR)

**AGS 274 - Water Management****COURSE DESCRIPTION:**

AGS 274. Water Management (3) (Spring). Irrigation techniques for golf courses, greenhouses, aquaculture, and horse production including sizing pipes and fittings, backflow prevention, filtration, pumps, sprinklers, spraybooms, misters, and valves. Includes code requirements, blueprint reading, and bidding. Two lecture. Three lab.

**COURSE CONTENT:**

1. Pipe types and sizes
2. Fittings
3. Valves
4. Pumps
5. Drain tiles



6. Filters
7. Backflow prevention
8. Blueprint reading
9. Irrigation design
10. Code requirements
11. Recirculation

**LEARNING OUTCOMES:**

1. Identify types and sizes of pipe used in irrigation systems.
2. Select the most appropriate pipe for a given circuit.
3. Demonstrate the use of tools commonly used in plumbing.
4. Identify the valve boxes used for manifold systems.
5. Identify the most commonly used fittings for connecting pipe.
6. Select the appropriate fitting for a given connection.
7. Explain the different uses for gate, globe and ball valves.
8. List the advantages and disadvantages of the three most common valves.
9. Determine correct positioning for drain tiles.
10. Select the most appropriate backflow prevention device for a given circuit.
11. Distinguish between in-line manual and automatic valves.
12. Distinguish between manual and automatic pressure vacuum breakers.
13. Determine appropriate sprinkler spacing.
14. Explain the difference between static and working pressure.
15. Determine local codes for commercial irrigation.
16. Solve for pressure drop over a given run.
17. Design greenhouse irrigation and fertilization system.
18. Design aquaculture systems.
19. Design horse watering systems.
20. Design golf course systems.
21. Troubleshoot sprayboom nozzles.
22. Determine circuits, valves, drain tiles, and sprinklers for a given par three hole.
23. Calculate costs for irrigation of a par three hole.

**REQUIRED ASSESSMENT:**

1. Irrigation design for par three hole or greenhouse.

3.000 Credit hours  
 2.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Agriculture Science Department

**Course Attributes:**  
 Critical Thinking (CT)

### **AGS 280 - Zoo and Domestic Animal Care**

**COURSE DESCRIPTION:**

AGS 280. Zoo and Domestic Animal Care (4) (Spring). Introduction to zoo and domestic animal care. Includes safety issues, zoo orientation, animal observation skills, sanitation, housing, feeding, capture and restraint equipment, animal transport, animal measurements, abnormal behavior and injuries. Three lecture. Three lab.

**COURSE CONTENT:**

1. Safety and emergency preparedness
2. Equipment lab/animal permits
3. Weights and measures
4. Zoo orientation
5. Wildlife husbandry
6. Wildlife and domestic facilities maintenance
7. Animal identification
8. Zookeeping essentials
9. Animal observation for health and behavior

**LEARNING OUTCOMES:**

1. Identify proper clothing and gear worn when working with various animals.
2. Establish safety procedures for handling and approach of animals.
3. Identify by name, genus, and species, the most common domestic and zoo animals.
4. Describe keeper routines for various domestic and wild animals.
5. Determine the risks associated with enclosure cleaning and maintenance.
6. Maintain a record log of animal behavior as it relates to keeper safety.
7. Predict possible animal behavior from observations.
8. Establish an objective view of humane considerations including feelings, infliction of pain, psychological upsets, and speed of return to normalcy.
9. Determine when restraint is necessary.
10. Use of proper restraint tools and chemicals to subdue animals.
11. Predict thermoregulation stress when handling animals.
12. Weigh and measure wild and domestic animals.
13. Calculate feeds for domestic and wild animals.
14. Identify basic cleaning equipment.
15. Establish use of two-way radio codes at zoos.
16. Determine legal requirements from state, federal and local agencies for care and housing of wild and domestic animals as a business or sanctuary enterprise.

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Agriculture Science Department

**Course Attributes:**

Civic Engagement (CE)

### AGS 281 - Herpetoculture

#### COURSE DESCRIPTION:

AGS 281. Herpetoculture (3) (Fall). A study of the biology, ecology, and taxonomy of reptiles and amphibians. Includes identification techniques, care, maintenance and display. Three lecture.

#### COURSE CONTENT:

1. Anatomical characteristics
2. Behavioral adaptations
3. Morphology
4. Taxonomy
5. Species survival
6. Husbandry

#### LEARNING OUTCOMES:

1. List the distinguishing anatomical characteristics of amphibians and reptiles. (1)
2. Discuss physiological and behavioral adaptations of amphibians and reptiles to their environment. (2)
3. Discuss the taxonomy of amphibians and reptiles and identify the major morphological features important in their taxonomy. (3,4)
4. Identify the factors important to the continued survival of amphibians and reptiles and discuss the endangered species affected by human decisions. (5)
5. Discuss major issues in the husbandry of animals. (6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Directed Study, Lecture

Career & Technical Education Division  
Agriculture Science Department

### AGS 282 - Zoo and Domestic Animal Behavior

#### COURSE DESCRIPTION:

AGS 282. Zoo and Domestic Animal Behavior (4) (Fall). Assessment of animal behavior in a variety of species including domestic and exotic animals. Includes internal and external factors influencing animal behavior, social organization, genetics, communication, conflict, mating systems, and biological rhythms. Three lecture. Three lab.

#### COURSE CONTENT:

1. Behavioral genetics
2. Evolution and behavior patterns
3. Nervous system
4. Hormones and immunology behavior
5. Biological rhythms
6. Communication
7. Migration
8. Habitat selection
9. Conflict
10. Sexual reproduction

#### LEARNING OUTCOMES:

1. Analyze the history of behavioral genetics and evolution. (1)
2. List the design features in animal behavior studies. (1,2)
3. Determine the basic principles of genetics in animals. (1,5)
4. Distinguish between macroevolutionary and microevolutionary changes in behavior. (2,7)
5. Identify the parts of the nervous system and their associated functions. (3,4)
6. List the biological rhythms and their significance in animal behavior. (5,6)
7. Determine how communication conveys information between animal and human interaction. (6)
8. Analyze and identify migration patterns and navigational mechanisms for a given set of animals. (7,8)
9. Recognize the signs leading to animal conflict. (9)
10. Calculate the costs and benefits of sexual reproduction and selection in the animal kingdom. (10)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

### AGS 296 - Internship: Agriculture

#### COURSE DESCRIPTION:

AGS 296. Internship: Agriculture (3) (Fall). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

#### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

#### LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.

3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Career & Technical Education Division  
 Agriculture Science Department

### **AGS 299 - Independent Study Agribusiness**

**COURSE DESCRIPTION:**

AGS 299. Independent Study Agriculture (1-6) (Fall). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Career & Technical Education Division  
 Agriculture Science Department

### **AHS 100 - Fundamentals of Health Care**

**COURSE DESCRIPTION:**

AHS 100. Fundamentals of Health Care (3). Overview of current U.S. health care delivery systems and professions including behaviors for success, customer service, and quality improvement. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Historical and future trends in health care.
2. Ethical and legal issues.
3. Verbal and written communication skills.
4. Environmental safety and health considerations
5. Professional responsibilities.
6. Stages of growth and development.
7. Careers and continuing education.
8. Patients' emotional reactions to illness.
9. Job preparedness.
10. Healthcare reimbursement.
11. Quality improvement.

**LEARNING OUTCOMES:**

1. Identify legal and ethical issues in the health care setting. (2)
2. Explain the role of the health care worker within the medical system. (1, 5,7)
3. Utilize communication skills with patients and other health care team members. (3, 5)
4. Describe trends in health care and their effects on client care. (1)
5. Employ environmental safety and health procedures. (4)
6. Describe the basic milestones for each developmental stage. (6)
7. Describe patients' emotional reactions to illness. (8)
8. Prepare a resume and employment application. (7,9)
9. Identify different types of healthcare reimbursement. (10)
10. Describe the elements of quality assessment and performance improvement program. (11)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Sciences, Health & Public Safe Division  
Allied Health Services Department

#### [AHS 103 - Phlebotomy](#)

**COURSE DESCRIPTION:**

AHS 103. Phlebotomy (3). Theory and practice of basic phlebotomy and specimen processing including laboratory tests, equipment, procedures, ethics, safety, legal issues and quality assurance. Prerequisite: Reading Proficiency. Two lecture. Three lab.

**COURSE CONTENT:**

1. Terminology
2. Ethics and safety
3. Legal implications
4. Anatomy and physiology of the hand and arm
5. Quality assurance methods
6. Clinical Laboratory Improvement Act (CLIA) and Health Insurance Portability and Accountability Act (HIPAA)
7. Universal precautions
8. Venipuncture
9. Equipment and supplies
10. Documentation in the clinical laboratory
11. Body systems and corresponding laboratory test

**LEARNING OUTCOMES:**

1. Define basic terms and codes related to phlebotomy and laboratory testing. (1)
2. Identify and describe the anatomy and physiology of the hand and arm. (4)
3. Describe how phlebotomy is affected by privacy laws and law enforcement. (3)
4. Collect blood specimens by venipuncture adhering to OSHA guidelines and lab safety procedures. (2,5,7,8)
5. Maintain and inventory of equipment and supplies for collecting blood specimens. (9,10)
6. Explain how CLIA and HIPAA regulations affect phlebotomy practices. (2,3,6)
7. Describe reporting requirements for adverse phlebotomy. (3,5,10)
8. Describe and apply standard universal precautions. (2,7,8)
9. State the purpose of specific laboratory tests. (11)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, [Lecture](#), Lecture/Lab

Sciences, Health & Public Safe Division  
Allied Health Services Department

#### [AHS 114 - Nursing Assistant](#)

**COURSE DESCRIPTION:**

AHS 114. Nursing Assistant (5). Preparation for the role of a nursing assistant in a long term care facility. Basic nursing assistant skills and emergency procedures; client needs and rights; written and verbal communication; ethical and legal aspects; safety and infection control. Includes classroom and clinical instruction. Application required with the following documentation: Skin test or chest X-ray negative for TB, or equivalent within 12 months; current DPS fingerprint clearance card and CPR for the Healthcare Provider. Must be at least 16 years old. Prerequisite: Reading Proficiency. Four lecture. Three lab.

**COURSE CONTENT:**

1. Communication, interpersonal skills and documentation
2. Infection control
3. Safety and emergency procedures
4. Client independence
5. Client rights
6. Abuse, mistreatment and neglect
7. Basic nursing assistant skills
8. Age specific mental health and social service needs
9. Cognitively impaired client care
10. Basic restorative care skills
11. Role as a health care team member
12. Legal aspects of nursing assistant practice
13. Body structure and common diseases

**LEARNING OUTCOMES:**

1. Apply basic nursing assistant skills safely. (7, 10)
2. Use restorative care skills and emergency procedures safely. (3,10)
3. Utilize infection control principles and procedures. (2)
4. Identify and report changes in the client's condition. (1, 3, 6, 8, 9,13)
5. Describe and protect client rights. (5,6)
6. Assist and promote client independence. (4,10)
7. Apply the legal and ethical aspects of the nursing assistant role. (5,6,11,12)
8. Employ effective written and verbal communication skills. (1,7,9)
9. Adapt to individual client behaviors and needs. (1,3,7-10)
10. Adapt to the unique needs of the client with cognitive impairment. (9)
11. Describe the role of the nursing assistant as a member of the health care team. (11, 12)
12. Explain basic body structure and function. (13)
13. Identify the signs and symptoms of common diseases. (13)

5.000 Credit hours  
4.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, [Lecture](#), Lecture/Lab

Sciences, Health & Public Safe Division

Allied Health Services Department

### AHS 120 - Foundations of Medical Assisting I

#### COURSE DESCRIPTION:

AHS 120. Foundations of Medical Assisting I (3). Introduction to the role of the Medical Assistant. Preparation for work in a medical office including legal aspects, communication, customer service and records management. Prerequisite: AHS 100, AHS 103, AHS 130 and BIO 160. Three lecture.

#### COURSE CONTENT:

1. Legal aspects of health care
2. Infection control and asepsis principles
3. Basic psychology principles
4. Customer and patient relations
5. Verbal and nonverbal communications
6. Emotional reactions to illness
7. Medical office administrative functions
8. Medical records management
9. Medical office emergencies
10. Basic nutrition and therapeutic diets.
11. Outpatient coding

#### LEARNING OUTCOMES:

1. Identify legal concerns in the physician's office. (1)
2. Use infection control procedures. (2)
3. Apply basic psychological principles. (3-6)
4. Utilize techniques of customer and patient relations. (3-6)
5. Administrate medical office. (3)
6. Manage medical records. (8)
7. Respond to medical emergencies. (9)
8. Explain basic nutrition principles. (10)
9. Differentiate between diagnostic and procedural coding. (11)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

### AHS 121 - Foundations of Medical Assisting II

#### COURSE DESCRIPTION:

AHS 121. Foundations of Medical Assisting II (4). Introduction to patient assessment, diagnostic and surgical procedures, medication administration, and immunizations. Prerequisite: AHS 120, CSA 126, HIM 40 and MAT 100 or higher or satisfactory score on mathematics skills assessment. Three lecture. Three lab.

#### COURSE CONTENT:

1. Medical history, patient assessment and examination
2. Minor diagnostic and surgical procedures
3. Specimen collection, processing, testing, and results
4. Aseptic techniques
5. Sanitation, disinfection, and sterilization
6. Electrocardiography
7. Diagnostic imaging in the outpatient setting
8. Pharmacology and medications
9. Immunization records

#### LEARNING OUTCOMES:

1. Collect patient history and vital signs. (1,2,9)
2. Assist with minor surgical procedures. (2-5)
3. Perform electrocardiography. (2,6)
4. Discuss diagnostic imaging in the outpatient setting. (7)
5. Perform diagnostic and laboratory tests. (2,3,5)
6. Calculate medication dosages and administer medications. (8,9)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Allied Health Services Department

### AHS 130 - Medical Terminology for Patient Care Staff

#### COURSE DESCRIPTION:

AHS 130. Medical Terminology for Patient Care Staff (3). Medical terminology used in direct patient care, with special care populations and in special services. Building and analyzing terms using work parts. Body-systems approach to terms related to structure and function, pathologies, and diagnostic procedures. Spelling and pronunciation of terms, medical abbreviations and symbols. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Introduction to Medical Terminology
  - a. Basic work structure
  - b. Body as a whole
  - c. Common combining forms, suffixes, and prefixes
2. Body Systems
  - a. Structures
  - b. Functions
  - c. Pathologies

- d. Diagnostics
- e. Clinical procedures
- f. Additional suffixes, prefixes, combining forms
- g. Abbreviations
- 3. Obstetrics
  - a. Conception and pregnancy
  - b. Hormonal interactions
  - c. Pregnancy and neonatal pathologies
  - d. Clinical tests and procedures related to obstetrics
  - e. Additional suffixes, prefixes, combining forms
  - f. Abbreviations
- 4. Cancer Medicine (Oncology)
  - a. Carcinogenesis
  - b. Characteristics, classification, grading, and staging of tumors
  - c. Pathological descriptions
  - d. Diagnostic, clinical procedures, and treatment terms
  - e. Additional suffixes, prefixes, combining forms
  - f. Abbreviations
- 5. Radiology and Nuclear Medicine
  - a. X-ray properties, positioning, and techniques
  - b. Radioactive and radionuclide tests
  - c. In vitro and in vivo procedures
  - d. Additional suffixes, prefixes, combining forms
  - e. Abbreviation
- 6. Psychiatry/Mental Health
  - a. Introduction
  - b. Clinical symptoms and disorders
  - c. Terminology related to treatment
  - d. Additional suffixes, prefixes, combining forms
  - e. Abbreviations

**LEARNING OUTCOMES:**

1. Divide medical words into their component parts (1a)
2. Define the meaning of basic combining forms, suffixes, and prefixes (1a,c, 2f, 3e, 4e, 5d, 6d)
3. Use combining forms, suffixes, and prefixes to build medical terms (1a,c, 2f, 3e, 4e, 5d, 6d)
4. Identify and define terms pertaining to the body as a whole (1b)
5. Describe positions, directions, and planes of the body (1b)
6. Name the locations and/or structures of body systems (2a)
7. Describe the functions of body systems (2b)
8. Describe disease processes and symptoms that affect body systems (2c)
9. List and explain diagnostic tests and clinical procedures common to different body systems (2d,e)
10. Identify abbreviations common to body systems, pathologies, tests, clinical procedures, and specialty areas (2g, 3f, 4f, 5e, 6e)
11. Explain how female reproductive organs and hormones function in the process of conception and pregnancy. (3a,b)
12. Identify abnormal conditions of the pregnancy and the neonate. (3c)
13. Explain important clinical tests and procedures related to obstetrics (3d)
14. Define terms that describe the growth and spread of cancer. (4a)
15. Recognize terms related to classification, grading and staging of tumors. (4b)
16. Describe oncology pathologies, diagnostics, clinical procedures and treatments (4c,d)
17. Explain terms related to x-ray properties, positioning, and techniques (5a)
18. Define terms used to describe radioactive and radionuclide tests (5b,c)
19. Differentiate between different mental health specialists. (6a)
20. Define terms that describe psychiatric symptoms and disorders. (6b)
21. Describe different psychiatric treatments and common psychiatric drugs. (6c)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Sciences, Health & Public Safe Division  
 Allied Health Services Department

**AHS 140 - Pharmacology for Allied Health****COURSE DESCRIPTION:**

AHS 140. Pharmacology for Allied Health (2). Relationships among anatomy and physiology, disease states, and drugs affecting the endocrine, nervous, respiratory, visual, auditory, integumentary, gastrointestinal, urinary, cardiovascular, and reproductive systems. Overview of psychotropic agents, anti-infectives, analgesics, anti-inflammatories, federal drug laws, drug names and references, vitamins/minerals/herbs, and oncology agents. Prerequisite: AHS 130 and BIO 160 or (BIO 201 and BIO 202). Two lecture.

**COURSE CONTENT:**

1. Endocrine system
2. Nervous system
3. Respiratory system
4. Visual and auditory systems
5. Integumentary system
6. Gastrointestinal system
7. Urinary system
8. Cardiovascular system
9. Reproductive system
10. Anti-infective agents
11. Analgesics and anti-inflammatories
12. Vitamins, minerals, and herbs
13. Oncology agents
14. Psychotropic agents
15. Drug laws
16. Drug names and references

**LEARNING OUTCOMES:**

1. Identify disease states and disorders of applicable body systems. (1-9)
2. Identify and list medications used to treat disease states and disorders of applicable body systems. (1-14)
3. List the following characteristics of each reviewed medication: indications for use, dosage forms, usual dosage, side effects, interactions with other drugs, storage requirements,

- generic and trade names, and mechanism of action. (1-14)
4. List types of infections and how they are commonly treated. (10)
  5. Explain musculoskeletal pain and inflammation conditions and how they are commonly treated. (11)
  6. Describe the sources of vitamins, minerals, and herbs and their common uses in healthcare. (12)
  7. Identify pharmaceuticals used to treat various types of cancer. (13)
  8. Identify medications used for mental health. (14)
  9. Identify federal legal aspects of drug regulation. (15)
  10. Search for drug names and basic information via reliable resources. (16)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**Course Attributes:**  
Scientific (SL)

#### **AHS 142 - Concepts of Codependency**

##### **COURSE DESCRIPTION:**

AHS 142. Concepts of Codependency (1). Introduction to the concept of codependency, its etiology, and behavioral manifestations across the lifespan. Emphasis on the development of codependent patterns related to dysfunctional family of origin issues, and the impact of codependent behaviors on an individual's ability to function in personal and professional roles. Prerequisite: Reading Proficiency. One lecture.

##### **COURSE CONTENT:**

1. Etiology of codependency
2. Codependent behaviors across the lifespan
3. Psychological and emotional effects of codependency
4. Impact of codependency on role functioning
5. Principles of recovery in codependency
6. Communication and codependency

##### **LEARNING OUTCOMES:**

1. Describe the etiology of codependency as it relates to dysfunctional behaviors across the lifespan. (1-3)
2. Identify codependent behaviors utilized as adaptive mechanisms in childhood that become maladaptive in adult relationships. (1-6)
3. Differentiate between codependent behaviors and healthy, adaptive behaviors. (2-4, 6)
4. Analyze the five core symptoms of codependency. (2-4, 6)
5. Summarize the behaviors related to the core symptoms of codependency. (2-4)

1.000 Credit hours  
1.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

#### **AHS 230 - Complementary and Alternative Health Therapies**

##### **COURSE DESCRIPTION:**

AHS 230. Complementary and Alternative Health Therapies (3). Examination of complementary and alternative health practices. Emphasizes the integration of body, mind and spirit with an evaluation of specific techniques and therapies. Application of critical thinking skills to analyze and compare conventional and alternative healthcare practices. Prerequisite: Reading Proficiency. Three lecture.

##### **COURSE CONTENT:**

1. Conventional and holistic healthcare practices
2. Eastern therapies
3. Ayurvedic medicine
4. Native American perspectives
5. Alternative health professionals
6. Herbal therapies and nutrition
7. Touch therapies
8. Mind-Body therapies
9. Energetic therapies
10. Environment and health
11. Critical thinking skills

##### **LEARNING OUTCOMES:**

1. Describe and use elements and aspects of the critical thinking process, including the examination of new ideas and alternatives. (1-9,11) (CT 1-4)
2. Construct questions pertinent to, and articulate informed choices between, conventional and holistic healthcare. (1,11) (CT 1)
3. Critically process and communicate Eastern and Native American culture contributions to holistic healthcare. (2-4) (CT 3)
4. Compare and contrast alternative health professions. (5) (CT 1,3)
5. Identify safe herbal therapies. (6) (CT 2)
6. Examine and critically analyze current research data pertinent to complementary and alternative therapies. (2, 6-9,11) (CT 2-4)
7. Formulate and articulate informed choices that integrate mind-body-spirit practices into healthcare based on refined critical thinking skills. (1-4,7-9,11) (CT 1,2,4)
8. Apply critical thinking skills when assessing philosophical, scientific, societal and individual issues related to our environment and its relationship to our health. (10,11) (CT 1,2,4)
9. Explain that open-mindedness to new ideas is crucial to the development of critical thinking skills and that closure is not always achieved in intellectual discourse. (11) (CT 3,4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**Course Attributes:**  
Critical Thinking (AGEC)

#### **AHS 296 - Internship: Allied Health Services**

**COURSE DESCRIPTION:**

AHS 296. Internship: Allied Health Services (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Internship](#)

Sciences, Health & Public Safe Division  
Allied Health Services Department

#### **AHS 299 - Independent Study Allied Health Services**

**COURSE DESCRIPTION:**

AHS 299. Independent Study Allied Health Services (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours


**Levels:** Credit

**Schedule Types:** Independent Study

Sciences, Health & Public Safe Division  
Allied Health Services Department

#### **AJS 101 - Introduction to Administration of Justice**

**COURSE DESCRIPTION:**

AJS 101. Introduction to Administration of Justice (3).  **AJS 1101.** Overview of the criminal justice system. Organization and jurisdiction of local, state, and federal law enforcement, judicial, and correctional systems. History and philosophy of each component of the criminal justice system and interrelations among the various agencies. Career opportunities and qualifying requirements. Three lecture.

**COURSE CONTENT:**

1. The social, political and legal issues defining crime



2. Statistical instruments used to measure crime
3. Law enforcement
  - a. History and philosophy
  - b. Organization and jurisdiction
  - c. Legal issues and due process
  - d. Recruitment, selection, and career opportunities
4. Judicial system
  - a. History and philosophy
  - b. Organization and jurisdiction
  - c. Due process of law
  - d. Pretrial and trial procedures
  - e. Professions related to the judicial system
5. Correctional system
  - a. History and philosophy
  - b. Organization and structure
  - c. Due process
  - d. Sentencing guidelines
  - e. Career opportunities
6. Overview of Juvenile Justice System
7. Future of criminal justice

**LEARNING OUTCOMES:**

1. Define crime in the context of social, political, and legal issues.
2. Identify the statistical instruments used to measure crime.
3. Identify and describe the organization and jurisdiction of the three components of the criminal justice system: Law enforcement, courts, and corrections.
4. Explain the history and philosophy of the three components of the criminal justice system.
5. Define due process of law in relation to each of the three components of the criminal justice system.
6. Identify and describe the organization and jurisdiction of the juvenile justice system.
7. Discuss future directions in the criminal justice system.
8. List career opportunities and qualifying requirements within the three components of the criminal justice system.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
 Administration of Justice Department

**Course Attributes:**

Oral Communication (OC), Written Comm (WC), SUN# AJS 1101

**[AJS 103 - Public Safety Report Writing](#)****COURSE DESCRIPTION:**

AJS 103. Public Safety Report Writing (3) (Summer). Introduction to effective report writing in a variety of public safety incident settings, including law enforcement, fire safety and emergency medical situations. Emphasis on clear and concise writing as well as the legal ramifications of public safety reports. Three lecture.

**COURSE CONTENT:**

1. Objectives of writing public safety reports
2. Writing public safety reports
3. Basic grammar and spelling
4. Chronological and topical ordering
5. Proofreading and editing
6. Basic computer skills and word processing programs
7. Legal implications and ramifications of public safety reports
8. Records retention and report confidentiality

**LEARNING OUTCOMES:**

1. Discuss the larger objectives of writing public safety reports. (1)
2. Write reports that are concise and free of jargon. (2)
3. Use basic grammar and spelling skills. (3)
4. Craft a report in either chronological or topical order. (2, 4)
5. Proofread and edit a report. (5)
6. Use basic computer and word processing skills. (6)
7. Analyze legal ramifications and implications of public safety reports. (7)
8. Explain basic regulatory and legal requirements concerning records retention and report confidentiality. (8)

3.000 Credit hours  
 3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
 Administration of Justice Department

**[AJS 109 - Substantive Criminal Law](#)****COURSE DESCRIPTION:**

AJS 109. Substantive Criminal Law (3). Philosophy of legal sanctions and the historical development from common law to modern American criminal law. Classifications and general definitions of crimes. Common defenses to crimes. Three lecture.

**COURSE CONTENT:**

1. Origins and philosophy of criminal law
2. Judicial powers and jurisdiction
3. The elements of a crime
4. Crime classifications
  - a. crimes against person
  - b. crimes against property
  - c. crimes against habitation

- d. crimes against public order
- e. crimes against health, safety, and morality
- 5. Defenses to criminal liability
  - a. alibi
  - b. justification
  - c. excuse

## LEARNING OUTCOMES:

1. Trace the historical development of American criminal law from English common law to the modern American legal system.
2. Explain how laws are made or changed, judicial powers of review and interpretation, and the jurisdiction of particular courts.
3. List and explain the elements of a crime.
4. Identify general classifications of crimes and specific criminal acts within those classifications.
5. Identify general defenses to criminal liability and specific examples of defenses.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

[Syllabus Available](#)

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Career & Technical Education Division  
 Administration of Justice Department

## Course Attributes:

Critical Thinking (CT)

[AJS 123 - Ethics and Criminal Justice](#)

## COURSE DESCRIPTION:

AJS 123. Ethics and Criminal Justice (3). Ethical issues, cultural influences and moral theories as they relate to the justice system. Focus on underlying values and ethical challenges faced by law enforcement, attorneys, the judiciary and correctional staff. Specific ethical scenarios common to the criminal justice system will be addressed. Emphasis on critical thinking and value decision making. Prerequisite: Reading Proficiency. Three lecture.

## COURSE CONTENT:

1. Morality, ethics and human behavior
2. Origins and concept of justice
3. Ethical decisions
4. Law and the individual
5. Ethics and criminal justice professionals
6. The police role in society: crime fighter or public servant
7. Ethics and legal professionals
8. Justice and judicial ethics
9. Ethics of punishment and corrections
10. Fundamentals of critical thinking

## LEARNING OUTCOMES:

1. Define ethics, morality and values. (1) (CT 1)
2. Describe the intersection of law, standards of morality, ethics and society. (1-3) (CT 1-3)
3. Describe the core elements of justice, punishment and law. (2) (CT 1-3)
4. Analyze the difference between distributive and retributive justice systems. (2) (CT 3,4)
5. Identify ethical and justice theories and explain their historical origins. (3) (CT 1-3)
6. Explain the purpose of codes and ethics. (4) (CT 1,2)
7. Identify and explain key ethical issues confronting law enforcement. (5,6) (CT 1-4)
8. Identify and explain the factors involved in the use of discretion. (7) (CT 3)
9. Explain ethical considerations faced by members of the court. (8) (CT 1-4)
10. Analyze ethical issues confronting correctional personnel. (9) (CT 1-4)
11. Describe and model the fundamental concepts of critical thinking, including the barriers to critical thought and the recognition that closure is not always achieved in intellectual discourse. (10) (CT 1-4)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Career & Technical Education Division  
 Administration of Justice Department

## Course Attributes:

Critical Thinking (AGEC), Critical Thinking (CT)

[AJS 150 - Arizona Detention Officers Basic Training Academy](#)

## COURSE DESCRIPTION:

AJS 150. Arizona Detention Officers Basic Training Academy (13). Training in basic responsibilities required to be an Arizona Detention Officer. Development of professional abilities, and skills required for state certification. Prerequisite: Agency sponsorship required. Thirteen lecture.

## COURSE CONTENT:

1. Basic law enforcement skills
2. Law and legal issues
3. Basic detention skills
4. Risk management
5. Defensive tactics
6. Physical training

## LEARNING OUTCOMES:

1. Preserve and protect a crime scene. (1)
2. Identify inmates who are using drugs. (3)
3. Communicate legal facts orally and in writing. (2)
4. Give testimony in court. (2)

5. Apply approved strategies for handling inmates with communicable diseases. (3)
6. Identify security risks in jail facility. (4)
7. Document pertinent evidentiary information as it is gathered. (2,4)
8. Apply CPR and administer First Aid. (1)
9. Employ officer survival techniques. (5)
10. Intervene in violent physical and nonviolent altercations. (3)
11. Develop a personal plan for maintaining physical conditioning appropriate to employment standards. (6)

13.000 Credit hours  
 13.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Administration of Justice Department

#### **AJS 170 - Forensic Science**

**COURSE DESCRIPTION:** AJS 170. Forensic Science (3). Characteristics and elements of forensic science and the processes of collecting, preserving and analyzing different types of physical evidence. Includes organization of a crime laboratory, crime scene processing and legal aspects. Three lecture.

**COURSE CONTENT:**

1. Forensic science
2. Physical evidence
3. Physical properties: glass and soil
4. Organic analysis
5. Inorganic analysis
6. The microscope
7. Hairs, fibers, and paint
8. Drugs
9. Forensic toxicology
10. Forensic aspects of arson and explosion investigations
11. Forensic serology
12. DNA
13. Fingerprints
14. Document and voice examination
15. Forensic science and the Internet

**LEARNING OUTCOMES:**

1. Define the elements and characteristics that make up forensic science. (1)
2. Identify the components of physical evidence. (2)
3. Identify the different aspects of a crime laboratory. (3-7)
4. Illustrate the processes for handling drug cases. (8)
5. Describe components of forensic toxicology. (9)
6. Identify forensic aspects of arson and explosion investigations. (10)
7. Identify and discuss the role of DNA in today's criminal evidence. (11,12)
8. Apply principles and procedures of fingerprinting to the crime scene. (13)
9. Discuss utilization of documents and voice examinations. (14)
10. Identify the role of the Internet on forensic science. (15)

3.000 Credit hours  
 3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Administration of Justice Department

**Course Attributes:**

Quantitative Lit (QL), Scientific (SL)

#### **AJS 200 - Current Issues in Criminal Justice**

**COURSE DESCRIPTION:**

AJS 200. Current Issues in Criminal Justice (3). Current issues, trends, and techniques related to and affecting the criminal justice system. Three lecture.

**COURSE CONTENT:**

1. Crime in the United States
  - a. criminal behavior
  - b. murder rates
  - c. race issues
  - d. drugs and crime
  - e. the criminal justice process
2. Victimology
  - a. victim rights
  - b. childhood victimization
  - c. battered women
3. Police
  - a. community policing
  - b. multiculturalism
  - c. use of deadly force and pursuits
  - d. ethics
4. Judicial System
  - a. jury system
  - b. expert witnesses
  - c. insanity defense
5. Juvenile Justice
  - a. transfers to adult court
  - b. kids and guns
  - c. teen courts

## 6. Punishment and Corrections

- a. trends in probation
- b. race issues
- c. women in prison
- d. prison overcrowding
- e. death penalty

## LEARNING OUTCOMES:

1. Explain how current social issues, trends in criminal behavior, and the criminal justice process itself effects crime rates
2. Discuss current issues effecting victims of crime
3. Identify and explain current social issues affecting police work.
4. Discuss current policy issues related to police work.
5. Discuss specific issues related to the contemporary judicial system.
6. Assess recent trends in juvenile crime and resulting current philosophies and practices in juvenile justice.
7. Evaluate trends and policies in corrections based on current literary courses.

3.000 Credit hours

3.000 Lecture hours

0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Administration of Justice Department

## Course Attributes:

Creative Thinking (CR)

**AJS 212 - Juvenile Justice Procedures**

## COURSE DESCRIPTION:

AJS 212. Juvenile Justice Procedures (3). History and development of juvenile justice theories, procedures and institutions. Three lecture.

## COURSE CONTENT:

1. History of the juvenile justice system
2. Overview of the modern-day juvenile justice system.
3. Juvenile delinquency and the law
4. Police interaction with juveniles
5. Juvenile justice procedures
6. Current issues and problems with the juvenile justice system

## LEARNING OUTCOMES:

1. Outline the historical development of the juvenile justice system.
2. Outline the modern philosophies, organization and treatment/intervention goals of the juvenile justice system.
3. Name and explain landmark cases related to current juvenile justice laws.
4. Describe law enforcement procedures related to juvenile delinquency.
5. Outline juvenile justice procedures from arrest/intake through disposition.
6. Identify and discuss current issues and problems associated with the juvenile justice system.

3.000 Credit hours

3.000 Lecture hours

0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Administration of Justice Department

## Course Attributes:

Diversity (DA)

**AJS 225 - Criminology**

## COURSE DESCRIPTION:

AJS 225. Criminology (3). Theories of criminality and the economic, social and psychological impact of crime, victimization, and the relationships between statistics and crime trends. The study of deviance and society's role in defining behavior. Three lecture.

## COURSE CONTENT:

1. Theories of criminal behavior
2. Crime statistics and trends
3. Categories of crime
4. The impact of crime on society
5. Social structure and criminality

## LEARNING OUTCOMES:

1. Identify and summarize the various theories of criminal behavior.
2. Analyze the relationship between crime statistics and trends.
3. Categorize types of crimes.
4. Describe the economic and psychological impact of crime on society.
5. Explain the relationship between social status and criminality.

3.000 Credit hours

3.000 Lecture hours

0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Administration of Justice Department

**Course Attributes:**  
Digital Lit (DL), Info Literacy (IL)

### AJS 230 - The Police Function

**COURSE DESCRIPTION:**

AJS 230. The Police Function (3). History and development, procedures and methods of operations of law enforcement agencies. Role of the individual law enforcement officer. Career opportunities and the hiring process. Three lecture.

**COURSE CONTENT:**

1. Historical overview and development of law enforcement agencies
2. Structure and jurisdiction of modern law enforcement agencies
3. Roles, functions, and operations of law enforcement in modern society
4. Law enforcement organization and management
5. Discretionary powers of the law enforcement officer
6. Professionalism and ethical issues related to law enforcement
7. Job-related problems of the individual officer
8. Hiring process and training

**LEARNING OUTCOMES:**

1. Trace the history and development of early law enforcement agencies. (1)
2. Explain the role of law enforcement in terms of patrol, investigation, traffic enforcement, and crime prevention. (1-3, 5-7)
3. Identify the typical chain of command in law enforcement agencies. (2-4, 8)
4. Define discretion as related to law enforcement and describe the internal and external mechanisms which influence and control discretion. (5)
5. Describe current issues in law enforcement related to use of force, liability and community interaction and influence. (5-7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Administration of Justice Department

**Course Attributes:**  
Civic Engagement (CE)

### AJS 240 - The Correction Function

**COURSE DESCRIPTION:**

AJS 240. The Correction Function (3). History and development of correctional theories, practices, and institutions. Modern ideologies and functions associated with both community-based and custodial corrections systems. Three lecture.

**COURSE CONTENT:**

1. Overview of the criminal justice process
2. Evolution of corrections
3. Supreme Court decisions related to the corrections system
4. Goals and philosophies related to the treatment of offenders
5. Alternatives to incarceration
6. Correctional institutions
7. Parole
8. Capital punishment
9. Special problems related to the correctional system

**LEARNING OUTCOMES:**

1. Identify the three components of the criminal justice system and explain the role corrections plays within the system.
2. Summarize the historical development of the correction function within the criminal justice system.
3. Analyze the effect of Supreme Court decisions on the correctional system.
4. Name the generally accepted goals of corrections and explain the philosophies which led to the development of these goals.
5. Trace the historical development of probation, describe the function of probation, and identify alternatives to incarceration.
6. Identify and describe the organization of various types of correctional institutions and explain the management of each.
7. Outline the differences between parole and probation and describe the appropriate circumstances under which each is used.
8. Discuss issues related to capital punishment: history, laws, philosophies, and public opinion.
9. Identify and discuss problems and issues related to the modern correctional system.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Administration of Justice Department

### AJS 250 - Introduction to Global Security and Intelligence

**COURSE DESCRIPTION:**

AJS 250. Introduction to Global Security and Intelligence (3) (Spring). Introduction to Homeland Security, global business security issues and transnational events which have global repercussions such as terrorism, war, disease, migration, and natural disasters. Three lecture.

**COURSE CONTENT:**

1. U.S. national security policies
2. Homeland Security Department
3. The Patriot Act
4. Global business security issues
5. Transnational events

**LEARNING OUTCOMES:**

1. Identify the primary governmental agents responsible for the formation of U.S security policies. (1)
2. Explain the key responsibilities of the Homeland Security Department. (2)

3. Analyze the Patriot Act. (3)
4. Evaluate and devise responses to key threats to global business security, including trade secret protection, theft, computer hacking and protection of employees. (4)
5. Analyze the unique threats posed by terrorism to both national security and global business security. (5)
6. Evaluate key threats and formulate responses to national security and global business security caused by transnational events such as war, disease, migration, and natural disasters. (5)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lecture

Career & Technical Education Division  
Administration of Justice Department

### **AJS 252 - Homeland Security**

#### **COURSE DESCRIPTION:**

AJS 252. Homeland Security (3) (Summer). Introduction to Homeland Security and homeland defense policies and strategies, with a focus on immigration and border security. Three lecture.

#### **COURSE CONTENT:**

1. History and structure of the U.S Department of Homeland Security and related federal agencies
2. Strategic goals of Homeland Security and national defense
3. Impacts on state and local security
4. Impact on the U.S. criminal justice system
5. Constitutional and ethical issues
6. Risks to Homeland Security

#### **LEARNING OUTCOMES:**

1. Discuss the history and structure of the U.S Homeland Security Department. (1)
2. Identify various strategic goals of Homeland Security and national defense. (2)
3. Explain how Homeland Security impacts state and local security. (3)
4. Discuss impact of Homeland Security on the U.S criminal justice system. (4)
5. Analyze the various Constitutional and ethical issues concerning Homeland Security, including enhanced interrogation, airport security and the Patriot Act. (5)
6. Analyze various risks to Homeland Security, including terrorism, immigration and border security, and data security. (6)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Administration of Justice Department

### **AJS 254 - Global Crime and Criminal Justice**

#### **COURSE DESCRIPTION:**

AJS 254. Global Crime and Criminal Justice (3). Introduction to international criminal activity and organizations, particularly money laundering, drug smuggling and trafficking of humans. Includes international methods of crime prevention and prosecution. Three lecture.

#### **COURSE CONTENT:**

1. Challenges and concerns of international crime
2. Sources of international criminal law
3. Global differences in defining, prosecuting and preventing criminal activity
4. Financial impact of international crime
5. Types of international crime

#### **LEARNING OUTCOMES:**

1. Discuss the unique challenges and concerns posed by international crime. (1)
2. Identify and describe the various sources of international law, including the United Nations. (2)
3. Analyze the difficulties of defining and prosecuting crime in diverse legal and cultural environments. (3)
4. Describe global differences in the procedures for prosecuting and preventing international criminal behavior. (3)
5. Explain the financial implications of international crime. (4)
6. Discuss various types of international crime such as money laundering, drug smuggling, human trafficking, and cyber-crime. (5)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lecture

Career & Technical Education Division  
Administration of Justice Department

### **AJS 256 - Terrorism**

#### **COURSE DESCRIPTION:**

AJS 256. Terrorism (3) (Fall). History and causes of terrorism, with a focus on why the United States has become a target of terrorist groups. Includes approaches for combating and preventing terrorism. Three lecture.

#### **COURSE CONTENT:**

1. History of terrorism
2. Theories and causes of terrorism and the radicalization process
3. Combating and preventing terrorism
4. Impact of terrorism on the U.S. criminal justice system and national security
5. Terrorist attacks

#### **LEARNING OUTCOMES:**

1. Discuss the history of terrorism, domestically and internationally. (1)

2. Explain various competing theories on the causes of terrorism and the radicalization process, at home and abroad. (2)
3. Identify various approaches to combating and preventing terrorism. (3)
4. Describe various changes to the U.S criminal justice system caused by terrorist attacks in the United States and abroad. (4)
5. Describe the various changes in national security approaches caused by terrorist attacks in the United States and abroad. (5)
6. Discuss the prevailing patterns and trends in modes of attack, weaponry and strategies of terrorists. (5)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** [Lecture](#)

Career & Technical Education Division  
 Administration of Justice Department

#### [AJS 258 - Information Protection and Computer Security](#)

##### COURSE DESCRIPTION:

AJS 258. Information Protection and Computer Security (3) (Spring). Introduction to the unique challenges to protection of information and computer security posed by cyberspace. Three lecture.

##### COURSE CONTENT:

1. Importance of information
2. Classification and confidentiality
3. Risk analysis and risk management
4. Computer security and cyberspace
5. Types of security issues

##### LEARNING OUTCOMES:

1. Discuss the importance of information to organizations and modern society. (1)
2. Identify the basic legal requirements concerning classification and confidentiality of certain types of information. (2)
3. Describe basic concepts of risk analysis and risk management concerning information security. (3)
4. Discuss the unique challenges of computer security and the hazards posed by cyberspace. (4)
5. Analyze particular types of security breaches such as industrial espionage, computer hacking, privacy breaches, data protection and copyright. (5)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lecture

Career & Technical Education Division  
 Administration of Justice Department

#### [AJS 260 - Procedural Criminal Law](#)

##### COURSE DESCRIPTION:

AJS 260. Procedural Criminal Law (3). Procedural criminal law. Emphasis on rationale underlying major court holdings, the resulting procedural requirements, and the effect on the daily operations of the criminal justice system. Three lecture.

##### COURSE CONTENT:

1. Historical overview of the United States judicial system
  - a. Constitution
  - b. Supreme Court
  - c. Constitutional amendments
2. Police procedures
  - a. arrest
  - b. interrogation
  - c. search and seizure
3. Trial procedures
  - a. pretrial process
  - b. trial process
  - c. sentencing process
4. Corrections
  - a. prison
  - b. parole
5. Juvenile Justice System

##### LEARNING OUTCOMES:

1. Summarize the development and the role of the United States Constitution and the United States Supreme Court in determining procedural requirements for the criminal justice system.
2. Describe the concepts of judicial review and judicial interpretation.
3. Define the first, fourth, fifth, sixth, eighth, and fourteenth amendments to the constitution and explain their significance to procedural criminal law.
4. Analyze major cases and procedural requirements related to arrest, interrogation, and search and seizure by law enforcement.
5. Outline the steps in the pretrial, trial, and sentencing processes.
6. Analyze major cases and procedural requirements related to the pretrial, trial, and sentencing processes.
7. Analyze and define major cases and procedural requirements related to corrections procedures including probation, parole, and prison.
8. Identify and define major cases and procedural requirements related to the juvenile justice system.
9. Explain appellate jurisdiction and outline the appeal process.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** [Additional Activity](#), [Lecture](#)

Career & Technical Education Division  
 Administration of Justice Department

**AJS 270 - Community Relations****COURSE DESCRIPTION:**

AJS 270. Community Relations (3). Recognition and understanding of community problems; community action programs; methods of coping with crisis situations, victimology, ethnic and minority cultures, environments, crime prevention and police operations. Three lecture.

**COURSE CONTENT:**

1. Overview
2. Historical perspectives
3. The justice community
4. Contrast between public and community relations
5. Psychological factors affecting police-community relations
6. Police role concept in a changing society
7. Coping with the human experience of being a cop
8. Police professionalism and PCR
9. The communication process
10. Blocks to effective communication
11. Selective enforcement and community relations
12. The media link
13. The young, the elderly and the police
14. Community relations in the context of culture
15. Dilemmas of dissent and political response
16. Conflict management
17. Community control: a continuum of participation
18. Innovations and programs for the future

**LEARNING OUTCOMES:**

1. Understand police-community relations in principle and practice.
2. Identify and analyze specific problems which relate to police-community relations and seek possible solutions.
3. Question and explore community relations from differing perspectives.
4. Recognize diverse social and personal needs of individuals and groups in modern society.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Administration of Justice Department

**AJS 275 - Criminal Investigations****COURSE DESCRIPTION:**

AJS 275. Criminal Investigations (3). Theories of criminal investigation. Includes basic investigative techniques of crime scene procedures, case preparation, and interview techniques. Three lecture.

**COURSE CONTENT:**

1. Definition and goals of investigation
2. Role of the investigator
3. Crime scene management
4. Physical evidence procedures
5. Interview techniques
6. Investigations of specific crimes
7. Investigative report writing

**LEARNING OUTCOMES:**

1. Define investigation and describe the goals of criminal investigation.
2. Explain the role of the investigator and describe the attributes of a successful investigator.
3. Define a crime scene and explain protecting and recording the crime scene.
4. Identify, collect, preserve, and transport physical evidence.
5. Describe the steps involved in preparing for interviews, use interview techniques, and list common interview problems.
6. List and describe the basic investigative steps involved in specific crimes.
7. Prepare and write an investigative report.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Administration of Justice Department

**AJS 278 - Neuroscience and the Law****COURSE DESCRIPTION:**

AJS 278. Neuroscience and the Law (3). A multi-disciplinary look at how new discoveries in neuroscience and our understanding of the brain are having a direct impact on the criminal justice system. Three lecture.

**COURSE CONTENT:**

1. Existence of free will
2. Neuroscience of decision-making
3. Punishment, blameworthiness and rehabilitation
4. Adolescent brains and juvenile justice
5. Mental Illness/insanity defense
6. Memory and eyewitness identification

**LEARNING OUTCOMES:**

1. Discuss the key neuroscience and consciousness theories concerning whether humans have free will. (1)
2. Discuss the implications of brain scans on our understanding of decision-making. (2)



3. Evaluate different theories of punishment and rehabilitation in light of latest neurological findings. (3)
4. Explain the differences in adult and adolescent brains and the effects on juvenile justice. (4)
5. Discuss the implications of latest neurological findings on legal concepts of mental illness and insanity. (5)
6. Discuss the implications of latest neurological findings on memory and their impact on eyewitness identification. (6)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Administration of Justice Department

#### **AJS 290 - Constitutional Law: Civil Liberties and Civil Rights**

##### **COURSE DESCRIPTION:**

AJS 290. Constitutional Law: Civil Liberties and Civil Rights (3). The United States Constitution, including the Bill of Rights and the Fourteenth Amendment. Includes the impact of U.S. Supreme Court opinions on the history and development of civil liberties and civil rights, particularly as they pertain to the administration of justice and law enforcement. Three lecture.

##### **COURSE CONTENT:**

1. The Bill of Rights and U.S. Constitutional guarantees for civil liberties and civil rights
2. Constitutional interpretation and judicial review
3. Landmark U.S. Supreme Court opinions
4. Supreme Court interpretations of the Constitution on the administration of justice and law enforcement
5. The Fourteenth Amendment to the Constitution and the application of the privileges or immunities, due process and equal protection clauses

##### **LEARNING OUTCOMES:**

1. Identify the key provisions of the Bill of Rights and the U.S. Constitution that pertain to civil liberties and civil rights. (1)
2. Explain various competing theories of constitutional interpretation and judicial review. (2)
3. Analyze U.S. Supreme Court case law. (3)
4. Explain landmark Supreme Court rulings on civil liberties and civil rights. (3)
5. Describe the impact of key Supreme Court opinions on the administration of justice and law enforcement, including Miranda rights, the exclusionary rule, search and seizure, right to counsel, trial by jury, and double jeopardy. (4)
6. Identify the key provisions of the Fourteenth Amendment and the privileges or immunities, due process and equal protection clauses. (5)
7. Explain competing theories of incorporation of the Fourteenth Amendment. (5)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Career & Technical Education Division  
Administration of Justice Department

#### **AJS 291 - Intensive Police Certification**

##### **COURSE DESCRIPTION:**

AJS 291. Intensive Police Certification (24). Study of criminal investigations, police community relations, traffic accident investigation, introduction to administration of justice, law, legal principles, patrol procedures, vehicle operations, report and technical writing, physical conditioning, defense tactics, impact weapons, firearm proficiency and safety, first aid, fundamentals of hazardous materials, stress management and use of force. This course contains the Arizona Peace Officers Standards and Training curriculum required for peace officer certification. Prerequisite: Student must be appointed by an Arizona law enforcement agency. Twenty-four lecture.

##### **COURSE CONTENT:**

1. Traffic laws
2. Traffic control
3. Crime prevention theory
4. Crime scene investigation
5. Social and psychological factors in human interaction
6. Criminal law and procedure; juvenile law and procedure
7. Corpus delicti of the major crimes against public order and crimes of process
8. Powers of the police to investigate and arrest
9. Search and seizure laws and procedures
10. The American court system and constitutional law
11. Civil law and process
12. Basic techniques of stopping, arresting and handling violators
13. Basic techniques of handling crisis cases, such as domestic disputes, bomb scares, crowd/ riot control, mental illness cases and disorderly conduct cases
14. Defensive driving and vehicle control
15. Physical conditioning
16. Liability and use of force
17. Firearms safety and marksmanship
18. Regulations/statutes

##### **LEARNING OUTCOMES:**

1. Describe the procedures in recording and reporting investigation of the crime scene and in the collection of evidence. (4, 6-8)
2. Identify laws relating to traffic accidents. (1)
3. Apply methods and practices of modern crime prevention. (3, 7)
4. Interpret social and psychological factors important in human interactions. (5, 6, 13)
5. Explain police interactions with cultural/ethnic minorities. (5, 6, 11)
6. Apply procedures relating to traffic movement. (2)
7. Define laws and procedures regarding search and seizure. (6, 8, 9)
8. Describe the structure of the American court system. (6, 10, 18)
9. Explain basic techniques of patrol procedures, including handling crisis cases. (8, 12, 13)
10. Describe the connection of police and constitutional law. (6, 10)
11. Define powers of police to investigate and arrest. (8)
12. Use safe and defensive driving practices and the basic principles of emergency vehicle operation. (14)
13. Identify the principles of physical conditioning and calculate the relatedness of nutrition and health to physical conditioning. (15)
14. Use the police shotgun and handgun and safely handle firearms. (17)
15. Discuss the statutes and regulations regarding the use of force. (16, 18)

24.000 Credit hours

24.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture, Lecture/Lab

Career & Technical Education Division  
Police Academy Department

**AJS 296 - Internship: Administration of Justice**

**COURSE DESCRIPTION:**

AJS 296. Internship: Administration of Justice (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Career & Technical Education Division  
Administration of Justice Department

**AJS 299 - Independent Study Administration of Justice**

**COURSE DESCRIPTION:**

AJS 299. Independent Study Administration of Justice (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Career & Technical Education Division  
Administration of Justice Department

**ANT 101 - Stones, Bones and Human Origins**

**COURSE DESCRIPTION:**

ANT 101. Stones, Bones, and Human Origins (3). Introduction to physical anthropology. Emphasis on population genetics, primate evolution and behavior, and fossil man. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Introduction to the field of anthropology
2. General discussion of evolutionary paradigms including development of Darwinian thought and approaches
3. Mechanisms of evolution
4. Population genetics and variability
5. Primate evolution and taxonomy
6. Primate social behavior
7. Trends toward fossil hominid evolution
8. Emergence of modern hominid
9. Human variation and applied physical anthropology
10. Discussion of the future of the genus Homo

**LEARNING OUTCOMES:**

1. Assemble and analyze significant and representative interpretations, methodologies, and theories which guide research in physical anthropology. (SS 1)
2. Describe the geographical and environmental context of primate evolution and social behavior. (SS 2)
3. Outline and discuss the sequential development of the genus Homo. (SS 5)
4. Identify, interpret, evaluate, and synthesize insights of evolutionary paradigms as applied to primates. (SS 4)
5. Identify field techniques of applied physical anthropology. (SS 3)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Social Science (AGEC)

**[ANT 102 - Introduction to Cultural Anthropology](#)****COURSE DESCRIPTION:**

ANT 102. Introduction to Cultural Anthropology (3). Survey of anthropological principles with emphasis on concept of culture and nature of man as a social animal. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Introduction to anthropology, its method and development
2. Language, communication and culture
3. Subsistence efficiency and cultural ecology
4. Comparative economic systems
5. Kinship systems: marriage and the family
6. Levels of social organization and political systems
7. Race, gender and ethnicity
8. Ideology, magic and religion
9. Culture and personality
10. Culture change
11. Global society and applied anthropology

**LEARNING OUTCOMES:**

1. Examine and critically analyze significant perspectives, methodologies and theories which guide research in anthropology. (SS 2)
2. Develop an awareness of the role played by culture on the behavior of individuals and groups in diverse societal settings. (SS 4)
3. Develop curiosity and empathy for cultural diversity which is based on ethnic, race and gender differences. (SS 4)
4. Foster a classroom environment where questioning of ethnocentric attitudes and the clarification of racially, ethnically and gender based values are allowed to challenge traditional western notions. (SS 5)
5. Develop those social science insights that are desirable for all educated persons. (SS 1)
6. Develop critical thinking skills in relation to anthropological scientific concepts. (SS 1)
7. Enhance competence and performance of critical reading and independent thinking in anthropological knowledge. (SS 3)
8. Employ critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers. (SS 3)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Ethnic, Race & Gender, Social Science (AGEC)

**[ANT 104 - Buried Cities and Lost Tribes](#)****COURSE DESCRIPTION:**

ANT 104. Buried Cities and Lost Tribes (3). Introduction to the portion of human history that extends back 2.5 million years before the time of written records and archives. Emphasis on study of the world prehistory of humankind from a global perspective. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Introduction to world prehistory.
2. Human origins.
3. Exodus out of Africa.
4. Colonization of the world.
5. The origins of food production.
6. The earliest farmers.
7. The first chiefdoms.
8. Early state-organized societies.
9. Mesopotamia and the Eastern Mediterranean world.
10. Egypt and Africa.
11. South, Southeast, and East Asia.
12. Lowland Mesoamerica.
13. Highland Mesoamerica.
14. Andean civilization.

## LEARNING OUTCOMES:

1. Assemble and critically analyze significant and representative interpretations and theories of the origins of modern humans. (SS 1)
2. Describe the geographical and environmental context of the diaspora of humankind. (SS 4)
3. Identify, interpret, evaluate, and synthesize the revolutionary circumstances that led to beginnings of animal and plant domestication by humans. (SS 3)
4. Explain the cultural and environmental circumstances that led to the formation of stratified societies in the world (Chiefdoms and States). (SS 5)
5. Describe and assess and model the rise of civilization in the critical regions of the Old and New World. (SS 4)
6. Outline and compare key aspects of the development of civilization on a world-wide scale. (SS 2)

## REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

## Course Attributes:

Social Science (AGEC)

**ANT 201 - Forensic Anthropology**

## COURSE DESCRIPTION:

ANT 201. Forensic Anthropology (3). Introduction to forensic anthropology. Emphasis on the examination of human skeletal remains for law enforcement agencies to determine the identity of unidentified bones. Prerequisite: ENG 101 or ENG 103. Three lecture.

## COURSE CONTENT:

1. Historical background and methodology.
2. Basics of Human osteology.
3. Basic objectives of a forensic anthropology investigation.
4. The stages of a forensic investigation.
5. Using human osteology can help identify the life history of an individual.
6. Case of how forensic anthropology can add to our knowledge of the past.
7. Case studies of forensic investigation used in recent special cases.

## LEARNING OUTCOMES:

1. Conduct forensic examination of human remains using applied physical anthropology principles. (1)
2. Identify basic parts of human skeletal anatomy. (2)
3. Explain the importance of establishing forensic context. (3)
4. Explain and describe the methodology used by forensic anthropologists. (4)
5. Compare and contrast the various methods used to specifically identify individual skeletal remains. (5)
6. Use forensic anthropology for prehistoric contexts. (6)
7. Describe and contrast important forensic investigations using case studies. (7)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**ANT 211 - Women in Cross-Cultural Perspective**

## COURSE DESCRIPTION:

ANT 211. Women in Cross-Cultural Perspective (3). Cross-cultural study of definition, trends, and issues of women's status by examining and evaluating operative forces behind women's role in society. Prerequisite: Reading Proficiency. Three lecture.

## COURSE CONTENT:

1. Women in history
2. Concept of motherhood through the ages
3. Concepts of masculinity and femininity; behavioral and spatial stratification
4. Education and role differentiation
5. Division of labor; allocation of duties
6. Domestic vs. public roles--women in power, masculine women, seclusion and taboos, property rights, marriage and family
7. Feminism and sexual equality
8. Role of women in religion; female goddesses
9. Women and society

## LEARNING OUTCOMES:

1. Acquire an appreciation and understanding of the role women play cross-culturally.
2. Encourage the development of curiosity and empathy for cultural diversity which is based on gender differences.

3. Foster an awareness of the varying perspectives of gender from which we can view our own society and its place in the world.
4. Emphasize critical thinking skills.
5. Perform critical reading, oral discourse, and independent thinking.

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**Course Attributes:**

Ethnic, Race & Gender

**ANT 214 - Magic, Witchcraft and Healing: the Supernatural in Cross-Cultural Perspective****COURSE DESCRIPTION:**

ANT 214. Magic, Witchcraft and Healing: The Supernatural in Cross-Cultural Perspective (3). Comparative anthropological survey of supernatural practices employed by western and non-western peoples in dealing with life crises, adversity, misfortune, bad luck, illness, death and similar phenomena beyond human control. Prerequisite: ENG 101 or ENG 103. Three lecture.

**COURSE CONTENT:**

1. Anthropological Theory and its application to the study of the supernatural
2. The problem of meaning in human existence
3. Life cycle and rites of passage
4. Magic, science and religion
5. Contagious and homogeneous magic
6. Divination, oracles and ordeals
7. Witchcraft as explanation for adversity, misfortune and death
8. Witchcraft, social equality and communal conflict
9. Diagnosis and classification of social functions of witchcraft
10. Ancestors, ghosts and sorcerers
11. The shaman's journey into the supernatural realm
12. Other medicine men and witch doctors
13. Non-western versus western medical systems
14. Primitive curing and modern psychoanalysis
15. The use of hallucinogenic drugs in curing and vision quest
16. The relevance of magic in the modern world

**LEARNING OUTCOMES:**

1. Relate the general anthropological theory to specific theories about the supernatural in the subfield of Anthropology of Religion. (1)
2. Explain the universal human Problem of Meaning and its effect on supernatural practices as well as human diversity in dealing with it. (1,2)
3. Explain the internal logic of such practices as shamanistic curing, other forms of traditional healing, witchcraft and divination and describe some of the social functions and dysfunctions of these activities through an extrapolation of the major relevant anthropological theories in this area. (6,7,8,11,12,13,14,15)
4. Use selected theoretical approaches to separate superstition, quackery and hocus pocus from sincere attempts to deal with the supernatural. (1,15,16)
5. Define and differentiate concepts and issues of culture/ethnicity and gender as related to life crises, healing and the supernatural with special focus on the pivotal role of women in this field. (1-16)
6. Analyze the worldwide phenomenon of witchcraft and identify possible reasons for the revival of witchcraft and related phenomena in the modern industrialized West. (2, 16)
7. Engage in dialectic discussions that exhibit evidence of intellectual curiosity, maturity and scholarship. (1-16)
8. Discuss and use key elements and terminology relevant to the study of the supernatural in the context of life crises and healing. (1-16)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**ANT 230 - Principles of Archaeology****COURSE DESCRIPTION:**

ANT 230. Principles of Archeology (3). Introduction to methods, theory, and techniques used in archaeology. The scope of human prehistory from the earliest human cultures to the rise of complex civilizations. Prerequisite: ENG 101 or ENG 103. Three lecture.

**COURSE CONTENT:**

1. Historical perspective of archaeology
2. Archaeological survey and excavation
3. Archaeometry
4. Social archaeology
5. Environmental archaeology
6. Subsistence and diet
7. Prehistoric technology
8. Prehistoric trade
9. Cognitive archaeology
10. Bioarchaeology
11. Explanation in archaeology and why things change
12. Public archaeology

**LEARNING OUTCOMES:**

1. Define the goals and scope of archaeology and trace the history of archaeology from its beginning as an antiquarian pursuit of providing culture histories to a more scientific approach. (1)

2. Explain and describe methods of survey/excavation. (2)
3. Explain the importance of time depth of human prehistory in relation to the bioculture of our species. (3)
4. Explore the relationship between social organization and past settlement patterns. (4)
5. Analyze the environments that were exploited in prehistory. (5)
6. Use the concept of subsistence as the basis for categorizing what has been found in the archaeological record. (6)
7. Trace the evolution of human innovations and technology. (7)
8. Describe how both goods and ideas were exchanged. (8)
9. Interpret the use of art for what past people were thinking. (9)
10. Apply the principles of physical anthropology to archaeological burials (bioarchaeology). (10)
11. Explain the importance of change in the archaeological record and discuss why cultures disappear. Interpret the key elements of past material culture (Behavioral Archaeology). (11)
12. Define what cultural resource management is in reference to preserving a nonrenewable resource. (12)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

### ANT 231 - Southwestern Archaeology

#### COURSE DESCRIPTION:

ANT 231. Southwestern Archeology (3). Survey of man's prehistory in the southwestern United States beginning with the earliest evidence of man in the Southwest and concluding with the period just before Spanish contact. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Introduction to archeology
2. Theories and concepts of Southwest as a region
3. Paleo-Indians in the Southwest
4. Desert culture
5. Anasazi culture
6. Hohokam culture
7. Mogollon culture
8. Sinagua culture
9. Review of cultural development in Southwest

#### LEARNING OUTCOMES:

1. Examine and describe archaeological techniques of excavation utilized for acquiring material culture. (1; SS 2)
2. Explain the development of prehistoric culture in the Southwest and intercultural interaction. (2,3; SS 4)
3. Evaluate how geographical and environmental variability are the keys to archaeological interpretations of the different prehistoric cultures within the sphere of interaction in the Southwest. (3; SS 1)
4. Describe the archaeological cultures of the Southwest with an emphasis on chronology material culture seriation. (4-9; SS 3)
5. Examine the circumstances and impact of Spanish contact on indigenous southwestern groups. (2,9; SS 5)

#### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

#### Course Attributes:

Social Science (AGEC)

### ANT 232 - Indians of the Southwest

#### COURSE DESCRIPTION:

ANT 232. Indians of the Southwest (3). Survey of major Indian groups of the southwestern United States: Pueblo, Navajo, Apache, Papago, Pima, River Yuman and Mountain Yuman (Yavapai, Hualapai, Havasupai). Emphasis on historical factors that have led to culture change. Development of these groups from Spanish contact to present. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Prehistory, Mesoamerica, linguistics
2. Yaquis
3. Seris
4. Lower Pimas, Upper Pimas
5. Yumas
6. Eastern Pueblos, Western Pueblos
7. Navajos
8. Western Apaches, Mescalero Apaches
9. Spanish, Mexican, Anglo influences
10. Acculturation: political, economic, religious, linguistic
11. Urban experience, militancy

#### LEARNING OUTCOMES:

1. Encourage the development of curiosity and empathy for cultural diversity which is based on ethnic diversity in the "Greater Southwest." (1-11; SS 4)
2. Encourage questioning of ethnocentric attitudes and the clarification of ethnically-based values which challenge traditional values of society. (1-11; SS 5)
3. Examine and critically analyze significant and representative interpretations, methodologies, and theories which guide research in the Southwest. (1-11; SS 1,2)
4. Devote attention to enhancement of competence and performance of critical reading, oral discourse, and independent thinking. (1-11; SS 3)

#### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours

3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Diversity (DA), Ethnic, Race & Gender, Social Science (AGEC)

#### [ANT 248 - Introduction to Folklore](#)

**COURSE DESCRIPTION:**

ANT 248. Introduction to Folklore (3). A cross-cultural introduction to the study of folklore. Focuses on the ways individuals and groups use artistic expression in everyday life - including storytelling, beliefs, songs, speech, dance, celebrations and artifacts - to address issues of identity, community, and tradition. Cross listed with HUM 248. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Definition of folklore and examination of folkloric behavior and artifacts around the world
2. Genres of folklore in narrative, speech, belief, performance and art
3. Folklore theories and scholarship
4. Methods of folklore investigation, including fieldwork
5. Use of artistic expression in establishing individual and group identity, authenticity and authority
6. Stability and change in tradition

**LEARNING OUTCOMES:**

1. Distinguish folkloric behavior and artifacts from other aspects of human culture. (1, 2) (AH 1, 3)
2. Identify and associate specific examples of folklore with cross-cultural categories of human social behavior. (1-3, 5, 6) (AH 1-6)
3. Justify the value of fieldwork in investigating human behavior. (3, 4) (AH 1, 3, 4)
4. Document and interpret the presence of folklore in everyday life. (1-6) (AH 1, 2, 5, 6)
5. Describe and interpret the twin processes of conservation and change in the creation and transmission of folklore. (3, 6) (AH 1,2,3,5,6)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Visual/Performing/LiberalOBS Division  
Humanities Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing

#### [ANT 296 - Internship: Anthropology](#)

**COURSE DESCRIPTION:**

ANT 296. Internship: Anthropology (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### ANT 299 - Independent Study Anthropology

**COURSE DESCRIPTION:**

ANT 299. Independent Study Anthropology (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### ART 105 - Art Gallery Management

**COURSE DESCRIPTION:**

ART 105. Art Gallery Management (2). Introduction to practices and procedures of galleries and museums. Includes management of gallery spaces and exhibition and marketing of artwork. Two lecture.

**COURSE CONTENT:**

1. General operations of a gallery museum
2. Exhibition of artwork
3. Management of exhibition spaces
4. Marketing of artwork

**LEARNING OUTCOMES:**

1. Describe the daily workings of a gallery / museum. (1)
2. Distinguish between commercial and non-profit venues. (1)
3. Receive and review the components of an artist's portfolio. (3)
4. Organize a jury committee. (2)
5. Install and take down an exhibition. (2)
6. Host an artist's reception. (2)
7. Create and maintain databases for artists and exhibitions. (3)
8. Develop a plan to market artwork and exhibition spaces. (4)
9. Compose a press release. (4)
10. Write an exhibition review. (4)

**REQUIRED ASSESSMENT:**

1. Critique

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours


**Levels:** Credit

**Schedule Types:** Lecture

Visual and Performing ArtsOBS Division  
Visual Art Department

### ART 110 - Drawing I

**COURSE DESCRIPTION:**

ART 110. Drawing I (3).  ART 1111. Perspective and visual perception studied as related to developing artistic visual growth in perceiving our environment. Emphasis on analysis of objects and their compositional placement within pictorial construction. Application of design principles. One lecture. Five lab.

**COURSE CONTENT:**

1. Drawing skills
  - a. Perspective
  - b. Foreshortening
  - c. Plastic space/modeling
  - d. Figure-ground
  - e. Chiaroscuro
2. Visual literacy and aesthetic
  - a. Visual memory
  - b. Analysis and study of forms
  - c. Visual vocabulary
3. Formal elements and principles of design



4. Historical and contemporary art examples
5. Critique

**LEARNING OUTCOMES:**

1. Apply various perspective techniques.
2. Identify and use foreshortening..
3. Produce plastic space and modeling.
4. Use chiaroscuro technique.
5. Identify, memorize and transfer visual information to the page.
6. Analyze forms.
7. Develop a visual vocabulary
8. Identify, analyze and utilize the formal elements and principles of design.
9. Recognize historical or contemporary examples of the fine arts or crafts.
10. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**Course Attributes:**

SUN# ART 1111

**ART 111 - Drawing II****COURSE DESCRIPTION:**

ART 111. Drawing II (3). Development of technical and perceptual skills. Emphasis on composition as developed by shape, form, color and the special dynamics of plastic space. Application of design principles. Prerequisite: ART 110. One lecture. Five lab.

**COURSE CONTENT:**

1. Drawing techniques
2. Color theory
3. Exercises in color schemes
4. Compositional and design experimentation
5. Portrait drawing techniques
6. Landscape drawing techniques
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

**LEARNING OUTCOMES:**

1. Apply color rendering techniques using drawing media.
2. Identify specific color contrasts.
3. Utilize color schemes.
4. Apply creative compositional techniques.
5. Apply portrait rendering skills.
6. Apply landscape rendering skills.
7. Identify, analyze and utilize the formal elements of design.
8. Recognize historical or contemporary examples of the fine arts or crafts.
9. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 112 - Two-Dimensional Design****COURSE DESCRIPTION:**

ART 112. Two-Dimensional Design (3). Introduction to visual language utilized in all areas of art. Basic compositional principles and elements of two-dimensional design practiced through assigned projects. Various media explored. Application of design principles. Two lecture. Four lab.

**COURSE CONTENT:**

1. Creative process
2. Application of design principles
  - a. Unity and variety
  - b. Rhythm
  - c. Balance
  - d. Emphasis and focal point
  - e. Proportion and scale
3. Application of design elements
  - a. Shape and volume
  - b. Space
  - c. Line
  - d. Texture
  - e. Light
  - f. Color

- g. Time
- h. Value
- 4. Two-dimensional art media tools
- 5. Formal elements and principles of design
- 6. Historical and contemporary art examples
- 7. Critique

## LEARNING OUTCOMES:

1. Define and employ the steps of the creative process. (1)
2. Use design principles to develop two-dimensional works of art. (2)
  - a. Unity and variety
  - b. Rhythm
  - c. Balance
  - d. Emphasis and focal point
  - e. Proportion and scale
3. Use design elements to develop two-dimensional works of art. (3)
  - a. Shape and volume
  - b. Space
  - c. Line
  - d. Texture
  - e. Color
  - f. Value
4. Use art media and tools to create two-dimensional works of art. (4)
5. Identify, analyze and utilize the formal elements and principles of design. (5)
6. Recognize historical or contemporary examples of the fine arts or crafts. (6)
7. Use media specific terminology to critique and evaluate works of art. (7)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 2.000 Lecture hours  
 4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab


Visual/Performing/LiberalOBS Division  
 Visual Art Department

## Course Attributes:

Creative Thinking (CR)

**ART 113 - Three-Dimensional Design**

## COURSE DESCRIPTION:

ART 113. Three-Dimensional Design (3) (Spring).  **ART 1115.** Study of design principles with emphasis on three-dimensional aesthetics. Planning of sculptural, utilitarian, and environmental objects. Application of design principles. Two lecture. Four lab.

## COURSE CONTENT:

1. Basic design principles
  - a. Repetition
  - b. Variety
  - c. Rhythm
  - d. Balance
  - e. Emphasis and economy
  - f. Proportion
2. Basic design elements
  - a. Form
  - b. Space
  - c. Line
  - d. Texture
  - e. Light
  - f. Color
  - g. Time
3. Construction Methods
  - a. Found objects and assemblage
  - b. Addition and manipulation
  - c. Subtraction
  - d. Casting
4. Formal elements and principles of design
5. Historical and contemporary art examples
6. Critique

## LEARNING OUTCOMES:

1. Identify, analyze and synthesize design principles in three-dimensional art work. (1,2,4)
2. Assemble found objects to create three-dimensional art work. (3)
3. Use additive and manipulative art techniques to create three-dimensional art work. (3)
4. Use subtractive art techniques to create three-dimensional art work. (3)
5. Use casting techniques to create three-dimensional art work. (3)
6. Use art terminology to critique and evaluate art work. (1,2)
7. Identify, analyze and utilize the formal elements and principles of design. (4)
8. Recognize historical or contemporary examples of the fine arts or crafts. (5)
9. Use media specific terminology to critique and evaluate works of art. (6)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 2.000 Lecture hours  
 4.000 Lab hours

Levels: Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**Course Attributes:**  
SUN# ART 1115

#### ART 114 - Color

##### COURSE DESCRIPTION:

ART 114. Color (3). Principles of color theory related to the visual arts. Includes variety of media. Application of design principles. One lecture. Five lab.

##### COURSE CONTENT:

1. Color properties
2. Color schemes
3. Color interaction
4. Color composition
5. Color perception
6. Formal elements and principles of design
7. Historical and contemporary art examples
8. Critique

##### LEARNING OUTCOMES:

1. Define and use additive and subtractive color. (1)
2. Create and explain a color wheel. (1)
3. Define and use color interactions. (1,2)
4. Apply hue, value and chroma in context. (1,2)
5. Describe and use harmonic and disharmonic color schemes in context. (1-4)
6. Describe and compose color to show spatial illusion, change visual weight and balance and emphasize compositional details. (1-4)
7. Describe and use a variety of emotional and psychological expressions of color. (1-5)
8. Use various media and rendering techniques to create visual examples based on color principles and effects. (1-7)
9. Identify, analyze and utilize the formal elements and principles of design. (6)
10. Recognize historical or contemporary examples of the fine arts or crafts. (7)
11. Use media specific terminology to critique and evaluate works of art. (8)

##### REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**Course Attributes:**  
Critical Thinking (CT)

#### ART 115 - Color Pencil/Pastel

##### COURSE DESCRIPTION:

ART 115. Color Pencil/Pastel (3) (Spring). Color pencils and pastels as medium for drawing and painting. Emphasis on development of creative expression and study of color blending. Application of design principles. Prerequisite: ART 110. One lecture. Five lab.

##### COURSE CONTENT:

1. Study of technical skills
  - a. Application of the color stick
    1. Strokes: linear, side, crosshatching
  2. Blending, blending with tortillon
  3. Feathering and scumbling
  4. Use of hard pastels and pastel pencils
    - b. Application of fixing mediums
      1. Fixatif sprays
      2. Wetting down the brush
    - c. Use of supports
      1. Experimenting with various types of papers and boards
      2. Use of toned papers, applying underpaintings
      3. Making a support with marble dust
    - d. Use of other media in combination with pastels
      1. Charcoal
      2. Underpainting in turpentine and oil washes, tempera and watercolor washes
    - e. Correctional techniques
      1. Razor blade
      2. Bristle brush
    - f. Finishing--mat work for display
      2. Study of drawing and painting procedures
        - a. Procedures
          1. Adding lights and darks to toned grounds, working with values and masses
          2. Working light over dark to achieve richness of tone
          3. Open strokes over underpainting to achieve richness of tone
          4. Use of vignette
        3. Development of drawing and painting skills
          - a. Study of composition
            1. Visually organizing ideas
            2. Use of balance, rhythms
            3. Points of emphasis
            4. Movement of color, lines
              - b. Study of color
                1. Properties of color

- 2. Light and atmospheric effects
- 3. Color relationships in overpainting and in blending
- c. Study of form and shapes
  - 1. Structure
  - 2. Modeling of forms
- d. Study of space and perspective
  - 1. Diminution of size, overlapping
  - 2. Aerial perspective
- 4. Application of principles and elements of design
- 5. Historical and contemporary art examples
- 6. Critique

## LEARNING OUTCOMES:

- 1. Demonstrate and understand the use of color theory.
- 2. Demonstrate the ability to manipulate colors.
- 3. Demonstrate various methods of applying the color stick, of underpainting methods, and of preparing a ground.
- 4. Combine other media in combination with colored pencils and pastels.
- 5. Develop a personal mode of expression.
- 6. Identify, analyze and utilize the formal elements and principles of design.
- 7. Recognize historical or contemporary examples of the fine arts or crafts.
- 8. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

- 1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 120 - Ceramics I**

## COURSE DESCRIPTION:

ART 120. Ceramics I (3). Introduction to ceramics hand building techniques. Includes primary use of glazes, glaze applications, kiln firing processes and kiln atmosphere. Application of design principles. One lecture. Five lab.

## COURSE CONTENT:

- 1. Introduction and Identification of studio and personal tools
- 2. Definition of clay types
- 3. Preparation of clay
- 4. Hand forming techniques
  - a. Pinching
  - b. Colling
  - c. Slab work
  - d. Slump and Hump Mold use
- 5. Use of the potter's wheel
  - a. Basic beginning procedures
  - b. Cylinder
- 6. Surface decoration techniques
  - a. Incising
  - b. Mark making
  - c. Stamping
  - d. Carving
- 7. Glaze application techniques
  - a. Wax resist
  - b. Dipping
  - c. Pouring
  - d. Brushwork
  - e. Overlaps
  - f. Metal oxide painting and staining
- 8. Basic kiln firing procedures
- 9. Kiln atmospheres
  - a. Reduction
  - b. Oxidation
- 10. Kiln types
  - a. Fuel kilns
  - b. Electric kilns
- 11. Ceramic terminology
- 12. Formal elements and principles of design
- 13. Historical and contemporary art examples
- 14. Critique

## LEARNING OUTCOMES:

- 1. Identify and use ceramic studio and clay tools.
- 2. Define several clay types.
- 3. Prepare clay for use in hand building or wheel work.
- 4. Hand form clay using several techniques.
- 5. Form clay on the potter's wheel.
- 6. Use various techniques to affect the clay's surface.
- 7. Apply glaze using several techniques.
- 8. Describe the process of a kiln firing.
- 9. Identify different kiln firing atmospheres.
- 10. Name several kiln types.
- 11. Use and define basic ceramic vocabulary words.
- 12. Identify, analyze and utilize the formal elements and principles of design.
- 13. Recognize historical or contemporary examples of the fine arts or crafts.
- 14. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 121 - Ceramics II**

## COURSE DESCRIPTION:

ART 121. Ceramics II (3). Concentration on use of the potter's wheel and other clay-building methods, further development of glazing and firing. Application of design principles.

Prerequisite: ART 120. One lecture. Five lab.

## COURSE CONTENT:

1. Use of the potters wheel
  - a. Cylinder
  - b. Bowl
  - c. Trimming
  - d. Lid
2. Hand forming techniques
  - a. Pinch
  - b. Coil
  - c. Slab work
  - d. Mold use
  - e. Handles
3. Surface decoration techniques
  - a. Stamping
  - b. Incising
  - c. Carving
  - d. Engobe
  - e. Sgraffito
  - f. Mishima
  - g. Sprigging
4. Glazing techniques
  - a. Wax resist
  - b. Dipping
  - c. Pouring
  - d. Brushwork
  - e. Overlaps
  - f. Metal oxide painting and staining
5. Basic glaze components
6. Basic kiln components
7. Kiln firing procedures and components
8. Formal elements and principles of design
9. Historical and contemporary art examples
10. Critique

## LEARNING OUTCOMES:

1. Form clay on the potter's wheel.
2. Hand form clay using several techniques.
3. Use various techniques to affect the clay's surface.
4. Apply glaze using several techniques.
5. Identify basic glaze components.
6. Identify basic kiln components.
7. Define and describe the components needed for the kiln firing process.
8. Identify, analyze and utilize the formal elements and principles of design.
9. Recognize historical or contemporary examples of the fine arts or crafts
10. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 130 - Web Site Design I**

## COURSE DESCRIPTION:

ART 130. Web Site Design I (3) (Fall). Introduction to design and production of Web pages for publishing on the Internet using Adobe Creative Suite software. Application of design principles. This course is cross-listed with WEB 130. Prerequisite: ART 137 (may be taken concurrently). Two lecture. Three lab.

## COURSE CONTENT:

1. HTML
2. Web-safe colors
3. Tour interface
4. Site management
5. Site plan
6. Web images
7. Links and anchors

8. Cascading styles and tables
9. Dreamweaver software skills
10. Formal elements and principles of design
11. Recognize historical or contemporary examples of the fine arts or crafts
12. Critique

## LEARNING OUTCOMES:

1. Develop web pages using HTML. (1)
2. Develop studies using Adobe Photoshop web-safe color (2)
3. Identify the main elements of the Windows/Mac web interface. (3, 9)
4. Construct a site with local root folder. (4, 9)
5. Implement the three phases of web design (5, 9)
  - a. information
  - b. interaction
  - c. presentation
6. Optimize images using Adobe Photoshop. (6)
7. Use web page functions to enter and format information on a web page. (7, 9)
8. Define the structure on a web page utilizing cascading styles and tables. (8)
9. Identify, analyze and utilize the formal elements and principles of design. (10)
10. Recognize historical or contemporary examples of the fine arts or crafts. (11)
11. Use media specific terminology to critique and evaluate works of art. (12)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 2.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 131 - Graphic Design I**

## COURSE DESCRIPTION:

ART 131. Graphic Design I (4) (Fall). Creative solutions to problems of visual communication. Skill development in basic advertising layout and design. Basic typography and comprehensive roughs using Adobe Creative Suite Software. Application of design principles. Prerequisite: ART 112 (may be taken concurrently). One lecture. Seven lab.

## COURSE CONTENT:

1. Basic type elements and terminology
2. Type as a design element
3. Client needs
4. Graphic design concepts
5. Design process
6. Adobe InDesign software skills
7. Comprehensive roughs
8. Introduction to print industry
9. Digital output
10. Formal elements and principles of design
11. Historical and contemporary art examples
12. Critique

## LEARNING OUTCOMES:

1. Use typography as an artistic element in design solutions. (1)
2. Use typography as a technical element in design solutions. (2, 6)
3. Determine and analyze client needs. (3)
4. Solve visual problems in the graphic design field. (4, 6)
5. Formulate solutions to visual problems by producing thumbnail sketches and comprehensive roughs. (5, 6)
6. Use Adobe InDesign as the primary tool to produce graphic design layouts. (6, 7)
7. Review, discuss and evaluate practices in the print industry. (8)
8. Prepare files for digital output. (6, 9)
9. Identify, analyze and utilize the formal elements and principles of design. (10)
10. Recognize historical or contemporary examples of the fine arts or crafts. (11)
11. Use media specific terminology to critique and evaluate works of art. (12)

## REQUIRED ASSESSMENT:

1. Critique and evaluations of art and artifacts.
- 4.000 Credit hours  
 1.000 Lecture hours  
 7.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

## Course Attributes:

Civic Engagement (CE)

**ART 132 - Graphic Design II**

## COURSE DESCRIPTION:

ART 132. Graphic Design II (4) (Spring). Creative solutions to advanced problems of visual communication. Skill development in advertising, logos, advanced layout and packaging using Adobe Creative Suite software. Application of design principles. Prerequisite: ART 131. One lecture. Seven lab.

## COURSE CONTENT:

1. Advertisement layout
2. Logos and trademarks
3. Packaging

4. Magazine covers and spreads
5. Advanced Adobe InDesign software skills
6. Print Industry
7. Advanced Digital output
8. Formal elements and principles of design
9. Historical and contemporary art examples
10. Critique

**LEARNING OUTCOMES:**

1. Produce client specific newspaper advertising. (1,5)
2. Create and execute advanced illustrations and designs using two or more Adobe Creative Suite programs. (2, 3, 5)
3. Design, plan and execute visual concept with product focus. (3, 5)
4. Solve visual problems and employ design concepts as a team member. (4, 5)
5. Review, discuss and evaluate practices in the print industry. (6)
6. Prepare files for digital output. (7)
7. Identify, analyze and utilize the formal elements and principles of design. (8)
8. Recognize historical or contemporary examples of the fine arts or crafts. (9)
9. Use media specific terminology to critique and evaluate works of art. (10)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

4.000 Credit hours  
1.000 Lecture hours  
7.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**Course Attributes:**  
Digital Lit (DL)

**ART 137 - Adobe Photoshop I**

**COURSE DESCRIPTION:**

ART 137. Adobe Photoshop I (3). Digital image fundamentals. Technical and creative use of Adobe® Photoshop® image manipulation software. Use of peripheral commercial hardware and software for image capture. Application of design principles. Two lecture. Three lab.

**COURSE CONTENT:**

1. Digital image fundamentals
2. Adobe® Photoshop® software program
3. Digital image capture
4. Digital image import
5. Digital image export
6. Digital image manipulation
7. Digital image composition
8. Digital image output processes
9. Formal elements and principles of design
10. Historical and contemporary art examples
11. Critique

**LEARNING OUTCOMES:**

1. Articulate compositional elements of the digital image.
2. Use the functions of the Adobe Photoshop image manipulation program.
3. Convert images to a digital format using scanning hardware and software.
4. Import elements into an Adobe Photoshop document.
5. Export Adobe Photoshop images to other software programs.
6. Manipulate and enhance digital images.
7. Plan, design and execute an original digital image project.
8. Output digital images to a printer or electronic file.
9. Identify, analyze and utilize the formal elements and principles of design.
10. Recognize historical or contemporary examples of the fine arts or crafts.
11. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**Course Attributes:**  
Info Literacy (L)

**ART 139 - Fundamentals of Video Editing**

**COURSE DESCRIPTION:**

ART 139. Fundamentals of Video Editing and DVD Authoring (2). Fundamentals of video editing, sound design and DVD production. Aesthetic and technical aspects of digital media. Non-linear editing of visual and audio material and output for display. Application of design principles. One lecture. Two lab.

**COURSE CONTENT:**

1. Aesthetic and technical vocabulary
2. Computer capture and editing software and computer video systems
3. Digital media

4. Digital video disc (DVD)
5. Record keeping and organization
6. Compression, graphic, audio and motion tools
7. Video examples
8. Formal elements and principles of design
9. Historical and contemporary art examples
10. Critique

## LEARNING OUTCOMES:

1. Analyze videos and express informed opinion about technical and aesthetic properties using basic vocabulary of motion media. (1)
2. Operate basic non-linear video and audio editing software. (2)
3. Capture and organize digital media. (3)
4. Produce a DVD. (4)
5. Plan productions using storyboards and notes. (5)
6. Evaluate features of software. (6)
7. Identify basic elements of video works. (7)
8. Identify, analyze and utilize the formal elements and principles of design. (8)
9. Recognize historical or contemporary examples of the fine arts or crafts. (9)
10. Use media specific terminology to critique and evaluate works of art. (10)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

2.000 Credit hours  
 1.000 Lecture hours  
 2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
 Visual Art Department

## Course Attributes:

Written Comm (WC)

**ART 140 - Jewelry I**

## COURSE DESCRIPTION:

ART 140. Jewelry I (3). Introduction to jewelry fabrication techniques for non-ferrous metals and associated materials. Application of design principles. One lecture. Five lab.

## COURSE CONTENT:

1. Equipment use and safety
2. Saw, pierce, and file
3. Forging, bend, dome, sink, and draw out metal shapes
4. Texture surfaces
5. Cold connections and soldering
6. Bezel settings
7. Cleaning, buffing and finishing
8. Critique
9. Formal elements and principles of design
10. Historical and contemporary art examples

## LEARNING OUTCOMES:

1. Utilize tools and equipment safely. (1)
2. Manipulate metal by sawing, piercing, and filing. (2)
3. Create metal forms using forging hammers and stakes. (3)
4. Enhance surfaces with textures. (4)
5. Assemble components using cold connections and soldering. (5)
6. Use a bezel setting to add cabochons or other elements. (6)
7. Use cleaning, buffing and finishing techniques. (7)
8. Use media specific terminology to critique and evaluate works of art. (8)
9. Identify, analyze and utilize the formal elements and principles of design. (9)
10. Recognize historical or contemporary examples of the fine arts or crafts. (10)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 141 - Jewelry II**

## COURSE DESCRIPTION:

ART 141. Jewelry II (3). Advanced jewelry techniques, surface embellishment, casting, fabrication, forging, and joining non-ferrous metals. Application of design principles. Prerequisite: ART 140. One lecture. Five lab.

## COURSE CONTENT:

1. Equipment use and safety
2. Model wax, invest and cast
3. Lidded container
4. Unit construction
5. Mold making
6. Surface embellishments
7. Formal elements and principles of design
8. Historical and contemporary art examples



## 9. Critique

## LEARNING OUTCOMES:

1. Utilize tools and equipment safely. (1)
2. Model a jewelry design in wax, invest and cast it. (2)
3. Construct a lidded container. (3)
4. Assemble unit construction of linked or repeated elements. (4)
5. Create molds for lost wax casting. (5)
6. Use surface embellishments. (6)
7. Identify, analyze and utilize formal elements and principles of design. (7)
8. Recognize historical or contemporary examples of the fine arts or crafts. (8)
9. Use media specific terminology to critique and evaluate works of art. (9)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours

1.000 Lecture hours

5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division

Visual Art Department

**ART 142 - Lapidary I**

## COURSE DESCRIPTION:

ART 142. Lapidary I (2). Introduction to the tools, machinery and processes of the lapidary arts. Orientation to various geological source materials. Application of design principles. One lecture. Two lab.

## COURSE CONTENT:

1. Tools and equipment
2. Raw materials
3. Slabs
4. Slab shapes
5. Cabochon
6. Shoulder and dome
7. Various and specific materials
8. Polish
9. Formal elements and principles of design
10. Historical and contemporary art examples
11. Critique

## LEARNING OUTCOMES:

1. Use tools and equipment safely. (1)
2. Identify raw materials suitable for various and specific manipulations and alterations. (2)
3. Cut slabs. (3)
4. Trim slabs into various and specific shapes. (4)
5. Drop and create a cabochon suitable for setting. (5)
6. Create should and dome for cabochon. (6)
7. Grind cabochons from various and specific materials. (7)
8. Polish various and specific materials. (8)
9. Identify, analyze and utilize the formal elements and principles of design. (9)
10. Recognize historical or contemporary examples of the fine arts or crafts. (10)
11. Use media specific terminology to critique and evaluate works of art. (11)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

2.000 Credit hours

1.000 Lecture hours

2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division

Visual Art Department

**ART 144 - Furniture and Woodworking I**

## COURSE DESCRIPTION:

ART 144. Furniture and Woodworking I (3). Introduction to furniture design, joinery, machining, hand skills, assembly and finishing techniques. Application of design principles. One lecture. Five lab.

## COURSE CONTENT:

1. Equipment use and safety
2. Furniture and/or woodworking projects
3. Two-point perspectives
4. Plans, bills-of-materials, figure board feet and plan cutting list
5. Characteristics of woods
6. Layout and measuring
7. Layout and cutting of basic joints, butt, rabbet, dado, miter, biscuit, mortise and tendon, and/or dowel
8. Assembly of furniture and woodworking assignments
9. Wood carving
10. Wood finishes
11. Formal elements and principles of design
12. Historical and contemporary art examples
13. Critique

## LEARNING OUTCOMES:

1. Use tools and equipment safely.
2. Document design concepts to be used for furniture or woodworking projects.
3. Use two-point perspective to draw furniture or woodworking designs.
4. Create drawn plans, write bills-of-materials, calculate board feet and plan cutting list.
5. Incorporate the characteristics of woods into assignments' applications.
6. Apply layout and measurements on wood.
7. Identify, analyze and synthesize design principles.
8. Assemble furniture and woodworking assignments.
9. Use wood carving techniques for sculpture or apply to furniture.
10. Select and apply appropriate wood finish techniques.
11. Identify, analyze and utilize the formal elements and principles of design.
12. Recognize historical or contemporary examples of the fine arts or crafts.
13. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**[ART 145 - Furniture and Woodworking II](#)****COURSE DESCRIPTION:**

ART 145. Furniture and Woodworking II (3). Advanced furniture design, joinery, jig building, and woodworking techniques. Application of design principles. Prerequisite: ART 144. One lecture. Five lab.

**COURSE CONTENT:**

1. Advanced equipment use and safety
2. Advanced furniture design and/or a woodworking project
3. Jig building
4. Frame making and mitering
5. Advanced joinery
6. Formal elements and principles of design
7. Historical and contemporary art examples
8. Critique

**LEARNING OUTCOMES:**

1. Use advanced tools and equipment safely.
2. Document advanced design concepts to be used for furniture or woodworking projects.
3. Employ jigs during machining and/or assembly of assignments.
4. Use frame making and mitering.
5. Use advanced joinery.
6. Identify, analyze and utilize the formal elements and principles of design.
7. Recognize historical or contemporary examples of the fine arts or crafts.
8. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**[ART 146 - Traditional Southwest Furniture Making](#)****COURSE DESCRIPTION:**

ART 146. Traditional Southwest Furniture Making (3). Introduction to traditional southwestern furniture design and construction. Emphasis on Spanish Colonial and Spanish Colonial revival on Ponderosa pine. Application of design principles. One lecture. Five lab.

**COURSE CONTENT:**

1. Use of tools and materials
2. Spanish Colonial and Spanish Colonial
3. Layout and measurement
4. Layout and cutting of mortise and tenon joints
5. Wood carving and finishing
6. Spanish Colonial and Spanish Colonial revival design and conventions
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

**LEARNING OUTCOMES:**

1. Use advanced tools and equipment safely. (1)
2. Design and create furniture using Spanish Colonial design and conventions. (2)
3. Apply layout and measurements on wood. (3)
4. Join wood using mortis and tenon joints and modern biscuit joinery. (4)
5. Use hand planes and chisels. (6)
6. Apply glues and finishes. (5)
7. Identify, analyze and utilize the formal elements and principles of design. (7)
8. Recognize historical or contemporary examples of the fine arts or crafts. (8)
9. Use media specific terminology to critique and evaluate works of art. (9)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 147 - Wood Turning I****COURSE DESCRIPTION:**

ART 147. Wood Turning I (3). Study of theory and design of wood lathe-turned objects. Includes wood-turning techniques, use of wood lathe and associated tooling. Application of design principles. One lecture. Five lab.

**COURSE CONTENT:**

1. Tools and materials
2. Sharpening
3. Cutting theory
4. Wood characteristics
5. Turning between centers
6. Face plate turning
7. Lamination techniques
8. Harvested wood
9. Lidded containers
10. Sanding and finishing techniques
11. Adhesives
12. Formal elements and principles of design
13. Historical and contemporary art examples
14. Critique

**LEARNING OUTCOMES:**

1. Use tools and materials safely. (1)
2. Sharpen tools. (2)
3. Apply cutting theory. (3)
4. Use wood characteristics in turnings. (4)
5. Use turning between centers. (5)
6. Use face plate turning. (6)
7. Use lamination techniques. (7)
8. Use harvested wood for turnings. (8)
9. Create turned lidded containers. (9)
10. Use sanding and finishing techniques. (10)
11. Use adhesives. (11)
12. Identify, analyze and utilize the formal elements and principles of design. (12)
13. Recognize historical or contemporary examples of the fine arts or crafts. (13)
14. Use media specific terminology to critique and evaluate works of art. (14)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 150 - Photography I****COURSE DESCRIPTION:**

ART 150. Photography I (3). Fundamentals of photography. Creative camera operation. Identifying, measuring and controlling light values. Basic darkroom techniques and controls including film processing, contact printing and enlarging. Exhibition quality photography. Application of design principles. One lecture. Five lab.

**COURSE CONTENT:**

1. Basic vocabulary
2. Manual, fully adjustable 35mm camera and lens options
3. Aperture and shutter speed
4. Creative depth of field options
5. Shutter speed control
6. Light measurement and light meter reading
7. Light values and properties
8. Properties of black and white and color film
9. Film processing techniques
10. Darkroom enlarging and processing techniques
11. Image contrast and density control
12. Split filtration of contrast enlarging filters
13. Image cropping techniques
14. Print presentation and preservation techniques
15. Model release and copyright issues
16. Record keeping and organization
17. Formal elements and principles of design
18. Historical and contemporary art examples
19. Critique

**LEARNING OUTCOMES:**

1. Analyze photographic images and express an informed opinion about technical and aesthetic characteristics using the basic vocabulary of the photographic idiom. (1, 19)
2. Use a manual, fully adjustable 35mm camera. (2)
3. Choose appropriate aperture and shutter speed exposure combinations. (3)
4. Vary the depth of field using aperture settings for visual impact. (4)
5. Control motion using shutter speed setting for visual impact. (5)
6. Identify and measure properties of light and explain their effects on film and visual impact. (6)
7. Compose light values. (7)
8. Explain the properties of black and white and color film. (8)
9. Expose and process black and white film. (9)
10. Operate an enlarger to expand negatives into prints and process silver emulsion photographic printing paper. (10)
11. Manipulate contrast and density in a photographic print. (11)
12. Use split filtration to achieve a more complete tonal range in a photographic print. (12)
13. Compose a photographic print using cropping techniques. (13)
14. Identify, analyze and utilize the formal elements and principles of design. (17)
15. Recognize historical or contemporary examples of the fine arts or crafts. (18)
16. Use media specific terminology to critique and evaluate works of art. (19)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

2. Portfolio review.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 151 - Photography II****COURSE DESCRIPTION:**

ART 151. Photography II (3). Advanced study of film and silver emulsion paper developers. Introduction to medium format photography. Night photography and creative color transparency film processing. Application of design principles. Prerequisite: ART 150. One lecture. Five lab.

**COURSE CONTENT:**

1. Film developer options
2. Silver emulsion paper and developer combinations
3. Medium format camera and film variations
4. Lithographic film
5. Infrared film media
6. Night photography
7. Alternative uses for color transparency film
8. Chemical toning and image preservation
9. Record keeping and organization
10. Formal elements and principles of design
11. Historical and contemporary art examples
12. Critique

**LEARNING OUTCOMES:**

1. Appraise the effects of different film developers on the final image. (1)
2. Categorize the effects of different silver emulsion papers and developers on the final image. (2)
3. Use a medium format camera and media. (3)
4. Expose and process lithographic film. (4)
5. Expose and process infrared film. (5)
6. Compensate for reciprocity failure in low light exposures. (6)
7. Use color transparency film in non-traditional context. (7)
8. Analyze the effects of chemical toning on visual impact and print preservation. (8)
9. Document industry standards in record keeping and organization. (9)
10. Identify, analyze and utilize the formal elements and principles of design. (10)
11. Recognize historical or contemporary examples of the fine arts or crafts. (11)
12. Use media specific terminology to critique and evaluate works of art. (12)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 154 - Digital Photography I****COURSE DESCRIPTION:**

ART 154. Digital Photography I (3). Creative digital camera operation. Identifying, measuring and controlling light values. Digital darkroom techniques, workflow applications and output processes. Application of design principles. Requires a Digital single lens reflex (SLR) camera with manually adjustable aperture, shutter speed, and focus. Prerequisite: ART 137 (may be taken concurrently). One lecture. Five lab.

**COURSE CONTENT:**

1. Photographic vocabulary
2. SLR Digital camera operation
3. Aperture and shutter speed
4. Lens focal length
5. Depth of field
6. Motion

7. Light measurement
8. Properties of light, direction, diffusion, temperature
9. Properties of digital sensors
10. Resolution and its relationship to image capture and output
11. Image capture formats
12. Image editing formats
13. Optional digital capture methods
14. File management workflow
15. Camera Raw editing workflow
16. Photoshop editing workflow
17. Image print output
18. Image web output
19. Model release and copyright issues
20. Recordkeeping and organization
21. Formal elements and principles of design
22. Historical and contemporary art examples
23. Critique

## LEARNING OUTCOMES:

1. Analyze photographic images and describe the technical and aesthetic characteristics. (1)
2. Use a manual, fully adjustable SLR digital camera. (2)
3. Ascertain correct aperture and shutter speed exposure combinations. (3)
4. Identify the effect of various focal length lenses on the photographic image. (4)
5. Vary the depth of field using aperture settings for visual effect. (5)
6. Control motion using shutter speed settings for visual impact. (6)
7. Identify and measure properties of light and explain their effects on exposure and visual impact. (7)
8. Compose light values as significantly as subjects. (8)
9. Explain the differences between various digital sensors and their effects on image capture. (9)
10. Illustrate the proper determination of image resolution for digital input and output. (10)
11. Identify image capture formats and explain their uses. (11)
12. Identify image editing formats and explain their uses. (12)
13. Use optional digital capture methods to acquire digital images. (13)
14. Establish a file management workflow to facilitate image archiving. (14)
15. Employ Camera Raw editing workflow techniques to manipulate and enhance digital images. (15)
16. Employ Photoshop editing workflow techniques to manipulate and enhance digital images. (16)
17. Optimize digital images for print output. (17)
18. Optimize digital images for web output. (18)
19. Document model releases and copyright protections. (19)
20. Document industry standards in record keeping and organization. (20)
21. Identify, analyze and utilize the formal elements and principles of design. (21)
22. Recognize historical or contemporary examples of the fine arts or crafts. (22)
23. Use media specific terminology to critique and evaluate works of art. (23)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 156 - Photographic Lighting**

## COURSE DESCRIPTION:

ART 156. Photographic Lighting (3). Fundamentals of photographic lighting. Understanding, measuring and controlling lighting situations. Studio and location lighting. Application of design principles. Prerequisite: ART 150 or ART 154. Two lecture. Three lab.

## COURSE CONTENT:

1. Properties of light
2. Ambient light sources
3. Artificial light sources
4. Exposure calculation
5. Lighting ratios
6. Background brightness control
7. Studio lighting
8. Location lighting
9. Formal elements and principles of design
10. Historical and contemporary art examples
11. Critique

## LEARNING OUTCOMES:

1. Identify properties of light and their visual impact.
2. Identify and control ambient light sources for visual impact.
3. Manipulate and compose light values from artificial light sources.
4. Ascertain correct exposure calculations.
5. Calculate balanced lighting ratios.
6. Control background brightness for visual impact.
7. Construct studio lighting set-ups for various commercial and fine art applications.
8. Construct on-location lighting setups for various commercial and fine art applications.
9. Identify, analyze, and utilize the formal elements and principles of design.
10. Recognize historical and contemporary examples of the fine arts or crafts.
11. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 2.000 Lecture hours

3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### ART 157 - Digital Photography II

#### COURSE DESCRIPTION:

ART 157. Digital Photography II (3). Advanced creative digital camera operation and exposure control. Advanced digital darkroom techniques, workflow applications and output processes. Application of design principles. Requires a Digital single lens reflex (SLR) camera with manually adjustable aperture, shutter speed and focus. Application of design principles. Prerequisite: ART 154 and ART 237 (ART 237 may be taken concurrently). One lecture. Five lab.

#### COURSE CONTENT:

1. Advanced metering
2. Exposure compensation
3. Studio lighting
4. Electronic flash
5. Advanced file management workflow
6. Advanced Camera Raw editing workflow
7. Advanced Photoshop editing workflow
8. Advanced image print output
9. Advanced image web output
10. Creative use of digital cameras
11. Digital exploration of different photographic genre
12. Pre-visualization and post-visualization techniques
13. Digital photography in the marketplace
14. Photographic vision
15. Recordkeeping and organization
16. Formal elements and principles of design
17. Historical and contemporary art examples
18. Critique

#### LEARNING OUTCOMES:

1. Compute correct exposure combinations using a handheld exposure meter. (1)
2. Articulate exposure compensation concepts. (2)
3. Apply basic studio lighting concepts. (3)
4. Define the proper use of electronic flash units. (4)
5. Establish a file management workflow to facilitate image archiving. (5)
6. Employ advanced Camera Raw editing workflow techniques to manipulate and enhance digital images. (6)
7. Employ advanced Photoshop editing workflow techniques to manipulate and enhance digital images. (7)
8. Optimize digital images for print output. (8)
9. Optimize digital images for web output. (9)
10. Explain and use the digital camera for creative expression. (10)
11. Record examples of different photographic genre through digital exploration and experimentation. (11)
12. Synthesize pre-visualization and post-visualization concepts to create a unique visual statement. (12)
13. Identify the use of digital photography in the marketplace. (13)
14. Define photographic vision and its use in creating unique aesthetic statements. (14)
15. Document industry standards in record keeping and organization. (15)
16. Identify, analyze, and utilize the formal elements and principles of design. (16)
17. Recognize historical or contemporary examples of the fine arts or crafts. (17)
18. Use media specific terminology to critique and evaluate works of art. (18)

#### REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours

1.000 Lecture hours

5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### ART 160 - Printmaking I

#### COURSE DESCRIPTION:

ART 160. Printmaking I (3). Introduction to printmaking techniques including monoprint, collograph, relief and elementary intaglio printing. Exploration of different methods of inking, registration, hand and press techniques. Application of design principles. One lecture. Five lab.

#### COURSE CONTENT:

1. Monoprint techniques
2. Relief printing and safe use of cutting tools
  - a. Foam board
  - b. Linoleum block/stamp
  - c. Wood block
3. Collograph techniques with different materials
4. Multiple/combo printmaking
  - a. Techniques of registration
  - b. Color/image overlay
  - c. Use of multiple plates/blocks
5. Inking processes
6. Edition of prints
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

#### LEARNING OUTCOMES:

1. Apply monoprint techniques using various inking processes.

2. Utilize relief processes and possibilities.
3. Utilize collograph techniques employing various materials.
4. Apply registration techniques.
5. Utilize overlay and other multiple printing techniques.
6. Apply inking processes using both water-base and oil-base printing materials
7. Identify, analyze and utilize the formal elements and principles of design.
8. Recognize historical or contemporary examples of the fine arts or crafts.
9. Use Media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 162 - Monoprint I****COURSE DESCRIPTION:**

ART 162. Monoprint I (3). Introduction to principles of water-base and oil-base techniques for this single print process. Techniques of registration and color overlays. Application of design principles. One lecture. Five lab.

**COURSE CONTENT:**

1. Plate preparation
2. Image Reversal
3. Processes of image transfer and overlay
  - a. Hand printing
  - b. Press
  - c. Registration
4. Water soluble and oil-base inks
5. Inking techniques
  - a. Additive/subtractive
  - b. Stencils
  - c. Viscosity
- d. Rework of etching and relief plates
6. Equipment safety and studio maintenance
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

**LEARNING OUTCOMES:**

1. Prepare different types of plates for printing.
2. Anticipate and work with image reversal.
3. Utilize collograph techniques employing various materials.
4. Print using manual processes.
5. Use an etching press.
6. Utilize overlay and other multiple printing technique
7. Apply inking processes using both water-base and oil-base printing materials.
8. Employ inking techniques, including additive/subtractive, stencils, viscosity and reworking plates.
9. Exercise equipment safety and proper studio maintenance.
10. Identify, analyze and utilize the formal elements and principles of design.
11. Recognize historical or contemporary examples of the fine arts or crafts.
12. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 180 - Sculpture I****COURSE DESCRIPTION:**

ART 180. Sculpture I (3). Introductory exploration of sculpture through fabrication, casting and carving. Use the human form and abstraction for creative problem solving. Application of design principles. One lecture. Five lab.

**COURSE CONTENT:**

1. Tools and materials safety
2. Clay and plaster
3. Additive processes.
4. Subtractive processes.
5. Relief and sculpture in the round
6. Representation and abstraction
7. Surfaces using color and texture
8. Armatures
9. Mold Making (waste mold and press mold)
10. Finish techniques
11. Sketchbook
12. Formal elements and principles of design
13. Historical and contemporary art examples

## 14. Critique

## LEARNING OUTCOMES:

1. Use tools and materials safely.
2. Use clay and plaster.
3. Employ additive processes.
4. Employ subtractive processes.
5. Create relief and sculpture in the round.
6. Create representational and abstract sculptures.
7. Investigate surfaces using color and texture.
8. Construct and employ armature devices.
9. Apply mold making (waste mold and press mold) for sculpture reproduction.
10. Use finish techniques.
11. Compile ideas and images for sculptures in a sketchbook.
12. Identify, analyze and utilize the formal elements and principles of design.
13. Recognize historical or contemporary examples of the fine arts or crafts.
14. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 181 - Sculpture II**

## COURSE DESCRIPTION:

ART 181. Sculpture II (3). Advanced sculpture processes: modeling, mixed media, casting, and stone carving. Develop personal imagery and aesthetics through sculptural form.  
 Prerequisite: ART 180. One lecture. Five lab.

## COURSE CONTENT:

1. Tools and materials safety
2. Modeling and fabrication
3. Figure proportions
4. Mixed media
5. Silicone mold with plaster mother mold
6. Stone sculpture
7. Texture and pattern
8. Finish techniques: gild, patina and/or paint
9. Personal aesthetic
10. Presentation and documentation of completed work
11. Sketchbook
12. Formal elements and principles of design
13. Historical and contemporary art examples
14. Critique

## LEARNING OUTCOMES:

1. Use tools and materials safely.
2. Use modeling and fabrication techniques.
3. Employ figure proportions.
4. Investigate mixed media.
5. Apply silicone mold with plaster mother mold for reproducing sculpture.
6. Produce a stone carving.
7. Apply texture and pattern.
8. Use finish techniques: gild, patina and/or paint.
9. Convey a personal aesthetic.
10. Prepare presentation and documentation of completed work.
11. Enhance and compile images for sculpture in a sketchbook.
12. Identify, analyze and utilize the formal elements and principles of design.
13. Recognize historical or contemporary examples of the fine arts or crafts.
14. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 182 - Sculpture: Welded Metal I**

## COURSE DESCRIPTION:

ART 182. Sculpture: Welded Metal I (3). Exploration of sculpture using Oxyacetylene torches and GMAW (wire) arc welding processes. Emphasis on welding, cutting, and shaping metal to explore sculptural forms. No prior welding experience is necessary. Application of design principles. One lecture. Five lab.

## COURSE CONTENT:

1. Use of tools and materials
2. Safety
3. Cutting and piercing metal
4. Joining metal components of a sculpture using butt, lap and tee joints



5. Assemblage construction methods and cold connections
6. Mechanical finishes and chemical patination of metal
7. Relief and sculpture in the round constructed from metal
8. Sketchbook
9. Formal elements and principles of design
10. Historical and contemporary art examples
11. Critique

**LEARNING OUTCOMES:**

1. Create free standing and relief metal sculptures.
2. Incorporate assemblage processes and cold connections.
3. Apply mechanical and chemical finishes.
4. Produce construction and cold connections.
5. Use tools and equipment safely.
6. Identify historical and contemporary metal sculptures.
7. Identify and discuss the elements and principles of design as they relate to sculpture.
8. Use correct terminology.
9. Compile ideas for sculpture in a sketchbook.
10. Apply critiquing skills to evaluate finished sculptures.
11. Identify, analyze and utilize the formal elements and principles of design.
12. Recognize historical or contemporary examples of the fine arts or crafts.
13. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 183 - Sculpture: Welded Metal II**

**COURSE DESCRIPTION:**

ART 183. Sculpture: Welded Metal II (3). Continued exploration of sculpture using Oxyacetylene torches and GMAW (wire) arc welding processes. Assignments expand personal imagery in metal sculpture. Application of design principles. Prerequisite: ART 182. One lecture. Five lab.

**COURSE CONTENT:**

1. Use of tools and materials
2. Safety
3. Cutting and piercing metal
4. Joining metal components of a sculpture using butt, lap and tee joints
5. Assemblage construction methods and cold connections
6. Mechanical finishes and chemical patination of metal
7. Relief and sculpture in the round constructed from metal
8. Personal imagery
9. Sketchbook
10. Formal elements and principles of design
11. Historical and contemporary art examples
12. Critique

**LEARNING OUTCOMES:**

1. Create free standing and relief metal sculptures.
2. Incorporate assemblage processes and cold connections.
3. Employ finish applications.
4. Utilize tools and equipment safely.
5. Identify historical and contemporary metal sculptures.
6. Expand personal imagery in metal sculptures.
7. Identify and discuss the elements and principles of design as they relate to sculpture.
8. Use correct terminology.
9. Compile and enhance ideas for sculpture in a sketchbook.
10. Synthesize critiquing skills to evaluate finished sculptures.
11. Identify, analyze and utilize the formal elements and principles of design.
12. Recognize historical or contemporary examples of the fine arts or crafts.
13. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 190 - Oil/Acrylic Painting I**

**COURSE DESCRIPTION:**

ART 190. Oil/Acrylic Painting I (3). Study and experimentation in painting techniques employed by modern and old masters. Emphasis on personal creativity and uniqueness of expression. Application of design principles. Prerequisite: ART 110. One lecture. Five lab.

**COURSE CONTENT:**

1. Introduction to media, techniques and vocabulary
2. Basic color theory

3. Perspective studies
4. Monochromatic studies
5. Color studies
6. Formal elements and principles of design
7. Historical or contemporary art examples
8. Critique

## LEARNING OUTCOMES:

1. Use appropriate tools.
2. Identify chemical differences and applications of oil and acrylic paint.
3. Employ various ground applications.
4. Wash, scumble, drag, dab, and blend.
5. Distinguish the techniques of glazing, alla prima, and other direct and indirect methods paint applications.
6. Use perspective in painting.
7. Utilize value.
8. Identify, analyze and utilize the formal elements and principles of design.
9. Recognize historical or contemporary examples of the fine arts or crafts.
10. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 191 - Oil/Acrylic Painting II**

## COURSE DESCRIPTION:

ART 191. Oil/Acrylic Painting II (3). Development of personal expression through study of different techniques of painting. Application of design principles. Prerequisite: ART 190. One lecture. Five lab.

## COURSE CONTENT:

1. Review of elements of design
2. Review of color theory
3. Review of aesthetic and psychological values regarding elements and strokes
4. Discussion of texture in perspective
5. Expressionism vs. reproduction of shape and form as illustration - "painterly" quality of work
6. Analogous color schemes
7. Monochromatic color schemes; modification of primaries with black/white
8. Collage theme; discussion of content
9. Figure studies; gesture studies in drawing, completed painting
10. High-keyed color study
11. Low-keyed color study
12. Glossary terms
13. Formal elements and principles of design
14. Historical and contemporary art examples
15. Critique

## LEARNING OUTCOMES:

1. Develop understanding of differences between hue, value, intensity, chroma, high and low keyed works, tints, shades, and other terms commonly used in vocabulary of the artist.
2. Identify and use complements of every hue in various ways.
3. Understand use of analogous, split complement, monochromatic and other limited palettes.
4. Develop an understanding for "gesture" in developing composition.
5. Develop an understanding of the importance of planning through use of sketchbook as an idea-book.
6. Develop an understanding of collage, glazing, scumbling, impasto, blending, mass tones, overtones.
7. See difference in using modifiers that are non-colors and true neutrals.
8. Execute skill in knife work.
9. Participate in class critiques and gain ability to evaluate finished works from standpoint of material use and composition.
10. Identify, analyze and utilize the formal elements and principles of design.
11. Recognize historical or contemporary examples of the fine arts or crafts.
12. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 193 - Plein-Air Painting**

## COURSE DESCRIPTION:

ART 193. Plein-Air Painting (3). Outdoor landscape painting with emphasis on fostering creative expression in visual interpretation of natural forms through the study of composition, color and perspective. Application of design principles. Prerequisite: ART 110. One lecture. Five lab.

## COURSE CONTENT:

1. Media, tools, and techniques
2. Outdoor studies
3. Compositional study
4. Basic color and tonal theory

5. Creative visual statement
6. Alla Prima and extended plein-air painting
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Vocabulary and evaluation techniques
10. Critique

## LEARNING OUTCOMES:

1. Use media, tools and techniques. (1)
2. Interpret natural forms and colors outdoors. (2)
3. Use compositional design to interpret the landscape. (3)
4. Develop tonal studies and apply color theory. (4)
5. Interpret the subject in a creative manner and make a cohesive visual statement. (5)
6. Paint using alla primavera and extended plein-air techniques. (6)
7. Identify, analyze and utilize the formal elements and principles of design. (8)
8. Recognize historical or contemporary examples of the fine arts or crafts. (9)
9. Use media specific terminology to critique and evaluate works of art. (10)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 194 - Watercolor I**

## COURSE DESCRIPTION:

ART 194. Watercolor I (3). Exploration of transparent qualities of watercolor medium. Techniques and materials used to stimulate personal creativity and uniqueness of expression. Application of design principles. Prerequisite: ART 110. One lecture. Five lab.

## COURSE CONTENT:

1. Different water media
2. Materials
  - a. Brushes and sponges
  - b. Papers
  - c. Pigments
3. Techniques
  - a. Brush strokes
  - b. Washes
  - c. Pulling off and scratch techniques
  - d. Resists
  - e. Stamping
  - f. Splatter
4. Formal elements and principles of design
5. Historical and contemporary art examples
6. Critique

## LEARNING OUTCOMES:

1. Distinguish different water media.
2. Identify and utilize appropriate materials, including brushes, paper and pigments.
3. Apply different techniques of brush strokes and washes.
4. Pull off and scratch.
5. Use resists.
6. Utilize sponging, stamping, and splatter techniques.
7. Identify, analyze and utilize the formal elements and principles of design.
8. Recognize historical or contemporary examples of the fine arts or crafts.
9. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 195 - Watercolor II**

## COURSE DESCRIPTION:

ART 195. Watercolor II (3). Independent development using the watercolor medium. Study of varied techniques will be utilized to meet individual needs. Application of design principles. Prerequisite: ART 194. One lecture. Five lab.

## COURSE CONTENT:

1. Review of strokes, washes, paper properties
2. Review of terms and color theory and design principles
3. Basic washes combined with other techniques with subject matter showing textures of various kinds
4. Experimental "splotch" and development
5. Graphite washes
6. Resist techniques and exploration of turpentine build-up as nontraditional resist for texture
7. Wetting both sides of heavier paper (rag-content) and working all through wet-into-wetvarious strengths of pigment to hold
8. Combining techniques with subjects of choice for texture, various washes in combination with techniques of resist, splatter, sand, etc. for texture

9. Development of project with three overlapping ideas about a single person, place, or thing
10. Formal elements and principles of design
11. Historical and contemporary art examples
12. Critique

**LEARNING OUTCOMES:**

1. Students will show perfection of the discipline of loose washes and positive, more spontaneous brush strokes.
2. Students will choose from the various techniques to show reflected light effects, reflections into reflective surfaces, reflected lights and colors of adjacent objects.
3. Students will develop paintings through washes loose to line work as well as developing individual control for wet-into-dry areas.
4. Student will show understanding of corrective techniques.
5. Student will fulfill exercises in text for creative development and experimental techniques.
6. Identify, analyze and utilize the formal elements and principles of design.
7. Recognize historical or contemporary examples of the fine arts or crafts.
8. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**[ART 196 - Portraiture I](#)****COURSE DESCRIPTION:**

ART 196. Portraiture I (3). Emphasis on portraiture techniques for individuals proficient in a specific medium. Application of design principles. Prerequisite: ART 110 and ART 190. One lecture. Five lab.

**COURSE CONTENT:**

1. Use of tools and pigment to model a portrait.
2. Proportions and anatomy of head
3. Head studies
  - a. Light/dark
  - b. Monochromatic
  - c. Color
4. Color theory/color contrasts
5. Drapery
6. Connection between design elements and "likeness"
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

**LEARNING OUTCOMES:**

1. Utilize appropriate tools and media to model a portrait.
2. Identify and depict the structure of head and face.
3. Execute monochromatic or color portrait study.
4. Utilize color contrasts in portrait.
5. Apply painting techniques to depict drapery.
6. Make a connection between design elements and "likeness."
7. Identify, analyze and utilize the formal elements and principles of design.
8. Recognize historical or contemporary examples of the fine arts or crafts
9. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**[ART 197 - Portraiture II](#)****COURSE DESCRIPTION:**

ART 197. Portraiture II (3). Advanced study of portraiture personalizing techniques and palettes. Emphasis on capturing the subject's personality. Application of design principles. Prerequisite: ART 196. One lecture. Five lab.

**COURSE CONTENT:**

1. Facial expression and body position to depict mood
2. Refinement of techniques
3. Portraying personality of subject
4. Development of personal color/value palette
5. Surface and color texture
6. Formal elements and principles of design
7. Historical and contemporary art examples
8. Critique

**LEARNING OUTCOMES:**

1. Use different textures, both in the painting technique and the painting surface.
2. Use a variety of color palettes in portrait painting.
3. Use basic design principles to explore the mood and expressions of subject.
4. Choose techniques, palettes, and methods to portray the personality of the subject.

5. Identify, analyze and utilize the formal elements and principles of design.
6. Recognize historical or contemporary examples of the fine arts or crafts.
7. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 198 - Art Topics:****COURSE DESCRIPTION:**

ART 198. Art Topics: (1). Exploration of art media. One lecture. [Repeatable for a total of 2 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Techniques and processes
2. Personalized expression
3. Individual and group critique
4. Formal elements and principles of design
5. Historical and contemporary art examples
6. Critique

**LEARNING OUTCOMES:**

1. Explore techniques and processes. (1)
2. Apply techniques to personal expressions. (2)
3. Present and critique art work. (3)
4. Identify, analyze, and utilize the formal elements and principles of design. (4)
5. Recognize historical or contemporary examples of the fine arts or crafts. (5)
6. Use media specific terminology to critique and evaluate works of art. (6)

**REQUIRED ASSESSMENT:**


1. Critique and evaluation of art and artifacts.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 200 - Art History I****COURSE DESCRIPTION:**

ART 200. Art History I (3).  **ART 1101.** Western art from the Paleolithic Period to the Fourteenth Century. Two and three dimensional art and architecture evaluated in historical and cultural context. Application of design principles. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Prehistoric art
2. Art of ancient civilizations
3. Art of classical antiquity
4. Early Christian, Medieval and Byzantine art
5. Romanesque art
6. Gothic art
7. Analytical writing and the oral critique
8. Application of principles and elements of design
9. Traditional, historical or contemporary examples of art
10. Theories, methods and historiography of art history
11. Implication of culture, ethnicity, race and gender on art

**LEARNING OUTCOMES:**

1. Evaluate artifacts through discipline specific theories, methods and historical interpretations. (1-11) (AH 1-5) (ERG 1,3-5) (GIH 1,2,4)
2. Compare and contrast artifacts within temporal parameters of course description. (1-11) (AH 1-3,5) (GIH 1,2,4)
3. Classify artifacts within their temporal, regional and stylistic context. (1-11) (AH 1-3,5) (GIH 1,2,4)
4. Define and utilize relevant and appropriate terminology. (1-11) (AH 1-3,5) (ERG 1,3-5) (GIH 1,2,4)
5. Identify artifacts fundamental or pivotal in the development of Western art. (1-7) (AH 1-5) (GIH 1,2,4)
6. Distinguish and define techniques used in the creation of artifacts. (1-8) (AH 1-5) (GIH 1,2,4)
7. Identify, analyze, synthesize and utilize the principles and elements of design. (1-9) (AH 1-5) (GIH 1,2,4)
8. Evaluate the implications and issues of culture, ethnicity, race and/or gender within the context of Western art and history. (1-9, 13,14) (AH 1-5) (ERG 1-6) (GIH 1,2,4)
9. Formulate questions, make connections, and draw conclusions from formal analysis and critique. (1-8,10) (AH 1,4) (GIH 1-4)
10. Define the cultural, political, religious, scientific/technological, economic and environmental influences as they affect the development of Western art. (1-7,11) (AH 1-5) (GIH 1-4)
11. Locate, retrieve, and analyze primary and secondary historical sources. (1-11) (AH 4) (GIH 5,6) (IL 1-6) (LL 1-9)
12. Create, organize and support a thesis in written form. (1-11) (AH 4) (GIH 5,6) (IL 1-6) (LL 1-9)
13. Employ accurate and required citation format. (1-11) (AH 4) (GIH 5,6) (IL 1-6) (LL 1-9)

**REQUIRED ASSESSMENT:**

1. Employ thoughtful and precise writing (a minimum of 2500 words), critical reasoning, and analytical discourse through assigned writing assignments, essay examinations, journals and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)


Visual/Performing/LiberalOBS Division  
Visual Art Department

**Course Attributes:**

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Global/Internl or Historical, Intensive Writing, Written Comm (WC), SUN# ART 1101

### [ART 201 - Art History II](#)

**COURSE DESCRIPTION:**

ART 201. Art History II (3).  **ART 1102.** Western art from the Fourteenth to the Twentieth Century. Two and three dimensional art and architecture are evaluated in historical and cultural context. Application of design principles. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Fourteenth Century developments throughout Western Europe
2. Fifteenth Century developments throughout Western Europe art of classical antiquity
3. High Renaissance and Mannerism in Italy and Northern Europe
4. The Baroque and Rococo throughout Western Europe
5. Eighteenth Century developments in Europe and the Americas
6. Nineteenth Century European art and American landscape painting
7. The rise of modern art
8. Analytical writing and the oral critique
9. Application of principles and elements of design
10. Traditional, historical or contemporary examples of art
11. Theories, methods and historiography of art history
12. Implication of culture, ethnicity, race and gender on art

**LEARNING OUTCOMES:**

1. Evaluate artifacts through discipline specific theories, methods and historical interpretations. (1-7) (AH 1-4,5) (ERG 1,3-5) (GIH 1,2,4)
2. Compare and contrast artifacts within temporal parameters of course description. (1-7) (AH 1-3,5) (GIH 1,2,4)
3. Classify artifacts within their temporal, regional and stylistic context. (1-7) (AH 1-3,5) (GIH 1,2,4)
4. Define and utilize relevant and appropriate terminology. (1-7) (AH 1-3,5) (ERG 1,3-5) (GIH 1,2,4)
5. Identify artifacts fundamental or pivotal in the development of Western art. (1-7) (AH 1-5) (GIH 1,2,4)
6. Distinguish and define techniques used in the creation of artifacts. (1-7) (AH 1-5) (GIH 1,2,4)
7. Identify, analyze, synthesize and utilize the principles and elements of design. (1-9) (AH 1-5) (GIH 1,2,4)
8. Evaluate the implications and issues of culture, ethnicity, race and/or gender within the context of Western art and history. (1-7, 11,12) (AH 1,4) (ERG 1-6) (GIH 1-4)
9. Formulate questions, make connections, and draw conclusions from formal analysis and critique. (1-12) (AH 1-5) (GIH 1-4)
10. Define the cultural, political, religious, scientific/technological, economic and environmental influences as they affect the development of Western Art. (1-8,11,12) (AH 4) (GIH 5,6) (LL 1-9) (IL 1-6)
11. Locate, retrieve, and analyze primary and secondary historical sources. (1-12) (AH 4) (GIH 5,6) (LL 1-9) (IL 1-6)
12. Create, organize and support a thesis in written form. (1-12) (AH 4) (GIH 1,2,4)

**REQUIRED ASSESSMENT:**

1. Employ thoughtful and precise writing (a minimum of 2500 words), critical reasoning and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**Course Attributes:**

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Global/Internl or Historical, Intensive Writing, Written Comm (WC), SUN# ART 1102

### [ART 202 - History of Modern and Contemporary Art](#)

**COURSE DESCRIPTION:**

ART 202. History of Modern and Contemporary Art (3). Western art, craft, design and architecture from 1850 to the present. Two and three dimensional art, craft, design and architecture are evaluated in historical and cultural context. Application of design principles. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Nineteenth Century origins
2. Schools and styles of the Nineteenth Century
3. Succession movements
4. Colonialism and globalization
5. Industrial and commercial design
6. Schools and styles of the Twentieth Century
7. Contemporary schools, styles and criticism
8. Analytical writing and the oral critique
9. Application of principles and elements of design
10. Traditional, historical or contemporary examples of art
11. Theories, methods and historiography of art history
12. Implication of culture, ethnicity, race and gender on art

**LEARNING OUTCOMES:**

1. Evaluate artifacts through discipline specific theories, methods and historical interpretations. (1-12) (AH 1-5) (ERG 1,3-5) (GIH 1,2,4)
2. Compare and contrast artifacts within temporal parameters of course description. (1-12) (AH 1-3,5) (GIH 1,2,4)
3. Classify artifacts within their temporal, regional and stylistic context. (1-12) (AH 1-3,5) (GIH 1,2,4)
4. Define and utilize relevant and appropriate terminology. (1-12) (AH 1-3,5) (ERG 1,3-5) (GIH 1,2,4)
5. Identify artifacts fundamental or pivotal in the development of Western art. (1-7) (AH 1-5) (GIH 1,2,4)
6. Distinguish and define techniques used in the creation of artifacts. (1-9) (AH 1-5) (GIH 1,2,4)
7. Identify, analyze, synthesize and utilize the principles and elements of design. (1-10) (AH 1-5) (GIH 1,2,4)
8. Evaluate the implications and issues of culture, ethnicity, race and/or gender within the context of Western art and history. (1-12) (AH 1-5) (ERG 1-6) (GIH 1,2,4)
9. Formulate questions, make connections, and draw conclusions from formal analysis and critique. (1-12) (AH 1,4) (GIH 1-4)
10. Define the cultural, political, religious, scientific/technological, economic and environmental influences as they affect the development of Western art. (1-12) (AH 1-5) (GIH 1-4)
11. Locate, retrieve, and analyze primary and secondary historical sources. (1-12) (AH 4) (GIH 5,6) (LL 1-9) (IL 1-6)

12. Create, organize and support a thesis in written form. (1-12) (AH 4) (GIH 5,6) (LL 1-9) (IL 1-6)
13. Employ accurate and required citation format. (8-12) (AH 4) (GIH 1,2,4)

**REQUIRED ASSESSMENT:**

1. Employ thoughtful and precise writing (a minimum of 2500 words), critical reasoning and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Visual Art Department

**Course Attributes:**

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Global/Interrn or Historical, Intensive Writing, Written Comm (WC)

**ART 203 - History of Photography****COURSE DESCRIPTION:**

ART 203. History of Photography (3). World history of photography as a form of two dimensional art and visual communication. Historic and contemporary examples of photography evaluated from the origins of the medium to the present. Application of design principles. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Nineteenth Century origins
2. Technology and photographic processes
3. Photography as an art form
4. Photography as mass communication
5. Photography as documentation
6. Influence on traditional media
7. Schools and styles of the Nineteenth Century
8. Schools and styles of the Twentieth Century
9. Contemporary schools, styles and criticism
10. Analytical writing and the oral critique
11. Application of principles and elements of design
12. Traditional, historical or contemporary examples of photography
13. Theories, methods and historiography of art history
14. Implication of culture, ethnicity, race and gender on art

**LEARNING OUTCOMES:**

1. Evaluate artifacts through discipline specific theories, methods and historical interpretations. (1-14) (AH 1-5) (ERG 1,3-5) (GIH 1,2,4)
2. Compare and contrast artifacts within temporal parameters of course description. (1-14) (AH 1-3,5) (GIH 1,2,4)
3. Classify artifacts within their temporal, regional and stylistic context. (1-14) (AH 1-3,5) (GIH 1,2,4)
4. Define and utilize relevant and appropriate terminology. (1-14) (AH 1-3,5) (ERG 1,3-5) (GIH 1,2,4)
5. Identify artifacts fundamental or pivotal in the development of photography. (1-7) (AH 1-5) (GIH 1,2,4)
6. Distinguish and define techniques used in the development of prints. (1-9) (AH 1-5) (GIH 1,2,4)
7. Identify, analyze, synthesize and utilize the principles and elements of design. (1-11) (AH 1-5) (GIH 1,2,4)
8. Evaluate the implications and issues of culture, ethnicity, race and/or gender within the context of world art and history. (1-12) (AH 1-5) (ERG 1-6) (GIH 1,2,4)
9. Formulate questions, make connections, and draw conclusions from formal analysis and critique. (1-14) (AH 1,4) (GIH 1-4)
10. Define the cultural, political, religious, scientific/technological, economic and environmental influences as they affect the development of photography in world art. (1-14) (AH 1-5) (GIH 1-4)
11. Locate, retrieve, and analyze primary and secondary historical sources. (1-14) (AH 4) (GIH 5,6) (LL 1-9) (IL 1-6)
12. Create, organize and support a thesis in written form. (1-14) (AH 4) (GIH 5,6) (LL 1-9) (IL 1-6)
13. Employ accurate and required citation format. (10-14) (AH 4) (GIH 5,6) (LL 1-9) (IL 1-6)

**REQUIRED ASSESSMENT:**

1. Employ thoughtful and precise writing (a minimum of 2500 words), critical reasoning and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Visual Art Department

**Course Attributes:**

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Global/Interrn or Historical, Intensive Writing, Written Comm (WC)

**ART 210 - Life Drawing I****COURSE DESCRIPTION:**

ART 210. Life Drawing I (3). Developing skills and expressiveness in drawing a basic form, construction and gesture of the human figure. Application of design principles. Prerequisite: ART 110. One lecture. Five lab.

**COURSE CONTENT:**

1. Contour drawing
2. Gesture drawing
3. Negative shapes
4. Weight
5. Modeling/value
6. Anatomy and proportion
7. Foreshortening
8. Experimentation with various media
9. Formal elements and principles of design
10. Historical and contemporary art examples
11. Critique

## LEARNING OUTCOMES:

1. Execute a contour drawing of a human figure.
2. Draw the gesture of a figure.
3. Identify and utilize negative shapes in drawing the figure.
4. Depict weight.
5. Utilize modeling when drawing the figure.
6. Employ anatomy and proportion in drawing.
7. Draw foreshortening.
8. Utilize different media - ink, charcoal, pencil and some color media.
9. Identify, analyze and utilize the formal elements and principles of design.
10. Recognize historical or contemporary examples of the fine arts or crafts.
11. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 211 - Life Drawing II**

## COURSE DESCRIPTION:

ART 211. Life Drawing II (3). Emphasis on drawing forms. Personal growth and individual techniques developed through projects emphasizing various media and techniques in drawing history. Application of design principles. Prerequisite: ART 210. One lecture. Five lab.

## COURSE CONTENT:

1. Contour and gesture studies
2. Modeling of figure with value
3. Modeling of figure in color studies
4. Study of bone and muscle structure
5. Completed compositions
6. Experimentation with media
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

## LEARNING OUTCOMES:

1. Utilize contour and gesture studies in finished drawings.
2. Model the figure in black and white.
3. Model the figure in color.
4. Identify bone and muscle structure of figure.
5. Develop total design awareness through development of the background and support areas of the figure.
6. Utilize technical skill with various media.
7. Identify, analyze and utilize the formal elements and principles of design.
8. Recognize historical or contemporary examples of the fine arts or crafts.
9. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 212 - Life Painting**

## COURSE DESCRIPTION:

ART 212. Life Painting (3) (Spring). Techniques of figure painting with an emphasis on the form, construction and gesture of the figure. Application of design principles. Prerequisite: ART 110 and ART 190. One lecture. Five lab.

## COURSE CONTENT:

1. Contour and gesture studies
2. Studies in proportion
3. Modeling of figure with value
4. Modeling of figure in color studies
5. Color theory/color contrasts
6. Media experiments
7. Techniques, including wash, glaze and alla prima painting
8. Formal elements and principles of design
9. Historical and contemporary art examples
10. Critique

## LEARNING OUTCOMES:

1. Utilize contour and gesture studies in finished paintings.
2. Recognize and utilize proper proportions.
3. Model the figure in black and white.
4. Model the figure in color
5. Utilize color contrasts in developing the figure.
6. Paint with various media.



7. Employ various techniques in figure painting.
8. Identify, analyze and utilize the formal elements and principles of design.
9. Recognize historical or contemporary examples of the fine arts or crafts.
10. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 220 - Ceramics III****COURSE DESCRIPTION:**

ART 220. Ceramics III (3). Advanced study of clay building methods, glazing and firing techniques in development of individual style. Application of design principles. Prerequisite: ART 121. One lecture. Five lab.

**COURSE CONTENT:**

1. Use of the potter's wheel
  - a. Cylinder
  - b. Bowl
  - c. Plate
  - d. Bottle
  - e. Trimming
  - f. Lids
  - g. Spouts
  - h. Joining forms
2. Hand forming techniques
  - a. Pinching
  - b. Coiling
  - c. Slab work
  - d. Mold use
  - e. Handles
3. Surface decoration techniques
  - a. Stamping
  - b. Incising
  - c. Carving
  - d. Engobe
  - e. Sgraffito
  - f. Mishima
  - g. Sprigging
  - h. Slip Trailing
4. Glazing techniques
  - a. Wax resist
  - b. Dipping
  - c. Pouring
  - d. Brushwork
  - e. Overlaps
  - f. Metal oxide painting and staining
  - g. Creative application
5. Clay and clay body components and testing
6. Glaze flaws
  - a. Crawling
  - b. Pitting
  - c. Crazing
  - d. Shivering
7. Experiential kiln firing procedures
8. Basic design principles and elements
  - a. Principles
  - b. Elements
9. Integration of historical or contemporary art examples through such means as demonstrations, slides, videos, reproductions and gallery/museum visits
  - a. Traditional media, processes, and content
  - b. Nontraditional media, processes, and content

**LEARNING OUTCOMES:**

1. Produce three-dimensional forms using a variety of clay building techniques.
2. Apply glaze using several techniques.
3. Test and identify characteristics of various clays and clay bodies.
4. Identify and describe glaze flaws.
5. Fire a kiln.
6. Critique and evaluate personal and other's artwork.
7. Identify, analyze and synthesize design principles.
8. Discuss traditional and nontraditional historical or contemporary art examples.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 221 - Ceramics IV**

**COURSE DESCRIPTION:**

ART 221. Ceramics IV (3). Advanced study of clay building methods, glazing and firing techniques in further development of individual style. Opportunity for supervised independent work. Application of design principles. Prerequisite: ART 220. One lecture. Five lab.

**COURSE CONTENT:**

1. Advanced use of the potters wheel and/or other hand forming techniques (Not limited to):
  - a. Cylinder
  - b. Bowl
  - c. Plate
  - d. Bottle
  - e. Trimming
  - f. Lid
  - g. Spouts
  - h. Joining forms
  - i. Pinching
  - j. Coiling
  - k. Slab work
  - l. Mold use
  - m. Handles
2. Advanced use of surface decoration techniques
  - a. Stamping
  - b. Incising
  - c. Carving
  - d. Engobe
  - e. Sgraffito
  - f. Mishima
  - g. Sprigging
  - h. Slip Trailing
3. Advanced glazing techniques
  - a. Wax resist
  - b. Dipping
  - c. Pouring
  - d. Brushwork
  - e. Overlaps
  - f. Metal oxide painting and staining
  - g. Creative application
4. Glaze materials
5. Glaze testing and modification
6. Individual aesthetics
7. Formal elements and principles of design
  - a. Principles
  - b. Elements
8. Historical and contemporary art examples
  - a. Traditional media, processes, and content
  - b. Nontraditional media, processes, and content
10. Critique

**LEARNING OUTCOMES:**

1. Produce intentional three-dimensional forms using a variety of clay building techniques.
2. Apply glaze using several techniques.
3. Identify and describe raw glaze materials.
4. Test and modify glazes.
5. Define personal aesthetic choices.
6. Use media specific terminology to critique and evaluate works of art.
7. Identify, analyze and utilize the formal elements and principles of design.
8. Recognize historical or contemporary examples of the fine arts or crafts.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 222 - Advanced Projects: Ceramics****COURSE DESCRIPTION:**

ART 222. Advanced Projects: Ceramics (3). Advanced study of clay building methods, glazing and firing techniques with emphasis on design and honing personal aesthetic. Prerequisite: ART 121. One lecture. Five lab.

**COURSE CONTENT:**

1. Safety in ceramic lab and kiln work
2. Potter's wheel and/or off-wheel hand forming techniques
3. Glazes and glaze application
4. Personal aesthetic
5. Contemporary themes in ceramics
6. Presentation of completed work
7. Critique
8. Formal elements and principles of design
9. Historical and contemporary art examples

**LEARNING OUTCOMES**

1. Use labs and kilns safely. (1)
2. Produce three-dimensional ceramic forms that convey a personal aesthetic. (1-5)
3. Apply and hone techniques to create art work. (2,3)
4. Test glazes. (3)

5. Research and identify contemporary themes in ceramics. (5)
6. Present completed artwork. (6)
7. Use media specific terminology to critique and evaluate works of art. (7)
8. Identify, analyze and utilize the formal elements and principles of design. (8)
9. Recognize historical or contemporary examples of the fine arts or crafts. (9)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 223 - Ceramic Sculpture****COURSE DESCRIPTION:**

ART 223. Ceramic Sculpture (3). Exploration and experimentation of subtractive and additive clay techniques to create 3-D constructions. Use of texture, glaze and cold patina finishes. Application of design principles. Prerequisite: ART 120. One lecture. Five lab.

**COURSE CONTENT:**

1. Additive hand forming techniques
  - a. Pinching
  - b. Elements Basic design principles and elements
  - c. Slab construction
2. Subtractive hand forming techniques
  - a. Hollowing
  - b. Carving
3. Mold casting procedures
4. Armatures and clay supports
5. Surface Texture decoration techniques
  - a. Stamping
  - b. Carving
  - c. Incising
  - d. Other
6. Fired Glaze and cold finish application techniques
  - a. Was resist
  - b. Brushing
  - c. Staining
  - d. Pouring
  - e. Dripping
  - f. Other
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

**LEARNING OUTCOMES:**

1. Create 3-dimensional structures using various additive and subtractive clay hand forming techniques.
2. Build and use molds for clay construction.
3. Use and build armatures for support of clay forms.
4. Use various techniques to affect the clay's surface.
5. Apply glaze and cold finishes using various techniques.
6. Use media specific terminology to critique and evaluate works of art.
7. Identify, analyze and utilize the formal elements and principles of design.
8. Recognize historical or conemporary examples of the fine arts or crafts.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 224 - Clay and Glaze Chemistry for the Ceramicartist****COURSE DESCRIPTION:**

ART 224. Clay and Glaze Chemistry for the Ceramic Artist (3). Introduction and exploration of ceramic materials and application in ceramic artwork Application of design principles. Prerequisite: ART 120. Two lecture. Three lab.

**COURSE CONTENT:**

1. Clays
  - a. Origins
  - b. Composition
  - c. Physical nature
  - d. Drying and firing
  - e. Kinds of clay
  - f. Mining and preparation
2. Clay Bodies
3. Engobes, Slips and Terra Sigillatas
4. Glazes
  - a. Nature of glass and glazes

- b. Oxides and their function in Glazes
- c. Materials
- d. Calculation
- e. Formation
- f. Mixing
- g. Firing
- h. Flaws
- i. Special glazes and surface effects

**LEARNING OUTCOMES:**

1. Describe the geologic origins of clay.
2. Discuss the composition of typical clay.
3. Explain the physical nature and characteristics of clay.
4. Describe the processes of drying and firing clay.
5. Name different types of clays.
6. Find, process and prepare clay for use in art work.
7. Define, name, compose and test clay bodies.
8. Define, name, create and apply engobes, slips and terra sigillatas.
9. Differentiate distinction between glaze and glass.
10. Identify oxides and their functions in a glaze.
11. Identify a variety of glaze materials and their functions in a glaze.
12. Calculate a glaze.
13. Formulate a glaze.
14. Mix a glaze.
15. Identify the characteristics of fired glazes.
16. Identify and remedy flaws in glazes.
17. Identify and create special glazes and surfaces on ceramic ware.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

### [ART 230 - Digital Printing Technology](#)

**COURSE DESCRIPTION:**

ART 230. Digital Printing Technology and Applications (3) (Spring). Fundamentals of digital print technology, including color management, short run print processes, and fine art giclee printing. Application of design principles. Prerequisite: ART 137. One lecture. Five lab.

**COURSE CONTENT:**

1. Printing vocabulary
2. Methods of input
3. Major printing processes
4. File format management
5. Color management principles
6. Monitor calibration hardware and software
7. Paper profiles
8. Short run printing - Color laser printer
9. Short run printing - Color copier
10. Giclee printing for fine art application
11. Formal elements and principles of design
12. Historical and contemporary art examples
13. Critique

**LEARNING OUTCOMES:**

1. Analyze printed images and express an informed opinion about technical and aesthetic characteristics using the basic vocabulary of the printing industry. (1)
2. Identify and articulate methods of digital input. (2)
3. Describe the major printing processes. (3)
4. Optimize and convert various file formats for output. (4)
5. Articulate the principles of color management. (5)
6. Calibrate a color monitor utilizing industry standard hardware and software. (6)
7. Create profiles for paper/printer combinations. (7)
8. Prepare and print files using the color laser printer. (8)
9. Prepare and print files using the copier. (9)
10. Prepare and print fine art files using the giclee process. (10)
11. Identify, analyze, and utilize the formal elements and principles of design. (11)
12. Recognize historical or contemporary examples of the fine arts or crafts. (12)
13. Use media specific terminology to critique and evaluate works of art. (13)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**Course Attributes:**  
Scientific (SL)

### [ART 231 - Graphic Design Illustration](#)

**COURSE DESCRIPTION:**

ART 231. Graphic Design Illustration (4) (Spring). Contemporary styles in editorial, story, and advertising illustration. Skill development in information graphics, figure illustration and product design using Adobe Creative Suite software. Application of design principles. Prerequisite: ART 110 or ART 112. One lecture. Seven lab.

**COURSE CONTENT:**

1. Information graphics
2. Figure illustration
3. Book cover illustration
4. Editorial illustration
5. Product design
6. Adobe illustrator software skills
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

**LEARNING OUTCOMES:**

1. Design, render and execute information graphics using Adobe Illustrator as the primary tool to produce graphic design layout. (1,6)
2. Produce a series of illustrations that reflect various artistic techniques to express the aspects of personalities. (2,6)
3. Design, render and execute illustrations and designs for a book cover. (3, 6)
4. Design and execute editorial illustrations. (4,6)
5. Research, analyze and execute advanced illustrations and designs that use two or more Adobe CreativeSuite programs for product design development. (5,6)
6. Identify, analyze and utilize the formal elements and principles of design. (7)
7. Recognize historical or contemporary examples of the fine arts or crafts. (8)
8. Use media specific terminology to critique and evaluate works of art. (9)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

4.000 Credit hours  
1.000 Lecture hours  
7.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 232 - Portfolio Development****COURSE DESCRIPTION:**

ART 232. Portfolio Development (2) (Spring). Develop traditional and electronic graphic design and fine arts portfolios. Create resume and other career search materials. Develop advanced design and technical skills. Exhibition skills. Apply design principles. Completed body of art work needed for class. One lecture. Three lab.

**COURSE CONTENT:**

1. Self promotion
2. Business skills
3. Portfolio design skills
4. Formal elements and principles of design
5. Historical or contemporary art examples
6. Critique

**LEARNING OUTCOMES:**

1. Assemble, prepare and maintain a traditional and/or electronic professional design or fine art portfolio. (1-5)
2. Write comprehensive resumes, cover letters, and artist statements. (1-3)
3. Research local and regional job, exhibition, and/or grant opportunities. (1,2)
4. Identify basic copy write laws as they apply to the designer or artist. (1,2)
5. Document art work using appropriate media. (1,3-5)
6. Interview using the portfolio. (1-5)
7. Use, analyze and utilize the formal elements and principles of design. (4)
8. Recognize historical or contemporary examples of the fine arts or crafts. (5)
9. Present traditional and/or electronic portfolio for review. (1-5)
10. Use media specific terminology to critique and evaluate works of art. (6)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 233B - Adobe Flash****COURSE DESCRIPTION:**

ART 233B. Adobe Flash (2). Introduction to technical and creative use of Adobe Flash software to create graphics, animation and editorial layouts. Emphasis on animation basics and digital storytelling. One lecture. Three lab.

**COURSE CONTENT:**

1. Adobe Flash software skills
2. Image creation
3. Editorial layouts with digital illustration
4. Animation basics
5. Digital storytelling
6. Animated multi-scenes
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

## LEARNING OUTCOMES:

1. Navigate Adobe Flash interface. (1)
2. Create graphics for animation and design. (1-4, 7, 8)
3. Design solutions for visual problems for web or television. (6- 8)
4. Create and use animation principles. (4, 6- 8)
5. Produce fully functional, color and sound web ready animations. (1-8)
6. Identify, analyze and utilize the formal elements and principles of design. (7)
7. Recognize historical or contemporary examples of the fine arts or crafts. (8)
8. Use media specific terminology to critique and evaluate works of art. (9)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 234 - Advanced Graphic Design Projects**

## COURSE DESCRIPTION:

ART 234. Advanced Graphic Design Projects (3) (Spring). Advanced design projects using a combination of Adobe Creative Suite programs. Skill development in corporate design, self-promotion, and advanced layout and packaging. Application of design principles. Prerequisite: ART 131 and ART 231. Two lecture. Four lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

## COURSE CONTENT:

1. Corporate logos
2. Business package
3. Newsletter
4. Package label
5. Self-promotion
6. Formal elements and principles of design
7. Historical and contemporary art examples
8. Critique

## LEARNING OUTCOMES:

1. Create logos with customer focus (1,2)
2. Develop a business package using two or more Adobe Creative Suite programs. (2)
3. Use advanced computer skills to produce illustrations, logos, graphs, photos and layouts. (3)
4. Create illustrations and designs with product focus. (4)
5. Design, plan and execute a self-promotional project. (5)
6. Identify, analyze and utilize the formal elements and principles of design. (6)
7. Recognize historical or contemporary examples of the fine arts or crafts. (7)
8. Use media specific terminology to critique and evaluate works of art. (8)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 235 - Magazine Production**

## COURSE DESCRIPTION:

ART 235. Magazine Production (2) (Spring). Design and production of "Threshold" the Yavapai College Creative Arts Magazine. Application of design principles. Prerequisite: ART 132. One lecture. Two lab.

## COURSE CONTENT:

1. Art direction
2. Design teams
3. Magazine cover and spread development
4. Magazine production and layout
5. Advanced Adobe InDesign software skills
6. Advanced digital output
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

## LEARNING OUTCOMES:

1. Work within the design parameters determined by an art director to meet project deadlines. (1,5)
2. Solve visual problems and design concepts as a team member. (2,5)
3. Design and execute cover and page layout proposals. (3)
4. Complete the production process of a magazine from initial design to comprehensive rough. (3-5)
5. Prepare files for digital output. (6)
6. Identify, analyze and utilize the formal elements and principles of design. (7)
7. Recognize historical or contemporary examples of the fine arts or crafts. (8)
8. Use media specific terminology to critique and evaluate works of art. (9)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

#### [ART 236 - Digital Pre-Press](#)

##### COURSE DESCRIPTION:

ART 236. Digital Pre-Press (2) (Spring). Preparation of computer files for submission to a digital and offset printer. Emphasis on final output and terminology. Application of design principles. Prerequisite: ART 131 and ART 137. Two lecture.

##### COURSE CONTENT:

1. Pre-press workflow and terminology
2. Color-file management
3. Preflight and repair of Adobe InDesign files
4. Paper, binding, and finishing
5. Press-ready files
6. Adobe InDesign advanced skills
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

##### LEARNING OUTCOMES:

1. Create a multi-page publication for offset printing. (1-7)
2. Create final Acrobat PDFs for upload to client or printer. (3, 5, 6)
3. Choose paper, binding and finishing. (4)
4. Identify, analyze and utilize the formal elements and principles of design. (6, 7)
5. Recognize historical or contemporary examples of the fine arts or crafts. (8)
6. Use media specific terminology to critique and evaluate. (1, 9)

##### REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Visual Art Department

**Course Attributes:**  
Quantitative Lit (QL)

#### [ART 237 - Adobe Photoshop II](#)

##### COURSE DESCRIPTION:

ART 237. Adobe Photoshop II (3). Still photography digital manipulation. Use of computer and peripheral hardware and associated commercial software with Adobe Photoshop software to alter photographic images. Production of still image files and hardcopy output. Application of design principles. Prerequisite: ART 137. Two lecture. Three lab.

##### COURSE CONTENT:

1. Elements of photomontage
2. Digital image capture
3. Digital image manipulation
4. Digital image output processes
5. Formal elements and principles of design
6. Historical and contemporary art examples
7. Critique

##### LEARNING OUTCOMES:

1. Digitally integrate two or more photographic images into a photomontage.
2. Digitize photographic images.
3. Use industry standard software to transform images.
4. Convert computer files into hardcopy images.
5. Identify, analyze and utilize the formal elements and principles of design.
6. Recognize historical or contemporary examples of the fine arts or crafts.
7. Use media specific terminology to critique and evaluate works of art.

##### REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

#### [ART 242 - Lapidary II](#)

**COURSE DESCRIPTION:**

ART 242. Lapidary II (2). Advanced techniques using specialized lapidary tools to create cabochons from rare materials. Application of design principles. Prerequisite: ART 142. One lecture. Two lab.

**COURSE CONTENT:**

1. Equipment use and safety
2. Rare material identification
3. Flat lapping and carving with a stationary arbor
4. Specialized cutting techniques for rare materials
5. Formal elements and principles of design
6. Historical and contemporary art examples
7. Critique

**LEARNING OUTCOMES:**

1. Identify specific uses of tools.
2. Use tools and equipment safely.
3. Identify raw materials suitable for various and specific manipulations and alterations.
4. Create flat lapped cabochons.
5. Carve cabochons with a stationary arbor.
6. Cut specialized rare materials.
  - a. Textured structure stones.
  - b. Matched pairs.
  - c. Opal, fire agate, and jade.
7. Critique and evaluate finished product.
8. Identify, analyze and utilize the formal elements and principles of design.
9. Recognize historical or contemporary examples of the fine arts or crafts.
10. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

2.000 Credit hours  
 1.000 Lecture hours  
 2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**[ART 245 - Advanced Projects in Jewelry](#)****COURSE DESCRIPTION:**

ART 245. Advanced Projects in Jewelry (3). Advanced individual projects in jewelry and metalsmithing. Includes review of processes, tools, and materials. Application of design principles. Prerequisite: ART 140 and ART 141. One lecture. Five lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Studio safety as it applies to production metalsmithing
2. Care of Tools and Equipment
3. Project Planning
  - a. Research
  - b. Design
  - c. Visualization of individual jewelry image
  - d. Planning methodology of execution
  - e. Coordination with instructor or trade shops
4. Project Execution
  - a. Sample or test of techniques to be used
    1. Layout of cutting diagrams
  2. Wax Modeling
  3. Gathering materials, tools, equipment, stones needed
  - b. Produce artwork
    1. Cut, shape, form or machine elements
    2. Join individual parts and findings
    3. Assemble whole structure
    4. File, finish, polish, patina, seal
    5. Project presentation and evaluation
6. Formal elements and principles of design
7. Historical and contemporary art examples
8. Critique

**LEARNING OUTCOMES:**

1. Create 2-3 individually designed, finished jewelry or metalsmithing objects.
2. Use tools and equipment safely.
3. Sharpen or care for all tools necessary for production with specific mediums.
4. Identify, analyze and utilize the formal elements and principles of design.
5. Recognize historical or contemporary examples of the fine arts or crafts.
6. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
 Visual Art Department



**ART 247 - Wood Turning II****COURSE DESCRIPTION:**

ART 247. Wood Turning II (3). Use of the wood lathes for creative expression. Contemporary tools and techniques used on and off the lathes to create artistic woodturnings. Application of design principles. Prerequisite: ART 147. One lecture. Five lab.

**COURSE CONTENT:**

1. Tools and equipment
2. Characteristics and properties of wood
3. Hollowing tools
4. Natural elements in natural edge, voided bowls or forms
5. Lathe tool creation and modifications
6. Surface treatments
7. Advanced bowl gouge techniques
8. Hand and power carving tools and techniques
9. Contemporary tools and jigs
10. Turned burl piece
11. Other mediums and surface treatments in wood turnings
12. Finish techniques
13. Display and photographing of turnings
14. Personal stylistic mode
15. Formal elements and principles of design
16. Historical and contemporary art examples
17. Critique

**LEARNING OUTCOMES:**

1. Use tools and equipment safely. (1)
2. Use the characteristics and properties of wood in finished pieces. (2)
3. Use hollow tools and create a hollow turned piece. (3)
4. Identify and use the natural elements in turning stock to the best sculptural advantage when creating natural edge, voided bowls or forms. (4)
5. Create and modify lathe tools for best performance. (5)
6. Use surface treatments. (6)
7. Use advanced bowl gouge techniques. (7)
8. Use hand and power carving tools and techniques. (8)
9. Use contemporary tools and jigs with advanced techniques. (9)
10. Complete a turned burl piece. (10)
11. Incorporate other mediums and surface treatments successfully into woodturnings. (11)
12. Apply finish techniques. (12)
13. Setup finished pieces for display and photographing. (13)
14. Express a personal stylistic mode in the finished turned pieces. (14)
15. Identify, analyze and utilize the formal elements and principles of design. (15)
16. Recognize historical or contemporary examples of the fine arts or crafts. (16)
17. Use media specific terminology to critique and evaluate works of art. (17)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 248 - Advanced Projects in Wood****COURSE DESCRIPTION:**

ART 248. Advanced Projects in Wood (3). Designing, fabricating functional pieces and/or making sculpture to explore the potentials of the medium. Projects are to be a unified series. Application of design principles. Prerequisite: ART 145. One lecture. Five lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Tools and materials safety
2. Project series defined by a unifying theme
3. Wood selection for use of properties
4. Sculptures and/or functional pieces emphasize form
5. Surfaces using color and texture
6. Mixed media elements
7. Finish techniques
8. Personal aesthetic
9. Presentation and documentation of completed work
10. Formal elements and principles of design
11. Historical and contemporary art examples
12. Critique

**LEARNING OUTCOMES:**

1. Use tools and materials safely. (1)
2. Apply a unifying theme to a series. (2)
3. Employ wood selection for use of properties. (3)
4. Produce sculptures and/or functional pieces with emphasis on form. (4)
5. Investigate surfaces using color and texture. (5)
6. Investigate mixed media elements. (6)
7. Use finish techniques. (7)
8. Convey a personal aesthetic. (8)
9. Prepare presentation and documentation of completed work. (9)
10. Identify, analyze and utilize the formal elements and principles of design. (10)
11. Recognize historical or contemporary examples of the fine arts or crafts. (11)
12. Use media specific terminology to critique and evaluate works of art. (12)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### [ART 249 - Advanced Projects in Wood Turning](#)

#### COURSE DESCRIPTION:

ART 249. Advanced Projects in Wood Turning (3). Emphasis on design and varied techniques to explore the potentials of three-dimensional form. Projects are to be a unified series working toward portfolio development. Application of design principles. Prerequisite: ART 247. One lecture. Five lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

#### COURSE CONTENT:

1. Tools and materials safety
2. Project series defined by a unifying theme
3. Material selection
4. Varied techniques
5. Finish techniques
6. Personal aesthetic
7. Contemporary themes in wood turning
8. Presentation and documentation of completed work
9. Formal elements and principles of design
10. Historical and contemporary art examples
11. Critique

#### LEARNING OUTCOMES:

1. Use tools and materials safely. (1)
2. Apply a unifying theme to a series. (2)
3. Select material for its qualities and application. (3)
4. Produce wood turnings using a variety of techniques. (4)
5. Use finish techniques. (5)
6. Convey a personal aesthetic. (6)
7. Research contemporary themes in wood turning. (7)
8. Prepare presentation and documentation of completed work. (8)
9. Identify, analyze and utilize the formal elements and principles of design. (9)
10. Recognize historical or contemporary examples of the fine arts or crafts. (10)
11. Use media specific terminology to critique and evaluate works of art. (11)

#### REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### [ART 252 - Photography III](#)

#### COURSE DESCRIPTION:

ART 252. Photography III (3). Marketing fine art photography. Gallery exhibition research and portfolio development. Large format camera operation and large format film processing. Alternative photographic media and processes. Contemporary and historical photography. Application of design principles. Prerequisite: ART 151. One lecture. Five lab.

#### COURSE CONTENT:

1. Large format camera and film
2. Alternative photographic media and processes
3. Pre-visualization and post-visualization techniques
4. Incident and reflective light metering
5. Chemical toning as a visual element
6. Portfolio development
7. Fine art photography in the marketplace
8. Gallery exhibition processes
9. Formal elements and principles of design
10. Historical and contemporary art examples
11. Record keeping and organization
12. Critique

#### LEARNING OUTCOMES:

1. Use a large format camera and media. (1)
2. Use, analyze and synthesize nontraditional and alternative media and processes. (2)
3. Synthesize pre-visualization and post-visualization concepts to create a unique visual statement. (3)
4. Compute correct exposure combinations using an incident light meter and/or reflective light meter as appropriate. (4)
5. Utilize chemical toning as an alternative process (5)
6. Create and present a comprehensive photographic portfolio. (6)
7. Assess contemporary and historic influences on the fine art photographic market. (7)
8. Define the gallery exhibition process. (8)
9. Identify, analyze and utilize the formal elements and principles of design. (9)
10. Recognize historical or contemporary examples of the fine arts or crafts. (10)
11. Document industry standards in record keeping and organization. (11)
12. Analyze photographic images and express an informed opinion about technical and aesthetic characteristics using the vocabulary of the photographic idiom. (12)
13. Use media specific terminology to critique and evaluate works of art. (12)

#### REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### [ART 254 - Digital Photography III](#)

#### COURSE DESCRIPTION:

ART 254. Digital Photography III (2). Application of digital photographic techniques in the photographic market. Commercial studio lighting. Portrait, landscape and documentary photography. Nontraditional media and processes. Marketplace research and portfolio development. Advanced application of design principles. Prerequisite: ART 157 and either ART 237 or ART 256. One lecture. Two lab.

#### COURSE CONTENT:

1. Commercial studio lighting.
2. Portrait photography - classic and alternative.
3. Landscape/panoramic photography.
4. Documentary photography.
5. Nontraditional media and processes.
6. Digital output processes for commercial art.
7. Storage options for digital media.
8. Marketing photographic images and skills.
9. Gallery exhibition processes.
10. Portfolio development.
11. Formal elements and principles of design
12. Historical and contemporary art examples
13. Critique

#### LEARNING OUTCOMES:

1. Apply studio lighting techniques for commercial application using digital media.
2. Incorporate classic and alternative approaches to portrait photography.
3. Employ digital darkroom techniques to manipulate images for use in landscape/panoramic photographs.
4. Use digital darkroom techniques to manipulate images for use in a documentary project.
5. Analyze and synthesize nontraditional media and processes.
6. Optimize digital images for commercial digital output processes.
7. Explain the advantages and disadvantages of various storage options for digital files.
8. Identify photographic markets for digital images.
9. Define the gallery exhibition process.
10. Present a comprehensive photographic portfolio.
11. Identify, analyze and utilize the formal elements and principles of design.
12. Recognize historical or contemporary examples of the fine arts or crafts.
13. Use media specific terminology to critique and evaluate works of art.

#### REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### [ART 258 - Photographic Lighting II](#)

#### COURSE DESCRIPTION:

ART 258. Photographic Lighting II (3). Advanced photographic lighting techniques. Studio and location lighting applications. Application of design principles. Prerequisite: ART 156. Two lecture, three lab.

#### COURSE CONTENT:

1. Advanced metering techniques and exposure controls
2. Mixed light sources
3. Photographic studio set-up
4. Location lighting set-up
5. Care and safety of studio and lighting equipment
6. Use of light modifiers
7. Advanced lighting concepts
8. Formal elements and principles of design
9. Historical and contemporary art examples
10. Critique

#### LEARNING OUTCOMES:

1. Utilize advanced metering techniques and exposure controls. (1)
2. Control mixed light sources for visual impact. (2,6)
3. Construct an efficient photographic studio. (3)
4. Construct an effective on-location lighting set-up. (4)
5. Explain proper care and safety techniques used in a photographic studio. (5)
6. Use light modifiers including reflector and diffusion devices. (1,6)
7. Apply advanced lighting techniques and concepts. (1,2,6,7)
8. Identify, analyze and utilize formal elements and principles of design. (8)
9. Recognize historical or contemporary examples of the fine arts or crafts. (9)
10. Use media specific terminology to critique and evaluate works of art. (10)

#### REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### ART 259 - Advanced Projects Photography

#### COURSE DESCRIPTION:

ART 259. Advanced Projects Photography (3). Advanced individual projects in photography. Includes review of processes, tools and materials. Application of design principles. Prerequisite: ART 252. One lecture. Five lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

#### COURSE CONTENT:

1. Individual educational plan
2. Bibliography preparation
3. Portfolio production
4. Formal elements and principles of design
5. Historical and contemporary art examples
6. Photographic vocabulary
7. Record keeping and organization
8. Critique

#### LEARNING OUTCOMES:

1. Prepare an individual educational plan.
2. Construct a bibliography of resources supporting the individual educational plan.
3. Assemble a portfolio of no less than 10 prints representing the results of the execution of the individual educational plan.
4. Identify, analyze and utilize the formal elements and principles of design.
5. Identify historical or contemporary examples of the fine arts or crafts.
6. Analyze photographic images and express an informed opinion about technical and aesthetic characteristics using the vocabulary of the photographic idiom.
7. Document industry standards in record keeping and organization.
8. Use media specific terminology to critique and evaluate works of art.

#### REQUIRED ASSESSMENT:

1. Portfolio critique and bibliography
2. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### ART 260 - Printmaking II

#### COURSE DESCRIPTION:

ART 260. Printmaking II (3). Basic techniques of etching, aquatint, and softground processes. Use of engraving, etching tools and roulettes for hand-texturing techniques. Single plate color techniques. Application of design principles. Prerequisite: ART 160. One lecture. Five lab.

#### COURSE CONTENT:

1. Plate preparation
  - a. Edge beveling experience
  - b. Cleaning of plate
2. Projects
  - a. Drypoint and engraving
  - b. Basic line etch
1. Edition of at least five
- c. Aquatint
  1. Line/value study
- d. Soft ground and sugarlift
  1. Texturing processes
- e. Combination plate
  1. Choice of techniques by the student
  2. May include a split-plate combination
3. Inking
  - a. Consistent inking and wiping procedures
  - b. Combinations of blocks
  - c. Color inking
    1. Poupee color inking used in at least one edition
  2. Color proofing before final inking choices
  3. Signing of color proofs
4. Tools and processes
  - a. Scraper
  - b. Burnisher
  - c. Roulettes
5. Registration
  - a. Acetate registration
  - b. Multiple-plate registration
6. Presentation
  - a. Proper signing for artists proof and edition markings
  - b. Portfolio development
7. Safety and health hazards
8. Critique
9. Formal elements and principles of design

## 10. Historical and contemporary art examples

## LEARNING OUTCOMES:

1. Demonstrate a basic working knowledge of intaglio printmaking processes.
2. Understanding one-plate registration and inking processes.
3. Display proficiency in different printing effects to be achieved from straight etch, engraving, drypoint and stippling techniques.
4. Complete small editions with abilities to do consistent inking, wiping, registration and signing properly.
5. Understand the health hazards and assume individual responsibility for the printmaking lab regarding cleanliness, safety (including ingestion and ventilation), respect for materials and tools.
6. Identify, analyze and utilize the formal elements and principles of design.
7. Recognize historical or contemporary examples of the fine arts or crafts.
8. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
 Visual Art Department

**ART 261 - Printmaking III**

## COURSE DESCRIPTION:

ART 261. Printmaking III (3). Advanced study of printmaking techniques in areas such as combined plate processes of embossment, collograph, texturing build-up techniques and multiple-plate processes of intaglio and relief printing. Application of design principles. Prerequisite: ART 260. One lecture. Five lab.

## COURSE CONTENT:

1. Review of Basic procedures and processes
  - a. Press pressures for various techniques
  - b. Aquatint box rules
  - c. Care of inks
  - d. care of tools
  - e. Placement of materials
  - f. Paper and water tray procedures
  - g. Acid strengths for good clean bites of the plate
2. Individual plan for experimentation and development of personal expression
  - a. Exploration of ideas through composition extensions and technique extensions beyond the traditional
  - b. One final print for gallery hanging; matted, signed, framed
3. Recommended projects
  - a. Single plate
    1. Various printing techniques
    - b. Two-plate edition
      1. Importance of sequence of registration of colors and texture
      - c. One large plate edition (18/24) of ten
      - d. Multiple plates
        1. Experimental printing
        2. Various color transparencies, stencil rolls
        4. Registration
          - a. Acetate registration sleeve
            1. For multiple-plate registration
            2. For press cleanliness in one-plate editions
            5. Presentation
              - a. Each student responsible for final edition editing, signing and presentation
              - b. Portfolio development
              6. Safety and health hazards
                - a. Laboratory independence in developing safe and responsible conduct regarding their working spaces, tools, acids, inks and other materials
                7. Critique
                  - a. Sensitive value judgements
                  - b. Technique control
                  - c. Creative use of materials and techniques
                  8. Formal elements and principles of design
                  9. Historical and contemporary art examples

## LEARNING OUTCOMES:

1. Incorporate traditional processes of printmaking in multiple-plate editions.
2. Exhibit an understanding of the importance of the sequence of color registration and texture.
3. Incorporate various printing techniques in a single plate.
4. Display sensitive value judgment in critiques on the basis of technique control and creative use of materials and techniques.
5. Display laboratory independence and exhibit safe and responsible conduct regarding their working spaces, tools, acids, inks and other materials.
6. Explore ideas through composition extensions and technique extensions beyond the traditional.
7. Identify, analyze and utilize the formal elements and principles of design.
8. Recognize historical or contemporary examples of the fine arts or crafts.
9. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
 1.000 Lecture hours  
 5.000 Lab hours

Levels: Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### [ART 262 - Monoprint II](#)

**COURSE DESCRIPTION:**

ART 262. Monoprint II (3). Techniques of single-plate building for depth of color, value, texture, linear or value properties. Exploration of lift-off and other techniques in both water and oil media. Application of design principles. Prerequisite: ART 162. One lecture. Five lab.

**COURSE CONTENT:**

1. Various sketches and studies for some series which will develop through color and other design element variations in composition
2. Types of permanent and disposable stencils with use of rollers and brush work
3. Rainbow rolls and other paper-preparation techniques on which to do more linear or value studies, using color for reinforcement
4. Combinations of the monotype with other printmaking techniques, using both press and hand methods of transfer
5. Use of press room
6. Safety and appropriate tools and materials
7. Artist responsibility
8. Formal elements and principles of design
9. Historical and contemporary art examples
10. Critique

**LEARNING OUTCOMES:**

1. Develop ideas through study of series regarding content so that exploration of other elements develop varying techniques in combination.
2. Use stencils and other techniques in laying various series of color, line, texture, etc. on the single print.
3. Use of Caran D'Ache explored with water media and oil pastel transfer and grease crayons for the oil base.
4. Learn about bleed-prints and tears for float mounting as well as other mat presentations of the final print.
5. Identify, analyze and utilize the formal elements and principles of design.
6. Recognize historical or contemporary examples of the fine arts or crafts.
7. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### [ART 281 - Advanced Projects in Sculpture](#)

**COURSE DESCRIPTION:**

ART 281. Advanced Projects in Sculpture (3). Design and techniques for additive process, carved and/or mixed media sculpture to explore the potentials of three-dimensional form. Projects are to be a unified series of projects working toward portfolio development. Application of design principles. Prerequisite: ART 181. One lecture. Five lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Tools and materials safety
2. Project series defined by a unifying theme
3. Media selection
4. Additive process, carved and/or mixed media sculptures
5. Finish techniques
6. Personal aesthetic
7. Presentation and documentation of completed work
8. Formal elements and principles of design
9. Historical and contemporary art examples with an emphasis on contemporary themes
10. Critique

**LEARNING OUTCOMES:**

1. Use tools and materials safely.
2. Apply a unifying theme to a series.
3. Select media for its sculptural qualities and application.
4. Produce sculptures.
5. Use finish techniques.
6. Convey a personal aesthetic.
7. Present and document completed work.
8. Identify, analyze and utilize the formal elements and principles of design.
9. Recognize historical or contemporary examples of the fine arts or crafts with an emphasis on contemporary themes.
10. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

### [ART 283 - Advanced Projects in Welded Sculpture](#)

**COURSE DESCRIPTION:**

ART 283. Advanced Projects in Welded Sculpture (3). Emphasis on design and fabrication of metal sculpture to explore the potentials of the medium. Unified series of projects working toward portfolio development. Application of design principles. Prerequisite: ART 183. One lecture. Five lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Tools and materials safety
2. Project series defined by a unifying theme
3. Welding process selection
4. Welded metal sculptures
5. Finish techniques
6. Personal aesthetic
7. Presentation and documentation of completed work
8. Formal elements and principles of design
9. Historical and contemporary art examples with an emphasis on contemporary themes
10. Critique

**LEARNING OUTCOMES:**

1. Use tools and materials safely. (1)
2. Apply a unifying theme to a series. (2)
3. Select welding process for material type and application. (3)
4. Produce welded metal sculptures. (4)
5. Use finish techniques. (5)
6. Convey a personal aesthetic. (6)
7. Present and document completed work. (7)
8. Identify, analyze and utilize the formal elements and principles of design. (8)
9. Recognize historical or contemporary examples of the fine arts or crafts with an emphasis on contemporary themes. (9)
10. Use media specific terminology to critique and evaluate works of art. (10)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 292 - Advanced Projects in Oil and Acrylic****COURSE DESCRIPTION:**

ART 292. Advanced Projects in Oil and Acrylic (3). Advanced projects in oil and acrylic painting. Review of techniques and materials. Application of design principles. Prerequisite: ART 191. One lecture. Five lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Individual education plan
2. Personal development in style and oil/acrylic painting techniques
3. Art research
4. Sketchbook
5. Presentation and critique of completed work
6. Formal elements and principles of design
7. Historical and contemporary art examples
8. Critique

**LEARNING OUTCOMES:**

1. Prepare an individual education plan including projected series concepts with a unified theme. (1)
2. Identify and develop skills in the oil or acrylic medium to reflect development in style, approach, palette, and/or process. (2)
3. Research an artist, period or style relevant to the individual education plan. (3)
4. Compose and maintain a sketchbook. (4)
5. Produce exhibit-ready oil or acrylic paintings. (2, 5)
6. Identify, analyze and utilize the formal elements and principles of design. (6)
7. Recognize traditional, historical or contemporary examples of art. (7)
8. Use media specific terminology to critique and evaluate works of art. (5, 8)

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 293 - Advanced Projects in Watercolor****COURSE DESCRIPTION:**

ART 293. Advanced Projects in Watercolor (3). Advanced projects in watercolor painting. Review of techniques and materials. Application of design principles. Prerequisite: ART 195. One lecture. Five lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Individual education plan
2. Personal development in style and watercolor painting techniques
3. Art research
4. Sketchbook
5. Presentation and critique of completed work

6. Formal elements and principles of design
7. Historical and contemporary art examples
8. Critique

## LEARNING OUTCOMES:

1. Prepare an individual education plan including projected series concepts with a unified theme. (1)
2. Identify and develop skills in the watercolor medium to reflect development in style, approach, palette, and/or process. (2)
3. Research an artist, period or style relevant to the individual education plan. (3)
4. Compose and maintain a sketchbook. (4)
5. Produce exhibit-ready watercolor paintings. (2, 5)
6. Identify, analyze and utilize the formal elements and principles of design. (6)
7. Recognize traditional, historical or contemporary examples of art. (7)
8. Use media specific terminology to critique and evaluate works of art. (5, 8)

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.

3.000 Credit hours  
1.000 Lecture hours  
5.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 296 - Internship: Art**

## COURSE DESCRIPTION:

ART 296. Internship: Art (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

## COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement
8. Formal elements and principles of design
9. Historical and contemporary art examples
10. Critique

## LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.
12. Identify, analyze and utilize the formal elements and principles of design.
13. Recognize historical or contemporary examples of the fine arts or crafts.
14. Use media specific terminology to critique and evaluate works of art.

## REQUIRED ASSESSMENT:

1. Critique and evaluation of art and artifacts.
2. Record of Student Internship workplace hours.
3. Individual Education Plan (IEP) as approved by supervision faculty.
4. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
5. A reflective paper or project as specified by the supervision faculty.
6. A minimum of two evaluations by the workplace employer or supervisor.
7. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Internship

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 298 - Art Workshop:**

## COURSE DESCRIPTION:

ART 298. Art Workshop: (2). Exploration and application of media techniques. Two lecture. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

## COURSE CONTENT:

1. Design theories and principles
2. Media techniques
3. Personalized expression
4. Individual and group critique
5. Formal elements and principles of design



6. Historical and contemporary art examples
7. Critique

**LEARNING OUTCOMES:**

1. Identify major theories and principles of traditional and modern art.
2. Explore media techniques.
3. Apply media techniques to personalized expression.
4. Critique artwork on basis of theory and media.
5. Identify, analyze, and utilize the formal elements and principles of design.
6. Recognize historical or contemporary examples of the fine arts or crafts.
7. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

Critique and evaluation of art and artifacts.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ART 299 - Independent Study Art****COURSE DESCRIPTION:**

ART 299. Independent Study Art (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance
6. Formal elements and principles of design
7. Historical and contemporary art examples
8. Critique

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.
8. Identify, analyze and utilize the formal elements and principles of design.
9. Recognize historical or contemporary examples of the fine arts or crafts.
10. Use media specific terminology to critique and evaluate works of art.

**REQUIRED ASSESSMENT:**

1. Critique and evaluation of art and artifacts.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
Visual Art Department

**ASL 101 - Beginning American Sign Language I****COURSE DESCRIPTION:**

ASL 101. Beginning American Sign Language I (4). Principles, methods, and techniques of American Sign Language skills, with emphasis on developing visual/receptive skills and basic communication. Four lecture.

**COURSE CONTENT:**

1. Visual acuity and use of space
2. Receiving and producing finger-spelled words
3. Receiving and producing basic concepts using American Sign Language
4. Non-manual grammar. Yes/no questions, wh-word questions, and negation
5. Noun-verb pairs
6. Personal pronouns and possessive pronouns
7. The deaf community and its culture
8. Physical, geographical, and non-verbal cultural information

**LEARNING OUTCOMES:**

1. Explain how American Sign Language (ASL) developed as a language.
2. Identify the four parameters of a sign and recognize the use of non-manual behaviors involved with ASL.
3. Discriminate between different finger-spelled words.
4. Use non-manual grammar in ASL, focusing on: yes/no questions, wh-word questions, and negation.
5. Identify the signer's use of space from his/her perspective.
6. Use pantomime and gestures to convey thought and ideas.
7. Use and comprehend basic descriptive classifiers used in context.
8. Identify personal pronouns, possessive pronouns, and spatial referents used in context.
9. Distinguish the difference between nouns and verbs in basic noun-verb pairs.
10. Incorporate hand and arm position for expressive finger-spelling and numbers.

11. Engage in simple conversations in ASL about topics such as family background and routine activities.

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Modern Languages Department

### ASL 102 - Beginning American Sign Language II

#### COURSE DESCRIPTION:

ASL 102. Beginning American Sign Language II (4). American Sign Language vocabulary, grammar, receptive, and expressive technique development. Prerequisite: ASL 101. Four lecture.

#### COURSE CONTENT:

1. Historical events within the deaf community
2. Signed communication systems used in America
3. Causes of deafness
4. Receptive and expressive skill development
  - a. Topicalization
  - b. Classifiers
  - c. Eye gaze
  - d. Nonverbal expressions
  - e. Gestures
  - f. Sign vocabulary
  - g. Fingerspelling
  - h. Number systems
  - i. Time indicators
  - j. Directional verbs

#### LEARNING OUTCOMES:

1. Outline the role of ASL in the deaf community.
2. Describe various communication systems.
3. Explain the importance of non-manual grammar in ASL.
4. Employ the appropriate techniques within ASL with respect to attending, attention-getting, turn-taking, interrupting, and maintaining appropriate signing space.
5. Engage in simple conversations in ASL about topics such as family background, routine activities, and occupations.
6. Apply various forms of non-manual grammar and correct syntax for yes/no questions, wh-word questions, simple topical sentences, assertion, and negation.
7. Use head, eye gaze, and body shifting to indicate direct address, comparisons, contrasts, and topic shifts.
8. Use and comprehend descriptive, pronominal, and plural classifiers in context.
9. Use and comprehend eye gazing in referencing.
10. Use personal and possessive pronouns in context.
11. Use space when referencing.
12. Identify the object and subject when directional verbs are used.
13. Use and comprehend specified core vocabulary in context.

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Modern Languages Department

### ASL 131 - Conversational Sign Language

#### COURSE DESCRIPTION:

ASL 131. Conversational Sign Language (3). Conversational approach to communicating with deaf people who sign. Basic foundation of grammar and deaf culture with emphasis on expressively signing and recognizing key phrases related to work, survival, leisure, medical and emergency situations. Three lecture.

#### COURSE CONTENT:

1. Fingerspelling
2. Facial expression and body language related to signing approach
3. Expressive signing and receptive skills
4. Deaf culture

#### LEARNING OUTCOMES:

1. Use a sign vocabulary of approximately 600 words.
2. Sign 100 phrases in American Sign Language.
3. Decipher signed phrases into meaningful concepts.
4. Describe basic characteristics of deaf culture.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Modern Languages Department

### ASL 201 - Intermediate American Sign Language I

#### COURSE DESCRIPTION:

ASL 201. Intermediate American Sign Language I (4). Proficiency and development of intermediate expressive and receptive skills. Emphasis on practical application of American Sign Language skills and cross-cultural communication. Prerequisite: ASL 102. Four lecture.

**COURSE CONTENT:**

1. Selected colloquial ASL signs and idiomatic expressions
2. Narratives, dialogues, daily situations, and spontaneous conversations at the intermediate level
3. Sign settings (e.g. formal vs. informal, small group discussions and dialogues)
4. Expressive and receptive mastery of ASL grammatical features at the intermediate level
5. Increased exposure to the deaf community and its culture

**LEARNING OUTCOMES:**

1. List and translate colloquial ASL and English signs and idiomatic expressions.
2. Respond to unanticipated questions on familiar topics.
3. Express opinions about familiar topics.
4. Comprehend main ideas and extended discourse on increasingly complex topics.
5. Apply ASL skills in communicating short stories, narratives, and dialogues at the intermediate level.
6. Apply expressive and receptive mastery of grammatical features of ASL at the intermediate level.
7. Describe norms, values and beliefs of deaf culture.

4.000 Credit hours  
 4.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Modern Languages Department

**ASL 202 - Intermediate American Sign Language II****COURSE DESCRIPTION:**

ASL 202. Intermediate American Sign Language II (4). Extension of proficiency and development of receptive and expressive skills at the intermediate level. Emphasis on practical application of American sign language skills and cross-cultural communication with a focus on the cultural aspects. Prerequisite: ASL 201. Four lecture.

**COURSE CONTENT:**

1. Extension of selected colloquial ASL signs and idiomatic expressions
2. Advanced narrative, dialogues, daily situations, and spontaneous conversations at the intermediate level
3. Extension of sign settings (e.g. formal vs. informal, small group discussions and dialogues)
4. Extension of expressive and receptive mastery of grammatical features at the intermediate level

**LEARNING OUTCOMES:**

1. Describe objects, places, people, and events. (1-4)
2. Express feelings, opinions, emotional reactions, volition, doubt and contingent situations. (1-4)
3. Narrate a series of events in, past, present and future timeframes. (1-4)
4. Initiate, respond, and maintain face-to-face conversations with a moderate amount of spontaneity using present and past tenses. (1-4)

4.000 Credit hours  
 4.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Modern Languages Department

**ASL 296 - Internship: American Sign Language****COURSE DESCRIPTION:**

ASL 296. Internship: American Sign Language (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
Modern Languages Department

#### **ASL 299 - Independent Study American Sign Language**

**COURSE DESCRIPTION:**

ASL 299. Independent Study American Sign Language (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours

0.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
Modern Languages Department

#### **AUT 100 - Automotive/Diesel Preventative Maintenance**

**COURSE DESCRIPTION:**

AUT 100. Automotive/Diesel Preventative Maintenance (2). Fundamentals of truck equipment and automobile basic preventative maintenance procedures. One lecture. Two lab.

**COURSE CONTENT:**

1. Safety
2. Hand tools
3. Equipment
4. Electrical system
5. Fuels and fuel system
6. Brakes
7. Suspension and Steering
8. Four-stroke Engine
9. Ignition system
10. Tires and wheels

**LEARNING OUTCOMES:**

1. Use hand tools and shop equipment, proficiently and safely. (1-3)
2. Explain and identify the use of precision measuring and diagnostic tools. (4)
3. Test the battery, charging and starting system of an engine. (4,8,9)
4. Inspect steering, disc and drum brake systems for wear. (6)
5. Test the automotive and diesel fuel systems for proper operation. (5,9)
6. Remove, repair, and install a tire. (10)
7. Explain the theory of 4-stroke internal combustion engines. (8)

2.000 Credit hours

1.000 Lecture hours

2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Automotive Technology Department

**Course Attributes:**

Civic Engagement (CE), Info Literacy (IL)

#### **AUT 105 - Introduction to Auto Body Repair**

**COURSE DESCRIPTION:**

AUT 105. Introduction to Auto Body Repair (4). Basic fabrication and primer application. Emphasis on nonstructural body repair, filling, sanding, primers, and spraying techniques. Two lecture. Four lab.

**COURSE CONTENT:**

1. Safety
2. Tools
3. Plastic and fiberglass repair
4. Nonstructural body repair
5. Fillers
6. Sandpaper/sanding techniques
7. Primers

8. De-trim
9. Spraying application

## LEARNING OUTCOMES:

1. Apply shop safety practices for any auto body working environment. (1)
2. Use common tools of the auto body repair industry. (2)
3. Fabricate and shape plastic and fiberglass components for panel repair. (3)
4. Fabricate metal components to repair nonstructural body damage. (4)
5. Identify fillers and determine application to a given repair. (5)
6. Repair a panel using fillers. (5)
7. Identify, select and use the most effective abrasive for a given situation. (6)
8. Measure and mix primer. (7)
9. Remove and replace all exterior trim (8)
10. Spray a panel or vehicle with primer. (9)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Automotive Technology Department

**AUT 106 - Automotive/Motorcycle Custom Painting**

## COURSE DESCRIPTION:

AUT 106. Automotive/Motorcycle Custom Painting (3). Automotive paint finishing using professional techniques and equipment. Includes color selection, mixing, masking, sanding, spraying, maintaining a spray booth, and post-paint care. Prerequisite: AUT 105 (May be taken concurrently) or AUT 107 (May be taken concurrently). One lecture. Four lab.

## COURSE CONTENT:

1. Spray gun set-up
2. Final and color sanding
3. Masking
4. Final surface cleaning
5. Paint measuring and mixing
6. Paint
7. Post-paint care
8. Spray booth

## LEARNING OUTCOMES:

1. Set-up the proper spray gun for the paint to be applied. (1)
2. Cut and buff the top coat. (2)
3. Mask the vehicle. (3)
4. Clean vehicle surface prior to applying paint. (4)
5. Measure proper amounts of tint for desired color and mix paint. (5)
6. Paint a prepared surfaced. (6)
7. Apply post-paint care to vehicle and equipment. (7)
8. Inspect and maintain a spray booth. (8)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Automotive Technology Department

**AUT 107 - Autographics/Airbrushing**

## COURSE DESCRIPTION:

AUT 107. Autographics/Airbrushing (3). Basic theory and fundamentals of automotive/motorcycle airbrushing. One lecture. Four lab.

## COURSE CONTENT:

1. Specialty tools
2. Undercoat identification
3. Mixing paint
4. Airbrushes
5. Taping
6. Using stencils
7. Applying paint

## LEARNING OUTCOMES:

1. Use specialty tools to complete painting task. (1)
2. Inspect and identify undercoating for compatibility. (2)
3. Mix urethane paints including metal-flakes, pearls, and candies. (3)
4. Apply graphics. (4)
5. Select and apply specialty tape. (5)
6. Use selective stencils to create desired effects. (6)
7. Spray paint using specialized techniques. (7)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Automotive Technology Department

**AUT 108 - Engine Repair Technology****COURSE DESCRIPTION:**

AUT 108. Engine Repair Technology (4). Theory, diagnosis and service common to all diesel engines. Includes engine rebuilding and performance testing along with engine mechanical fuel systems and testing. Preparation for the ASE Certification test on Medium/Heavy Truck Diesel Engines and Light Duty Diesel Engines ASE Automotive Certification. Two Lecture. Four lab.

**COURSE CONTENT:**

1. Safety
2. Mechanical condition of diesel engines
3. Engine block components/assembly
4. Cylinder head and valve train components/assembly
5. Diesel fuel systems
6. Mechanical diesel pump systems
7. Engine removal/disassembly and assembly

**LEARNING OUTCOMES:**

1. Identify shop environment hazards and employ safety procedures. (1)
2. Determine mechanical condition of engine assembly and its internal components. (2)
3. Interpret engine performance diagnostic test results. (2)
4. Determine the causes of oil leaks and unusual noises on a diesel engine. (2)
5. Determine the causes of unusual odors and exhaust color coming from a running diesel engine. (2)
6. Rebuild short block engine assembly according to manufacturer requirements. (3)
7. Identify worn and/or out-of-specification engine block assembly and components. (3,7)
8. Rebuild cylinder head according to manufacturer requirements. (4)
9. Identify worn and/or out-of-specification cylinder head assembly and components. (4)
10. Identify component operation and service of mechanical fuel systems. (5,6)
11. Remove, disassemble and assemble a diesel engine. (7)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Automotive Technology Department

**Course Attributes:**

Diversity (DA), Digital Lit (DL)

**AUT 109 - Auto/Diesel Electrical Systems****COURSE DESCRIPTION:**

AUT 109. Auto/Diesel Electrical Systems (4). Electrical principles and diagnosis of diesel and automotive electrical systems. Includes repair of batteries, charging systems, starting systems, ignition systems and use of electrical testing instruments. Two lecture. Four Lab.

**COURSE CONTENT:**

1. Electrical Theory
2. Batteries
3. Charging system
4. Starting system
5. Ignition system
6. Electrical schematic symbols
7. Digital/Volt/Ohmmeter use

**LEARNING OUTCOMES:**

1. Define and use the terminology of electricity. (1)
2. Test, clean, and replace batteries. (2)
3. Test and repair charging systems. (3)
4. Test and repair starting systems. (4)
5. Explain the theory of operation of ignition systems. (5)
6. Use and interpret electrical schematics to diagnosis basic circuit faults. (6)
7. Use the Digital/Volt/Ohmmeter to test current and voltage drops. (7)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Automotive Technology Department

**Course Attributes:**

Creative Thinking (CR), Quantitative Lit (QL)

**AUT 110 - Advanced Airbrushing Techniques****COURSE DESCRIPTION:**

AUT 110. Advanced Airbrushing Techniques (3). Advanced airbrushing techniques including airbrushing with pearls, metal flakes, candies, transparents, and translucents. Special faux effects including portraits and real fire. Prerequisite: AUT 107. One lecture. Four lab.

**COURSE CONTENT:**

1. Advanced airbrushing techniques
2. Pearl paint
3. Candy paint
4. Metal flakes
5. Transparents and translucents
6. Faux finishing

## 7. Top Coats

## LEARNING OUTCOMES:

1. Use an airbrush for specific needs. (1)
2. Apply pearl paints. (2)
3. Apply candy paints. (3)
4. Apply metal flakes. (4)
5. Apply transperents and transluents. (5)
6. Create real fire special visual effects. (6)
7. Apply a top coat (clear) finish. (7)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

**AUT 111 - Autobody Welding and Collision Repair**

## COURSE DESCRIPTION:

AUT 111. Auto Body Welding and Collision Repair (3). Removal, replacement, and repair of body panels, door skins, fender patch, rocker panels, floor components, mechanical components, and quarter panels. Includes structural damage repair. One lecture. Four lab.

## COURSE CONTENT:

1. Sheet metal safety
2. Sheet metal types
3. Welding applications
4. Specialty hand tools
5. Frame straightening
6. Mechanical components

## LEARNING OUTCOMES:

1. Apply shop safety practices to sheet metal work environments. (1)
2. Identify sheet metals. (2)
3. Remove and replace welded body panels. (3)
4. Weld sheet metal. (3)
5. Determine and use tools for specific applications. (4)
6. Pull a frame straight. (5)
7. Replace mechanical components. (6)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

**AUT 115 - Auto Body and Paint Project**

## COURSE DESCRIPTION:

AUT 115. Auto Body and Paint Project (2). Individual project in auto body repair and paint application. Incorporates planning and design, tool and material selection and project completion. Prerequisite: AUT 105 (may be taken concurrently) or AUT 106 (may be taken concurrently). Four lab.

## COURSE CONTENT:

1. Safety standards
2. Time management
3. Project planning
4. Tools and materials
5. Nonstructural body repair
6. Application of primers and paints

## LEARNING OUTCOMES:

1. Design a project and develop a work plan. (1-4)
2. List materials and costs. (3,4)
3. Fabricate metal components to repair nonstructural body damage. (4,5)
4. Prepare a project for paint, including sanding and application of primer. (5,6)
5. Paint a prepared surface. (6)

2.000 Credit hours  
0.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Career & Technical Education Division  
Automotive Technology Department

**AUT 122 - Automatic Transmissions and Transaxles**

## COURSE DESCRIPTION:

AUT122. Automatic Transmissions and Transaxles (4) (Spring). Theory, diagnosis and repair of selected GM, Ford and Chrysler automatic transmissions. Prerequisite: AUT 109. Two lecture. Four lab.

## COURSE CONTENT:

1. Torque converters

2. Automatic transmissions and transaxles
3. Drivelines of transaxles
4. Adjustments of automatic transmissions and transaxles
5. Power flow of automatic transmissions

## LEARNING OUTCOMES:

1. Describe and apply theory of operation to the diagnosis of torque converters. (1)
2. Describe and apply theory of operation to the diagnosis of drivelines and constant velocity joints. (4)
3. Describe and apply theory of operation to the diagnosis of automatic transmission gear trains. (5, 6)
4. Assemble and disassemble automatic transmission clutches and bands. (1-6)
5. Describe band and clutch performance. (5)
6. Disassemble, measure, repair, reassemble, and adjust automatic transmissions. (1-6)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

**AUT 123 - Automotive Brakes**

## COURSE DESCRIPTION:

AUT 123. Automotive Brakes (4). General braking principles, terms, definitions, and other functions connected with the automobile braking system. Correct operation and use of brake servicing equipment for drum and disc brakes. Two lecture. Four lab.

## COURSE CONTENT:

1. Routine brake operations
2. Machinery operations
3. Drum brake systems
4. Rotor brake systems
5. Power brakes
6. Anti-lock brake system (ABS)

## LEARNING OUTCOMES:

1. Turn drum and rotors. (2)
2. Describe the fundamentals of disc and drum brake service. (3-5)
3. Troubleshoot the entire brake system. (1-6)
4. Service and repair an entire brake system. (1-6)
5. Remove and replace brake shoes. (3)
6. Remove and replace brake pads.(4)
7. Pack wheel bearings.(4)
8. Bleed the hydraulic system.(1)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

## Course Attributes:

Oral Communication (OC), Written Comm (WC)

**AUT 124 - Auto/Diesel Manual Drive Trains**

## COURSE DESCRIPTION:

AUT 124. Auto/Diesel Manual Drive Trains (4) (Spring). Theory, diagnosis, and service of clutches, driveline, synchromesh transmissions, final drives and manual shift transmissions. Preparation for the ASE Certification Test on A3 Manual Drive Trains and T3 Truck Drive Trains. Two lecture. Four lab.

## COURSE CONTENT:

1. Safety
2. Manual transmission theory
3. Mechanical clutch
4. RWD vehicle drive axle, shaft and differential assembly
5. Transmission electrical controls
6. Manual transmission inspections
7. Differential axle inspections

## LEARNING OUTCOMES:

1. Identify shop environment and hazards. (1)
2. Utilize material safety data sheets and chemicals in the shop environment. (1)
3. Implement trouble-shooting processes including verifying customer concerns, preliminary inspection, and clutch systems performance tests. (2,3)
4. Perform linkage adjustments and any needed or recommended preventative service on transmission systems/transaxle. (2,5)
5. Remove, inspect and replace clutch system components or flywheel and torque converter components. (3)
6. Inspect electrical switches and solenoids. (5)
7. Perform recommended preventative service on driveline assembly. (4,6,7)
8. Remove, inspect and replace system components within or on drive axles, shaft, and differential assembly. (4,6,7)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division



Automotive Technology Department

**Course Attributes:**  
Scientific (SL)

#### **AUT 126 - Auto/Diesel Suspension and Steering**

**COURSE DESCRIPTION:**

AUT 126. Auto/Diesel Suspension and Steering (4). Principles of suspension system geometry and steering systems operation. Adjustment, correction, repair and replacement components of system components. Two lecture. Four lab.

**COURSE CONTENT:**

1. Alignment terminology and inspection
2. Basic parts replacement
3. Methods of adjustment
4. Alignment machines
5. Wheel balancing
6. Tire machines.

**LEARNING OUTCOMES:**

1. Use terminology associated with suspension repair. (1)
2. Inspect suspension systems. (1)
3. Replace parts in a suspension system. (2)
4. Perform a four-wheel alignment. (3, 4)
5. Operate alignment machines. (4)
6. Balance wheels and tires. (5)
7. Remove and replace wheels and tires. (6)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

**Course Attributes:**  
Info Literacy (L)

#### **AUT 128 - Auto/Diesel Heating and Air Conditioning**

**COURSE DESCRIPTION:**

AUT 128. Auto/Diesel Heating and Air Conditioning (4). Theory of heat transfer forms of matter, refrigeration cycle, and operating principles of automotive air conditioning systems. Fundamentals in testing, repairing, disassembling and assembling components of heating and air conditioning systems. Two Lecture. Four Lab.

**COURSE CONTENT:**

1. Cooling systems
2. Heating systems
3. Basic thermodynamics
4. Basic refrigeration system
5. Basic service procedures
6. Compressor service
7. Applied service procedures
8. Specific systems
9. Diagnosis of systems
10. Automatic temperature control

**LEARNING OUTCOMES:**

1. Explain function of auto heaters and refrigeration systems. (1-3)
2. Explain how the refrigeration cycle operates. (4)
3. Use manifold gauge test set. (9)
4. Disassemble and reassemble an air compressor. (6)
5. Test and diagnose the major manufacturers' systems. (5,8)
6. Explain how automatic temperature control systems function. (10)
7. Repair temperature control systems. (10)
8. Hook up manifold gauge set, read and interpret the pressure gauges, discharge the system, repair the system, evacuate and recharge the system and performance check it. (7,9)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

**Course Attributes:**  
Scientific (SL)

#### **AUT 131 - Auto Engine Diagnosis**

**COURSE DESCRIPTION:**

AUT131. Auto Engine Diagnostics (5). Principles of operation, diagnosis and repair of engine fuel and ignition systems. Use of diagnostic oscilloscope to repair malfunctioning fuel and ignition systems. Prerequisite: AUT 109. Three lecture. Four lab.

**COURSE CONTENT:**

1. Engine control sensors and processors
2. Ignition system diagnosis and testing
3. Fuel injection theory
4. GM Fuel injection

5. Ford electronic fuel injection
6. Chrysler electronic fuel injection
7. Using hand-held scanner
8. Diagnostic oscilloscope

## LEARNING OUTCOMES:

1. Use the diagnostic oscilloscope to find and correct malfunctions in an electronic fuel injection system. (3,8)
2. Diagnosis and repair General Motors fuel injection systems. (3,4)
3. Diagnosis and repair Ford fuel injection systems. (3,5)
4. Diagnosis and repair Chrysler fuel injection systems. (3,6)
5. Pull engine codes from Analog Link Diagnostic Line (ALDL). (1, 7)
6. Troubleshoot computer related problems with hand-held scanners. (1, 2, 7)

5.000 Credit hours  
 3.000 Lecture hours  
 4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
 Automotive Technology Department

Course Attributes:  
 Critical Thinking (CT)

**AUT 135 - Diesel Braking Systems**

## COURSE DESCRIPTION:

AUT 135. Diesel Braking Systems (4) (Fall). Diesel Braking Systems (4). Theory, diagnosis and repair of diesel air, hydraulic and anti-lock brake systems. Emphasis on tires and wheels, and hydraulic and air brake systems. Two lecture. Four lab.

## COURSE CONTENT:

1. Safety
2. Foundation Brake systems
3. Hydraulic brake systems
4. Truck wheels and tires
5. Air brake system
6. Disc/drum brakes
7. Brake power assist systems
8. Anti-lock brake systems (ABS)

## LEARNING OUTCOMES:

1. Identify shop environment and hazards. (1)
2. Determine root cause of foundation brake problems. (2)
3. Determine root cause of hydraulic brake problems (3)
4. Determine root cause of unusual tire problems related to wear patterns, vibration, shimmy, noise and vehicle pull. (4)
5. Perform repair on air brake systems. (5)
6. Perform preventative maintenance on disc and drum brake systems. (6)
7. Determine root cause of power assisted brake problems. (7)
8. Determine root cause of anti-lock brake (ABS) problems. (8)

4.000 Credit hours  
 2.000 Lecture hours  
 4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
 Automotive Technology Department

Course Attributes:  
 Civic Engagement (CE), Diversity (DA)

**AUT 151 - Auto Engine Repair**

## COURSE DESCRIPTION:

AUT 151. Auto Engine Repair (2). Theory of operation of gasoline powered engines. Includes engine servicing and engine removal and replacement procedures. Four lab.

## COURSE CONTENT:

1. The four stroke cycle
2. The engine cooling system
3. The engine lubrication system
4. Cylinder head and service
5. Engine performance analysis
6. Valve train and service
7. Timing belts and engine servicing

## LEARNING OUTCOMES:

1. Explain theory of operation of 4 stroke cycle gasoline powered engines. (1)
2. Inspect and evaluate engine cooling systems. (2)
3. Inspect and evaluate engine lubrication systems (3).
4. Inspect and adjust valve trains. (6)
5. Remove and install timing belts and components. (7)
6. Use vacuum compression and leakage testing to evaluate engine condition. (5)
7. Remove and install engine cylinder head. (4)

2.000 Credit hours  
 0.000 Lecture hours  
 4.000 Lab hours

Levels: Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

**Course Attributes:**  
Quantitative Lit (QL)

#### **AUT 208 - Advanced Diesel Engine Repair**

**COURSE DESCRIPTION:**

AUT 208. Advanced Diesel Engine Repair (4) (Spring). Advanced block, crankshaft, bearing, and cylinder head and timing component diagnosis and repair. Prerequisite: AUT 108. Two lecture. Four lab.

**COURSE CONTENT:**

1. Diesel engine repair
2. Engine removal and disassembly
3. Cylinder head components
4. Timing component repair
5. Cylinder block repair
6. Crankshaft inspection and repair
7. Engine assembly and inspection

**LEARNING OUTCOMES:**

1. Determine diesel engine repair needs. (1)
2. Remove, disassemble and inspect engines. (2)
3. Identify all replaceable cylinder head components. (3)
4. Return all engine timing components to factory tolerances. (4)
5. Disassemble, clean and measure all engine block components. (5)
6. Inspect and repair engine crankshafts. (6)
7. Assemble and run a diesel engine. (7)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

**Course Attributes:**  
Written Comm (WC)

#### **AUT 209 - Diesel Machine Hydraulics**

**COURSE DESCRIPTION:**

AUT 209. Diesel Machine Hydraulics (3) (Spring). Theory, diagnosis and service of the Pilot Operated Hydraulic System. Includes load sensing pressure compensated (LSPC) hydraulic system, the electro-hydraulic system, and the hydrostatic system. Troubleshooting procedures and repair verifications. Two lecture. Two lab.

**COURSE CONTENT:**

1. Safety
2. Pilot-operated Hydraulics Theory
3. Load sensing pressure compensated (LSPC) hydraulic systems
4. LSPC diagnosis and repair procedures
5. LSPC procedures specific to the D6R dozer

**LEARNING OUTCOMES:**

1. Identify shop environment hazards. (1)
2. Utilize safety guidelines and emergency procedures. (1)
3. Utilize material safety data sheets. (1)
4. Safely use chemicals in the shop environment. (1)
5. Perform troubleshooting processes to include verifying customer concern, preliminary inspection and hydraulic systems performance tests. (2)
6. Perform linkage adjustments and preventative service on hydraulic systems. (2)
7. Inspect fluid and perform oil samples. (3,4)
8. Replace fluid and filters. (3,4,5)
9. Inspect and repair hydraulic pumps and actuators. (3,4,5)
10. Remove and reinstall fluid lines. (3,4,5)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

**Course Attributes:**  
Critical Thinking (CT)

#### **AUT 225 - Diesel Engine Performance**

**COURSE DESCRIPTION:**

AUT 225. Diesel Engine Performance (4). Principles of operation, diagnosis and repair of engine fuel and computer systems. Use of diagnostic oscilloscope and scan tools to repair malfunctioning fuel and computer systems. Prerequisite: AUT 109. Two lecture. Four lab.

**COURSE CONTENT:**

1. Safety
2. Scan tests and equipment hard code failures
3. Computerized diesel equipment

4. Oscilloscope and scan tools
5. Computer input and output faults
6. Strategy based diagnostics

**LEARNING OUTCOMES:**

1. Identify shop environment and hazards. (1) 2. Utilize emergency procedures and policy. (1) 3. Perform preliminary diagnosis process and interpret scan tool codes and PID data. (2)
4. Test mechanical condition of engine. (2) 5. Utilize service reference material to help isolate operational system fault. (3) 6. Perform preliminary diagnostic process and interpret scan tool data. (3,6)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

**Course Attributes:**

Oral Communication (OC)

**AUT 252 - Advanced Automotive Systems****COURSE DESCRIPTION:**

AUT 252. Advanced Engine Systems (4) (Spring). Advanced electronics and automotive computer control systems. Prerequisite: AUT 109 (May be taken concurrently). Two lecture. Four lab.

**COURSE CONTENT:**

1. Computer controls and processors
2. Body control computer systems
3. Airbag systems
4. Anti-lock braking systems (ABS) and traction control systems
5. Collision avoidance systems
6. Scan tools, digital volt/ohmmeters (DVOMs) and oscilloscopes

**LEARNING OUTCOMES:**

1. Use the diagnostic oscilloscope to find and correct malfunctions in an electronic fuel injection system. (1, 6)
2. Diagnose and repair automotive body control systems. (2)
3. Diagnose and repair automotive airbag systems. (3)
4. Diagnose and repair automotive ABS and traction control systems. (4)
5. Explain the theory of automotive collision avoidance systems. (5)
6. Troubleshoot computer related problems with hand-held scanners, DVOMs and lab scopes. (6)

4.000 Credit hours  
2.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

**Course Attributes:**

Digital Lit (DL)

**AUT 255 - Shop Management****COURSE DESCRIPTION:**

AUT 255. Shop Management (3). Use and interpret a parts order form, repair order form and weekly profit/loss statement. Customer relations, sales promotion and work order management. Three lecture.

**COURSE CONTENT:**

1. Service writing
2. Dealing with work personnel
3. Customer relations
4. Writing work orders
5. Sales promotion
6. Merchandising to a select group
7. Calculating expenses
8. Billing forms
9. Profit or loss for one job
10. Profit or loss for multiple jobs

**LEARNING OUTCOMES:**

1. Perform the functions of a service writer.
2. Manage work personnel and the processing of work orders.
3. Apply customer service skills.
4. Write work orders.
5. Promote sales through mailing lists, business letters and customer service.
6. Create an operational budget.
7. Record and set up billing forms.
8. Summarize profit and loss for each job.
9. Summarize weekly gross profit and loss statements.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Automotive Technology Department

#### **AUT 275 - Basic Automotive Upholstery**

##### COURSE DESCRIPTION:

AUT 275. Basic Automotive Upholstery (3). Introduction to automotive and motorcycle upholstery. Includes power sewing machines, tools, and new coverings for bucket, bench and motorcycle seats. One lecture. Four lab.

##### COURSE CONTENT:

1. Shop environments and safety principles
2. Special industry tools
3. Fabrics
4. Seat removal
5. Cover removal
6. Measure and layout cut list
7. Cutting material
8. Sewing material
9. Framework
10. Frame covering
11. Fabricated seating

##### LEARNING OUTCOMES:

1. Work in an upholstery shop environment. (1)
2. Use specialty tools. (2)
3. Select fabric for specific projects. (3)
4. Estimate fabric yardage. (3)
5. Remove seating using appropriate tools. (4)
6. Remove covering from frame. (5)
7. Develop a cut list. (6)
8. Cut and sew fabric. (7,8)
9. Repair and re-cover a seat frame. (9,10)
10. Install fabricated seating. (11)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Automotive Technology Department

#### **AUT 295 - Apprenticeship: Diesel**

##### COURSE DESCRIPTION:

AUT 295. Apprenticeship: Diesel (3). Supervised field experience. [Repeatable for a total of 12 credit hours towards degree/certificate requirements.] S/U grading only.

##### COURSE CONTENT:

1. Job description and organization requirements
2. Technical skill development
3. Workplace skills and professional ethics
4. Workplace safety

##### LEARNING OUTCOMES:

1. Repair and maintain required equipment. (2,4)
2. Adhere to all safety procedures. (1,3,4)
3. Incorporate proper company protocols in the workplace. (1)
4. Apply appropriate workplace behaviors and professional ethics. (3)
5. Use critical thinking, problem solving, ethical awareness and effective writing skills. (1,2,3)
6. Interpret written and oral instructions. (1,2)
7. Initiate and complete assigned responsibilities. (1)
8. Use specialized equipment, software and tools required. (1,2)

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: [Apprenticeship](#)

Career & Technical Education Division  
Automotive Technology Department

#### **AUT 296 - Internship: Automotive**

##### COURSE DESCRIPTION:

AUT 296. Internship: Automotive (3) (Fall). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

##### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

##### LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Internship

Career & Technical Education Division  
 Automotive Technology Department

**AUT 299 - Independent Study Automotive****COURSE DESCRIPTION:**

AUT 299. Independent Study Automotive (1-6) (Fall). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Independent Study

Career & Technical Education Division  
 Automotive Technology Department

**AVT 104 - Private Pilot Airplane Ground****COURSE DESCRIPTION:**

AVT 104. Private Pilot Airplane Ground I (2). Fundamentals of aerodynamics, airplane operation and performance, and instruments. Prerequisite: Admission to the Private Pilot-Airplane program. Two lecture.

**COURSE CONTENT:**

1. Instruments
2. Aerodynamics
3. Flight
4. Weight and Balance
5. Performance

**LEARNING OUTCOMES:**

1. Identify basic airplane components, systems, and instruments. (1)
2. Explain the principles of basic aerodynamics. (2)
3. Explain the primary principles of airplane flight. (2,3)
4. Use a Pilot's Operating Handbook (POH) performance manual. (5)
5. Calculate airplane weight and balance. (4,5)

**REQUIRED ASSESSMENT:**

1. FAA written test.

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division

Aviation Department

**Course Attributes:**  
Digital Lit (DL)

### **AVT 105 - Private Pilot Airplane Ground II**

**COURSE DESCRIPTION:**

AVT 105. Private Pilot Airplane Ground II (2). Fundamentals of navigation, human errors, Federal Aviation requirements, weather systems and hazards. Prerequisite: AVT 104. Two lecture.

**COURSE CONTENT:**

1. Weather
2. Federal Aviation requirements
3. Human error in flight
4. Navigation
5. Hazards

**LEARNING OUTCOMES:**

1. Utilize airport communications. (1,2)
2. Identify the basic elements of weather as they pertain to flight. (1)
3. Use a Federal Aviation Regulation manual and Airport Facility Directory. (2)
4. Use a flight computer. (4)
5. Determine protocols for cross country flight. (4)
6. Identify the psychological and physiological factors which can affect human safety and comfort in flight. (3)
7. Identify extreme hazards of airplane flight. (5)

**REQUIRED ASSESSMENT:**

FAA written test.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Aviation Department

**Course Attributes:**  
Info Literacy (IL)

### **AVT 106 - Private Pilot Flight I**

**COURSE DESCRIPTION:**

AVT 106. Private Pilot Flight I (4). Fundamentals of basic flight operations. Includes one-on-one supervised flights. Prerequisite: Admission to Program. Twelve lab.

**COURSE CONTENT:**

1. Preflight procedures
2. Airport and heliport operations
3. Hovering maneuvers
4. Takeoffs, landings, and go-arounds
5. Performance maneuvers
6. Navigation
7. Emergency operations
8. Night operations
9. Post flight procedures

**LEARNING OUTCOMES:**

1. State aircraft worthiness requirements. (1)
2. Calculate aircraft performance under standard conditions. (1-5)
3. Locate weather sources and information. (1,6)
4. Repeat aircraft maneuvers. (3-5)
5. Prepare a cross-country flight plan. (1,2,6)
6. Recite dead reckoning, pilotage, and radio navigation procedures. (6)
7. Discuss appropriate responses to simulated emergencies. (7)
8. Identify common issues surrounding night flying. (2,8)
9. Repeat engine and aircraft shutdown procedures. (9)

**REQUIRED ASSESSMENT:**

1. At least one oral exam (2-3hrs) & a flight exam (1-2 hrs) based on FAA criteria.

4.000 Credit hours  
0.000 Lecture hours  
12.000 Lab hours

**Levels:** Credit

**Schedule Types:** [Lab](#), [Lecture](#), [Lecture/Lab](#)

Career & Technical Education Division  
Aviation Department

### **AVT 107 - Private Pilot Airplane Flight II**

**COURSE DESCRIPTION:**

AVT 107. Private Pilot Airplane Flight II (5). Flight training including supervised and solo cross-country flights and intermediate operations. Preparation for Federal Aviation Administration private pilot airplane oral and practical exam. Prerequisite: AVT 106. Two lecture. Nine lab.

**COURSE CONTENT:**

1. Preflight procedures
2. Airport and operations
3. Airplane flight maneuvers

4. Takeoffs, landings, and go-arounds
5. Performance maneuvers
6. Navigation
7. Emergency operations
8. Night operations
9. Post flight operations

## LEARNING OUTCOMES:

1. Determine if an airplane is airworthy prior to flight. (1)
2. Calculate aircraft performance under adverse conditions. (1-5)
3. Locate and weigh weather information against common flight situations. (1,6)
4. Operate aircraft using industry standard procedures during airplane flight maneuvers. (3-5)
5. Generate and execute a cross country flight plan. (1,2,6)
6. Incorporate dead reckoning, pilotage, and radio navigation during navigation exercises. (6)
7. Employ appropriate responses to simulated emergencies. (7)
8. Describe common issues surrounding night flying. (2,8)
9. Accomplish aircraft and engine shutdown procedures. (9)

## REQUIRED ASSESSMENT:

FAA oral and flight exam.  
 5.000 Credit hours  
 2.000 Lecture hours  
 9.000 Lab hours

Levels: Credit

Schedule Types: Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
 Aviation Department

## Course Attributes:

Info Literacy (IL)

**AVT 109 - Private Pilot Helicopter Ground I**

## COURSE DESCRIPTION:

AVT 109. Private Pilot Helicopter Ground I (2). Fundamentals of aerodynamics, helicopter operation and performance, and instruments. Prerequisite: Admission to Program. Two lecture.

## COURSE CONTENT:

1. Instruments
2. Aerodynamics
3. Flight
4. Weight and Balance
5. Performance

## LEARNING OUTCOMES:

1. Identify basic helicopter components, systems, and instruments. (1)
2. Explain the principles of basic aerodynamics. (2)
3. Explain the primary principles of helicopter flight. (2,3)
4. Use a POH performance manual. (5)
5. Calculate helicopter weight and balance. (4,5)

## REQUIRED ASSESSMENT:

FAA written test.  
 2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Career & Technical Education Division  
 Aviation Department

## Course Attributes:

Digital Lit (DL)

**AVT 110 - Private Pilot Helicopter Ground II**

## COURSE DESCRIPTION:

AVT 110. Private Pilot Helicopter Ground II (2). Fundamentals of navigation, human errors, Federal Aviation requirements, weather systems and hazards. Prerequisite: Admission to the Private Pilot-Helicopter program and AVT 109. Two lecture.

## COURSE CONTENT:

1. Weather
2. Federal aviation requirements
3. Human error in flight
4. Navigation
5. Hazards

## LEARNING OUTCOMES:

1. Utilize airport and heliport communications. (1,2)
2. Identify the basic elements of weather as they pertain to flight. (1)
3. Use a Federal Aviation Regulation manual and Airport Facility Directory. (2)
4. Use a flight computer. (4)
5. Determine protocols for cross-country flight. (4)
6. Identify the physiological and psychological factors which can affect human safety and comfort in flight. (3)
7. Identify extreme hazards of helicopter flight. (5)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours



**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Aviation Department

**Course Attributes:**  
Info Literacy (IL)

#### [AVT 111 - Private Pilot Helicopter Flight I](#)

**COURSE DESCRIPTION:**

AVT 111. Private Pilot Helicopter Flight I (5). Fundamentals of basic helicopter operations. Includes one-on-one supervised cross-country flights. Prerequisite: Admission to program. Twelve lab.

**COURSE CONTENT:**

1. Preflight procedures
2. Airport and heliport operations
3. Hovering maneuvers
4. Takeoffs, landings, and go-arounds
5. Performance maneuvers
6. Navigation
7. Emergency operations
8. Night operations
9. Postflight procedures

**LEARNING OUTCOMES:**

1. State helicopter airworthiness requirements. (1)
2. Calculate aircraft performance under standard conditions. (1-5)
3. Locate weather sources and information. (1, 6)
4. Repeat aircraft maneuvers during pinnacles, slopes, confined areas, and steep approaches/departures. (3-5)
5. Prepare a cross-country flight plan. (1, 2, 6)
6. Recite dead reckoning, pilotage, and radio navigation procedures. (6)
7. Discuss appropriate responses to simulated emergencies. (7)
8. Identify common issues surrounding night flying. (2, 8)
9. Repeat engine and aircraft shutdown procedures. (9)

**REQUIRED ASSESSMENT:**

1. At least one oral exam (2-3 hrs) & a flight exam (1-2 hrs) based on FAA criteria.

4.000 Credit hours  
0.000 Lecture hours  
12.000 Lab hours

**Levels:** Credit

**Schedule Types:** [Lab](#), Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Aviation Department

#### [AVT 112 - Private Pilot Helicopter Flight II](#)

**COURSE DESCRIPTION:**

AVT 112. Private Pilot Helicopter Flight II (5). Flight training including supervised and solo cross-country flights and intermediate operations. Preparation for Federal Aviation Administration private pilot helicopter oral and practical exam. Prerequisite: AVT 111. Two lecture. Nine lab.

**COURSE CONTENT:**

1. Preflight procedures
2. Airport and heliport operations
3. Hovering maneuvers
4. Takeoffs, landings, and go-arounds
5. Performance maneuvers
6. Navigation
7. Emergency operations
8. Night operations
9. Post-flight procedures

**LEARNING OUTCOMES:**

1. Determine if a helicopter is airworthy prior to flight. (1)
2. Calculate aircraft performance under adverse conditions (1-5)
3. Locate and weigh weather information against common flight situations. (1, 6)
4. Operate aircraft using industry standard procedures during pinnacles, slopes, confined areas, and steep approaches and departures. (3-5)
5. Generate and execute a cross country flight plan. (1, 2, 6)
6. Incorporate dead reckoning, pilotage, and radio navigation during navigation exercises. (6)
7. Employ appropriate responses to simulated emergencies. (7)
8. Describe common issues surrounding night flying. (2, 8)
9. Accomplish aircraft and engine shutdown procedures. (9)

**REQUIRED ASSESSMENT:**

At least one oral exam (2-3 hrs) & a flight exam (1-2 hrs) based on FAA criteria

5.000 Credit hours  
2.000 Lecture hours  
9.000 Lab hours

**Levels:** Credit

**Schedule Types:** [Lab](#), Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Aviation Department

**AVT 113 - Private Pilot Helicopter Simulation****COURSE DESCRIPTION:**

AVT 113. Private Pilot Helicopter Simulation (1). Introduction to helicopter flying and basic helicopter operations via simulation. Includes basic flight maneuvers, traffic patterns, departures, approaches, and emergency procedures in simulators. Prerequisite: Admission to program. Three lab.

**COURSE CONTENT:**

1. Use of flight controls
2. Straight and level, climbs, turns, descents
3. Introduction to traffic patterns
4. Norml approaches and departures
5. Go-arounds
6. Emergency landings

**LEARNING OUTCOMES:**

1. Repeat engine and aircraft start up and shutdown procedures in a simulator. (1)
2. Repeat basic aircraft maneuvers in a simulator. (2)
3. Perform takeoff, traffic pattern, approach, and departure procedures in a simulator. (3-5)
4. Show appropriate responses to simulated emergencies in a simulator. (6)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

**AVT 115 - Instrument Pilot Airplane Ground****COURSE DESCRIPTION:**

AVT 115. Instrument Pilot Airplane Ground (4). Instrument navigation, Instrument Flight Rule (IFR) traffic system procedures, dead reckoning, IFR Radio navigation, use of various instrumentation systems, IFR charts, weather reports and forecasts, transponders, radars, radio aids, anti-icing/deicing systems, preflight checks, aeronautical decision making. Prerequisite: AVT 105 and AVT 107 and 117. Three lecture.

**COURSE CONTENT:**

1. Instrument Flight Rule (IFR) regulations
2. Charts and IFR approach procedures
3. Procurement and use of weather forecasts
4. Flight instrument function
5. Aircraft performance capability
6. Anti-icing system
7. Preflight checks
8. Aeronautical decision making

**LEARNING OUTCOMES:**

1. Apply federal regulations to IFR conditions. (1)
2. Use dead reckoning procedures as they pertain to IFR navigation. (1)
3. Navigate IFR using radio aids. (1,3)
4. Use VOR, ADF, GPS and ILS systems. (1,4)
5. Procure and use aviation weather reports and forecasts. (3,8)
6. Determine the function, use, and limitations of the flight instruments required for IFR flights. (2,5)
7. Calculate aircraft performance capability for time enroute and fuel consumption based on wind, power consumption, altitude, and fuel reserves. (8)
8. Apply anti-icing measurements to the airframe, fuel intake, and propeller/intake system. (6)
9. Complete preflight instrument checks for avionics and navigation. (7)

**REQUIRED ASSESSMENT:**

FAA written exam.  
4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

**Course Attributes:**

Digital Lit (DL), Scientific (SL)

**AVT 116 - Instrument Pilot Airplane Flight****COURSE DESCRIPTION:**

AVT 116. Instrument Pilot Airplane Flight (4). Flight by reference to instruments. Emphasis on instrument preflight, navigation, approach, emergency, and post-flight procedures. Includes the combination of a Federal Aviation Administration (FAA) approved flight-training device simulator and/or actual flight time in preparation for the FAA instrument pilot airplane oral and practical test. Prerequisite: AVT 105 and AVT 107 and AVT 117. Twelve lab.

**COURSE CONTENT:**

1. Instrument preflight procedures
2. Air traffic control clearances and procedures
3. Flight by reference to instruments
4. Navigation systems
5. Instrument approach procedures
6. Instrument emergency operations
7. Instrument post-flight procedures

**LEARNING OUTCOMES:**

1. Determine if an airplane is airworthy for instrument flight prior to flight. (1)
2. Interpret weather information for an instrument flight. (1,5)
3. Choose instrument charts for navigational use. (2,4)

4. Use basic instrument flight maneuvers and criteria. (3)
5. Optimize use of radio navigation aids. (4)
6. Prepare an instrument cross-country flight plan. (5)
7. Employ appropriate responses to instrument emergencies. (6)
8. Verify condition of aircraft after engine shutdown from an instrument flight. (7)

**REQUIRED ASSESSMENT:**

1. At least one oral exam (2-3hrs) & a flight exam (1-2 hrs) based on FAA criteria.

4.000 Credit hours  
0.000 Lecture hours  
12.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Aviation Department

**Course Attributes:**  
Scientific (SL)

### **AVT 117 - Private Pilot Flight Simulation**

**COURSE DESCRIPTION:**

AVT 117. Private Pilot Flight Simulation (1). Introduction to flying and basic flight operations via simulation. Includes basic flight maneuvers, traffic patterns, departures, approaches, and emergency procedures in simulators. Prerequisite: Admission to program. Three lab.

**COURSE CONTENT:**

1. Use of flight controls
2. Straight and level, climbs, turns, descents
3. Introduction to traffic patterns
4. Normal approaches and departures
5. Go-arounds
6. Emergency landings

**LEARNING OUTCOMES:**

1. Repeat engine and aircraft start up and shutdown procedures in a simulator. (1)
2. Repeat basic aircraft maneuvers in a simulator. (2)
3. Perform takeoff, traffic pattern, approach, and departure procedures in a simulator. (3-5)
4. Show appropriate responses to simulated emergencies in a simulator. (6)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

**Course Attributes:**  
Scientific (SL)

### **AVT 118 - Instrument Pilot Helicopter Simulation**

**COURSE DESCRIPTION:**

AVT 118. Instrument Pilot Helicopter Simulation (1). Introduction to flight by reference to instruments. Emphasis on instrument navigation, approach and emergency procedures in the simulator. Includes preparation for FAA. Prerequisite: AVT 110 and AVT 112 and AVT. Three lab.

**COURSE CONTENT:**

1. Instrument preflight procedures in a simulator
2. Air traffic control clearances and procedures in a simulator
3. Flight by reference to instruments in a simulator
4. Navigation systems in a simulator
5. Instrument approach procedures in a simulator
6. Instrument emergency operation in a simulator

**LEARNING OUTCOMES:**

1. Choose instrument charts for navigational use in a simulator. (1,2)
2. Use basic instrument flight maneuvers and criteria in a simulator. (3)
3. Optimize use of radio navigation aids in a simulator. (4)
4. Prepare an instrument cross-country flight plan for use in a simulator. (1,5,6)
5. Employ appropriate responses to instrument emergencies in a simulator. (5)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

### **AVT 120 - Instrument Pilot Helicopter Ground**

**COURSE DESCRIPTION:**

AVT 120. Instrument Pilot Helicopter Ground (4). Instrument navigation, Instrument Flight Rule (IFR) traffic system and procedures, dead reckoning, IFR Radio navigation, use of various instrumentation systems, IFR charts, weather reports and forecasts, transponders, radars, radio aids, anti-icing/deicing systems, preflight checks, aeronautical decision making. Prerequisite: AVT 110. Three lecture.

**COURSE CONTENT:**

1. IFR regulations
2. Charts and IFR approach procedures
3. Procurement and use of weather forecasts
4. Flight instrument function
5. Aircraft performance capability
6. Anti-icing systems
7. Preflight checks
8. Aeronautical decision making

**LEARNING OUTCOMES:**

1. Apply Federal Regulations to IFR conditions. (1)
2. Use dead reckoning procedures as they pertain to IFR navigation. (1)
3. Navigate IFR by using radio aids. (1,3)
4. Use VOR, ADF, GPS and ILS systems. (1,4)
5. Procure and use aviation weather reports and forecasts. (3,8)
6. Determine the function, use, and limitations of the flight instruments required for IFR flights. (2,5)
7. Calculate aircraft performance capability for time enroute and fuel consumption based on wind, power consumption, altitude, and fuel reserves. (8)
8. Apply anti-icing measurements to the airframe, fuel intake, and propeller/intake system. (6)
9. Complete preflight instrument checks for avionics and navigation. (7)

4.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
 Aviation Department

**Course Attributes:**  
 Scientific (SL)

**[AVT 121 - Instrument Pilot Helicopter Flight](#)****COURSE DESCRIPTION:**

AVT 121. Instrument Pilot Helicopter Flight (4). Flight by reference to instruments. Emphasis on instrument preflight, navigation, approach, emergency, and post-flight procedures. Includes the combination of a Federal Aviation Administration (FAA) approved flight-training device and actual flight time in preparation for FAA instrument pilot helicopter oral and practical test. Prerequisite: Admission to program. Twelve lab.

**COURSE CONTENT:**

1. Instrument preflight procedures
2. Air traffic control clearances and procedures
3. Flight by reference to instruments
4. Navigation systems
5. Instrument approach procedures
6. Instrument emergency operations
7. Instrument post-flight procedures

**LEARNING OUTCOMES:**

1. Determine if a helicopter is airworthy for instrument flight prior to flight. (1)
2. Interpret weather information for an instrument flight. (1, 5)
3. Choose instrument charts for navigational use. (2, 4)
4. Use basic instrument flight maneuvers and criteria. (3)
5. Optimize use of radio navigation aids. (4)
6. Prepare an instrument cross-country flight plan. (5)
7. Employ appropriate responses to instrument emergencies. (6)
8. Verify condition of aircraft after engine shutdown from an instrument flight. (7)

**REQUIRED ASSESSMENT:**

1. At least one oral exam (2-3 hrs) & a flight exam (1-2 hrs) based on FAA criteria.

4.000 Credit hours  
 0.000 Lecture hours  
 12.000 Lab hours

**Levels:** Credit

**Schedule Types:** [Lab](#), [Lecture](#), [Lecture/Lab](#)

Career & Technical Education Division  
 Aviation Department

**[AVT 125 - Fundamentals of Air Traffic Control](#)****COURSE DESCRIPTION:**

AVT 125. Fundamentals of Air Traffic Control (1). Airport air traffic control history, navigation systems, system structure and control communication procedure and phraseology. Heavy emphasis place on preliminary terminology used in radio communication. Prerequisite: Admission to program. Three lab.

**COURSE CONTENT:**

1. Air control history
2. Navigation systems
3. Air control system structure
4. Communication procedures and phraseology

**LEARNING OUTCOMES:**

1. Analyze air traffic control from the early 1900s to present day. (1)
2. Describe visual navigation. (2)
3. Identify aircraft instrumentation. (2)
4. Analyze electronic navigation systems. (2)
5. Determine aircraft positioning methods. (2)
6. Describe instrument, approach and landing procedures. (2)
7. Classify airspace. (3)

8. Correctly pronounce ATC communication phraseology. (4)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

#### AVT 126 - Air Traffic Control Procedures

##### COURSE DESCRIPTION:

AVT 126. Air Traffic Control Procedures (1). Air traffic en route, tower and control procedures. Emphasis on controller duties in various parts of the control center, airspace dimensions, and delegation of responsibility. Includes non-radar and terminal separation procedures. Prerequisite: Admission to program. Three lab.

##### COURSE CONTENT:

1. Control procedures
2. Tower procedures
3. Non-radar en route and terminal separation

##### LEARNING OUTCOMES:

1. Distinguish between separation responsibilities in controlled airspace. (1)
2. Organize controller responsibilities in an Air Route Traffic Control Center. (1)
3. Summarize air traffic control tower responsibilities. (2)
4. Identify the duties for flight data control, ground control, local control, helicopter control and wake turbulence. (2)
5. Describe separation procedures for all airspace dimensions. (3)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

#### AVT 127 - Fundamentals of Air Traffic Control Radar Operation

##### COURSE DESCRIPTION:

AVT 127. Fundamentals of Air Traffic Control Radar Operation (1). Theory and fundamentals of radar operation as it pertains to the National Airspace System, Oceanic and International Air Traffic Control, and the Federal Aviation Administration (FAA) Prerequisite: Admission to program. Three lab.

##### COURSE CONTENT:

1. Radar fundamentals
2. Radar separation
3. Operation in the National Airspace System (NAS)
4. Oceanic and International Air Control
5. The Federal Aviation Administration (FAA)

##### LEARNING OUTCOMES:

1. Identify the types of air traffic control radar. (1)
2. Operate a computerized radar system. (1)
3. Identify separation standards. (2)
4. Describe instrument flight rules (IFR) and visual flight rules (VFR) flight as they pertain to the NAS (3)
5. Identify international, Canadian, Atlantic and European air traffic control procedures. (4)
6. Describe the structure of the FAA. (5)
7. Distinguish between FAA control facilities, contract services, and Flight Service Stations. (5)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

##### Course Attributes:

Oral Communication (OC)

#### AVT 130 - Private Pilot Glider Ground

##### COURSE DESCRIPTION:

AVT 130. Private Pilot Glider Ground (1). Ground school preparation for flying gliders. Includes takeoffs, landings, aerodynamics, instruments, flight weight, balance, and performance. Prerequisite: Admission to program. One lecture.

##### COURSE CONTENT:

1. Instruments
2. Aerodynamics
3. Flight
4. Weight and balance
5. Performance

##### LEARNING OUTCOMES:

1. Identify basic airplane components, systems, and instruments. (1)
2. Explain the principles of basic aerodynamics. (2)
3. Explain the primary principles of airplane flight. (2,3)
4. Use a Pilot's Operating Handbook (POH) (5)

5. Calculate airplane weight and balance. (4,5)

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

#### **AVT 133 - Private Pilot Glider Flight**

##### **COURSE DESCRIPTION:**

AVT 133. Private Pilot Glider Flight (2). Private pilot glider training leading to FAA certification. Prerequisite: Admission to program. One lecture. Three lab.

##### **COURSE CONTENT:**

1. Preflight procedure
2. Airport operations
3. Maneuvers
4. Takeoffs, launches, and landings
5. Performance maneuvers
6. Navigation and airspace
7. Emergency operations
8. Post-flight operations

##### **LEARNING OUTCOMES:**

1. State airplane airworthiness requirements. (1)
2. Calculate aircraft performance under various conditions. (1-5)
3. Locate weather sources and information. (1,6)
4. Repeat aircraft maneuvers. (3-5)
5. Prepare for a flight. (1,2,6)
6. Recite navigation and airspace procedures. (6)
7. Discuss appropriate responses to simulated emergencies. (7)
8. Complete post-flight procedures. (8)

##### **REQUIRED ASSESSMENT:**

1. FAA Practical Exam.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture

Career & Technical Education Division  
Aviation Department

#### **AVT 135 - Dispatch Operations I**

##### **COURSE DESCRIPTION:**

AVT 135. Dispatch Operations I (3). Basic flight dispatcher operations. Includes aircraft flight manuals, airframe systems and powerplants, dispatch communications and regulations. Prerequisite: GEO 212 (may be taken concurrently). Three lecture

##### **COURSE CONTENT:**

1. Regulations
2. National Airspace Plan
3. Navigation systems
4. Aircraft flight manuals
5. Airframe systems and powerplants
6. National Transportation Safety Board (NTSB) reporting
7. Security
8. Human factors
9. Resource management
10. NOTAM: "Notice to Airmen"
11. Communications
12. Air traffic control

##### **LEARNING OUTCOMES:**

1. Recite Federal Aviation Administration (FAA) regulations and the National Airspace Plan as they pertain to flight dispatching. (1,2)
2. Summarize the theory and operations of navigation, airframe, and powerplant systems. (3-5)
3. State NTSB and security requirements of flight dispatching. (6,7)
4. Recite NTSB reporting and resource management principles. (8,9)
5. List NOTAM and communications requirements in flight dispatching. (10,11)
6. Explain air traffic control procedures as they apply to flight dispatching. (12)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

#### **AVT 200 - Airport Operations and Design**

**COURSE DESCRIPTION:**

AVT 200. Airport Operations and Design (3). Fundamentals of airport operations and design and the associated impact on management, passengers, and surrounding community. Prerequisite: Admission to program and BSA 220 Three lecture.

**COURSE CONTENT:**

1. U.S. aviation system
2. Airport planning and funding
3. Airport master planning
4. Site evaluation and selection
5. Passenger terminals and ground operations
6. Management structure and organization
7. Public acceptance
8. Economic impacts of airports
9. Airport maintenance
10. Legal considerations

**LEARNING OUTCOMES:**

1. Describe significant milestones in development of U.S. airways. (1)
2. Describe airway and airport systems planning. (2)
3. Explain the importance of airport facilities planning. (3)
4. Recognize the principal criteria for airport location. (4)
5. Identify the major components of the U.S. airways system. (5)
6. Identify the organizational structures used in airport hierarchies. (6)
7. Relate the issues of public acceptance as a major challenge to airports. (7)
8. Analyze the contributions that airports make to the local economy. (8)
9. Describe airport maintenance factors and systems. (9)
10. Discuss the implications of bankruptcy, tort liability and liens in an airport's business environment. (10)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

**Course Attributes:**

Civic Engagement (CE), Creative Thinking (CR)

**AVT 201 - Aviation Management****COURSE DESCRIPTION:**

AVT 201. Aviation Management (3). Introduction to the principles of management as they apply to the aviation community including finance, marketing, fixed-based operators (FBOs), and human resource development. Prerequisite: Admission to program and BSA 220. Three lecture.

**COURSE CONTENT:**

1. The role of fixed-based operators (FBOs) in the National Airspace System
2. Management functions
3. Marketing and financial planning of FBOs
4. Human resource management and financial planning for FBOs
5. Flight line operations, flight operations and maintenance
6. FBO facilities and their functions
7. The future and threats to general aviation

**LEARNING OUTCOMES:**

1. Explain the term "FBO" and the functions these businesses fulfill in the general aviation community. (1)
2. Break down the "four functions" of management and relate them to successful operation of an FBO as well as recognize managerial errors and how to correct them. (2)
3. State the forecasting sources available to an FBO planning for a market area. (3)
4. Distinguish between lack of profit and lack of cash flow and show the corrective action; recognize methods of improving the FBO's cash position. (2,3)
5. Analyze issues covered in an exit interview. (4)
6. Explain the advantages and disadvantages of various business or organization structures: sole proprietorship, partnership and corporation. (4)
7. Relate the requirements of an effective business information system to an aviation business. (4)
8. Identify the requirements for an air taxi operator to be approved for Part 135 operations. (5)
9. Describe the various functions of the flight line operations. (5)
10. Identify and describe the four subdivisions generally found in the organizational structure of a maintenance department. (5)
11. Discuss the specialized areas of insurance typically found when dealing with aviation. (6)
12. Discuss major environmental issues relevant to airport properties and businesses. (6)
13. Explain the role of the airport business owner/manager in using, protecting and promoting the airport. (2,6)
14. Describe and explain global and national trends that appear to be affecting businesses and individuals in the 21st century, focusing on those most impacting general aviation. (7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

**AVT 204 - Commercial Pilot Airplane Ground I****COURSE DESCRIPTION:**

AVT 204. Commercial Pilot Airplane Ground I (2). Designed for students who are both private pilot and instrument flight rated for airplane flight and are seeking the commercial pilot rating. Includes advanced airplane components, advanced aerodynamics and advanced performance. Prerequisite: AVT 116. Corequisite: AVT 206. Two lecture.

**COURSE CONTENT:**

1. Advanced airplane components
2. Advanced airplane aerodynamics
3. Advanced airplane performance
4. Night and high altitude airplane operations

## 5. Maneuvers and emergency operations

## LEARNING OUTCOMES:

1. Identify and describe parts of advanced airplane systems for commercial airplanes. (1)
2. Describe the four forces of aerodynamics and their effect on advanced flight operations. (2)
3. Predict commercial airplane performance for density, altitude, gross weight, wind and performance. (3,4)
4. Compute weight and balance as it pertains to aircraft performance. (3)
5. Identify complexities of night flying operations. (4)
6. Identify commercial maneuver usage and implementation of emergency procedures. (5)

## REQUIRED ASSESSMENT:

FAA written exam.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Career & Technical Education Division  
Aviation Department

**AVT 205 - Commercial Pilot Airplane Ground II**

## COURSE DESCRIPTION:

AVT 205. Commercial Pilot Airplane Ground II (2). Designed for students who are both private pilot and instrument flight rated for airplane flight and are seeking the commercial pilot rating. Includes advanced airplane components, meteorology, cross country flight, and commercial Federal Aviation Administration (FAA) regulations. Prerequisite: AVT 204. Two lecture.

## COURSE CONTENT:

1. Advanced airplane engines and systems
2. Cross country flight
3. Commercial Federal Aviation Administration (FAA) regulations
4. Meteorology

## LEARNING OUTCOMES:

1. Describe advanced airplane power plants. (1)
2. Describe features of advanced airframe systems. (1)
3. Identify the factors that affect commercial flight passenger comfort, safety and efficiency during cross country flights. (2)
4. Identify preflight planning issues and hazards associated with cross country flying. (2)
5. Identify FAA regulations pertaining to commercial airplane flight. (3)
6. Identify FAA accident reporting procedures. (3)
7. Predict critical weather situations and formulate alternative actions. (4)

## REQUIRED ASSESSMENT:

FAA written exam.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Career & Technical Education Division  
Aviation Department

## Course Attributes:

Oral Communication (OC), Written Comm (WC)

**AVT 206 - Commercial Pilot Airplane Flight I**

## COURSE DESCRIPTION:

AVT 206. Commercial Pilot Airplane Flight I (6). Advanced airplane flight operations and navigation including mountain flying techniques. Preparation for Federal Aviation Administration commercial pilot oral and practical test. Corequisite: AVT 204. Two and one-half lecture. Eleven and one-half lab.

## COURSE CONTENT:

1. Preflight procedures
2. Airplane flight maneuvers
3. Takeoffs, landings, and go-arounds
4. Performance maneuvers
5. Post-flight procedures

## LEARNING OUTCOMES:

1. Validate airplane worthiness with simulated discrepancies. (1)
2. Predict aircraft performance under adverse and abnormal conditions. (1-4)
3. Evaluate weather information as it applies to complex and atypical flight scenarios. (1)
4. Differentiate between procedures used during multiple airplane configurations. (2-4)
5. Verify condition of aircraft after engine shutdown. (5)

## REQUIRED ASSESSMENT:

FAA oral exam and check ride.

6.000 Credit hours  
2.500 Lecture hours  
11.500 Lab hours

Levels: Credit

Schedule Types: Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Aviation Department



**AVT 207 - Commercial Pilot Airplane Flight II****COURSE DESCRIPTION:**

AVT 207. Commercial Pilot Airplane Flight II (6). Advanced airplane flight operations and navigation including mountain and night flying techniques and emergency operations. Preparation for Federal Aviation Administration (FAA) commercial pilot oral and practical test. Corequisite: AVT 205. Two and one-half lecture. Eleven and one-half lab.

**COURSE CONTENT:**

1. Airport operations
2. Navigation
3. Emergency operations
4. Night operations
5. Mountain flying
6. Multi-engine operations
7. High performance and high speed operations

**LEARNING OUTCOMES:**

1. Construct, execute and revise a cross-country flight plan while in flight. (1,2)
2. Integrate dead reckoning, pilotage, and radio navigation procedures into flight and simulated emergency scenarios. (2)
3. Weigh factors and prescribe multiple solutions to simulated emergencies. (3)
4. Identify and maximize night flying navigation and terrain avoidance techniques. (1-4)
5. Adapt flying techniques to a mountain environment. (5)
6. Operate a multi-engine aircraft. (6)
7. Operate a Cessna Corvalis aircraft. (7)

**REQUIRED ASSESSMENT:**

FAA oral exam and check ride.

6.000 Credit hours  
2.500 Lecture hours  
11.500 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Aviation Department

**Course Attributes:**  
Quantitative Lit (QL)

**AVT 209 - Commercial Pilot Helicopter Ground I****COURSE DESCRIPTION:**

AVT 209. Commercial Pilot Helicopter Ground I (2). Designed for students who are both private pilot and instrument flight rated for helicopter flight and are seeking the commercial pilot rating. Includes advanced helicopter components, advanced aerodynamics and advanced performance. Prerequisite: AVT 121. Two lecture.

**COURSE CONTENT:**

1. Advanced helicopter components
2. Advanced helicopter aerodynamics
3. Advanced helicopter performance

**LEARNING OUTCOMES:**

1. Identify and describe parts of advanced rotor systems and advanced airfoils for commercial helicopters. (1)
2. Describe the four forces of aerodynamics and their affect on advanced flight operations. (2)
3. Describe the effects of autorotative descents. (2)
4. Predict commercial helicopter performance for density altitude, gross weight, wind and performance. (3)
5. Compute weight and balance as it pertains to aircraft performance. (3)

**REQUIRED ASSESSMENT:**

FAA written test.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Aviation Department

**Course Attributes:**  
Quantitative Lit (QL)

**AVT 210 - Commercial Pilot Helicopter Ground II****COURSE DESCRIPTION:**

AVT 210. Commercial Pilot Helicopter Ground II (2). Designed for students who are both private pilot and instrument flight rated for helicopter flight and are seeking commercial pilot rating. Includes advanced helicopter components, cross country flight, and commercial FAA regulations. Prerequisite: AVT 211. Two lecture.

**COURSE CONTENT:**

1. Advanced helicopter engines and systems
2. Cross country flight
3. Commercial FAA regulations

**LEARNING OUTCOMES:**

1. Describe advanced helicopter power plants. (1)
2. Describe features of advanced airframe systems. (1)
3. Identify the factors that affect commercial flight passenger comfort, safety and efficiency during cross-country flight. (2)
4. Identify preflight planning issues and hazards associated with cross country flying. (2)
5. Identify FAA regulations pertaining to commercial helicopter flight. (3)
6. Identify FAA accident reporting procedures. (3)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Aviation Department

**Course Attributes:**  
Civic Engagement (CE)

#### [AVT 211 - Commercial Pilot Helicopter Flight I](#)

**COURSE DESCRIPTION:**

AVT 211. Commercial Pilot Helicopter Flight I (5). Advanced helicopter flight operations and navigation, including mountain flying techniques. Preparation for Federal Aviation Administration commercial pilot oral and practical test. Corequisite: AVT 209. Two lecture. Nine lab.

**COURSE CONTENT:**

1. Preflight procedures
2. Hovering maneuvers
3. Takeoffs, landings, and go-arounds
4. Performance maneuvers
5. Post-flight procedures

**LEARNING OUTCOMES:**

1. Validate helicopter airworthiness with simulated discrepancies. (1)
2. Predict aircraft performance under adverse and abnormal conditions. (1-4)
3. Evaluate weather information as it applies to complex and atypical flight scenarios. (1)
4. Differentiate between procedures used during pinnacles, slopes, confined areas, and steep approaches and departures. (2- 4)
5. Verify condition of aircraft after engine shutdown. (5)

**REQUIRED ASSESSMENT:**

At least one oral exam (2-3 hrs) & a stage check or flight exam (1-2 hrs) based on FAA criteria.

5.000 Credit hours  
2.000 Lecture hours  
9.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Aviation Department

#### [AVT 212 - Commercial Pilot Helicopter Flight II](#)

**COURSE DESCRIPTION:**

AVT 212. Commercial Pilot Helicopter Flight II (5). Advanced helicopter flight operations and navigation, including mountain flying techniques. Preparation for Federal Aviation Administration commercial pilot oral and practical test. Corequisite: AVT 210. Two lecture. Nine lab.

**COURSE CONTENT:**

1. Airport and heliport operations
2. Navigation
3. Emergency operations
4. Night operations
5. Mountain flying

**LEARNING OUTCOMES:**

1. Construct, execute, and revise in flight, a cross-country flight plan. (1, 2)
2. Integrate dead reckoning, pilotage, and radio navigation procedures into flight and simulated emergency scenarios. (2)
3. Weigh factors and prescribe multiple solutions to simulated emergencies. (3)
4. Identify and maximize night flying navigation and terrain avoidance techniques. (1,4)
5. Adapt flying techniques to a mountain environment. (5)

**REQUIRED ASSESSMENT:**

At least one oral exam (2-3 hrs) & a flight exam (1-2 hrs) based on FAA criteria.

5.000 Credit hours  
2.000 Lecture hours  
9.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Aviation Department

#### [AVT 214 - Private Pilot Instrument Simulation](#)

**COURSE DESCRIPTION:**

AVT 214. Private Pilot Instrument Simulation (1). Introduction to flight by reference to instruments. Emphasis on instrument navigation, approach, and emergency procedures in the simulator. Includes preparation for FAA instrument pilot oral and practical test. Prerequisite: Admission to program and AVT 115 and AVT 116 and AVT 117. Three lab.

**COURSE CONTENT:**

1. Instrument preflight procedures in a simulator
2. Air traffic control clearances and procedures in a simulator
3. Flight by reference to instruments in a simulator
4. Navigation systems in a simulator
5. Instrument approach procedures in a simulator
6. Instrument emergency operations in a simulator

## LEARNING OUTCOMES:

1. Choose instrument charts for navigational use in a simulator. (1,2)
2. Use basic instrument flight maneuvers and criteria in a simulator. (3)
3. Optimize use of radio navigation aids in a simulator. (4)
4. Prepare an instrument cross-country flight plan for use in a simulator. (1,5,6)
5. Employ appropriate responses to instrument emergencies in a simulator. (5)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

## Course Attributes:

Critical Thinking (CT)

**AVT 215 - Flight Instructor Airplane Ground**

## COURSE DESCRIPTION:

AVT 215. Flight Instructor Airplane Ground (2). Instructional strategies and planning, student evaluation, the learning process and flight instructor responsibilities. Prerequisite: Admission to program and AVT 205 and AVT 207. Two lecture.

## COURSE CONTENT:

1. Teaching preflight preparation and procedures as ground lessons
2. Teaching airport and airplane operations as ground lessons
3. Teaching commercial flight maneuvers as ground lessons
4. Teaching takeoffs, landings, and go-arounds as ground lessons
5. Teaching performance maneuvers as ground lessons
6. Teaching navigation as ground lessons
7. Teaching emergency operations as ground lessons
8. Teaching night operations as ground lessons
9. Teaching post-flight procedures as ground lessons
10. Teaching mountain flying as ground lessons
11. Teaching special operations as ground lessons

## LEARNING OUTCOMES:

1. Adapt ground lesson plans and prescribe specific lessons to each recreational, private, and commercial student pilot. (1-11)
2. Critique student pilot maneuvers. (1-11)
3. Outline a series of ground lessons based on differing student levels of experience and aptitude. (1-11)
4. Diagnose student pilot learning problems. (1-11)
5. Develop effective professional relationships with student pilots to improve learning. (1-11)
6. Model professional behaviors and attitudes to student pilots. (1-11)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

**AVT 216 - Flight Instructor Airplane Flight**

## COURSE DESCRIPTION:

AVT 216. Flight Instructor Airplane Flight (4). Techniques for giving one-on-one instruction to airplane student pilots and critiquing student performance. Preparation for Federal Aviation Administration (FAA) flight instructor airplane oral and practical examinations. Corequisite: AVT 215. Three lecture. Three lab.

## COURSE CONTENT:

1. Teaching recreational, private, and commercial preflight procedures
2. Teaching recreational, private, and commercial airport and heliport operations
3. Teaching recreational, private, and commercial takeoffs, landings, and go-arounds
4. Teaching recreational, private and commercial performance maneuvers
5. Teaching recreational, private and commercial navigation
6. Teaching recreational, private, and commercial emergency operations
7. Teaching recreational, private, and commercial night operations
8. Teaching recreational, private, and commercial post-flight procedures
9. Teaching mountain flying
10. Teaching special operations

## LEARNING OUTCOMES:

1. Adapt lesson plans and prescribe specific lessons to each recreational, private, and commercial student pilot. (1-11)
2. Critique recreational, private, and commercial student pilot maneuvers. (1-11)
3. Outline a series of recreational, private, and commercial flight lessons based on differing student levels of experience and aptitude. (1-11)
4. Diagnose recreational, private and commercial student pilot learning problems. (1-11)
5. Develop effective professional relationships with recreational, private, and commercial student pilots to improve learning. (1-11)
6. Model professional behaviors and attitudes to recreational, private, and commercial student pilots. (1-11)

REQUIRED ASSESSMENT:  
FAA oral exam and flight exam.

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Lab, Lecture, Lecture/Lab

Career & Technical Education Division

Aviation Department

**Course Attributes:**  
Diversity (DA)

#### AVT 220 - Flight Instructor Helicopter Ground

**COURSE DESCRIPTION:**

AVT 220. Flight Instructor Helicopter Ground (2). Instructional strategies and planning, communications, student evaluation, the learning process and flight instructor responsibilities.  
Prerequisite: Admission to program. Two lecture.

**COURSE CONTENT:**

1. Teaching preflight preparation and procedures as ground lessons
2. Teaching airport and heliport operations as ground lessons
3. Teaching commercial hovering maneuvers as ground lessons
4. Teaching takeoffs, landings, and go-arounds as ground lessons
5. Teaching performance maneuvers as ground lessons
6. Teaching navigation as ground lessons
7. Teaching emergency operations as ground lessons
8. Teaching night operations as ground lessons
9. Teaching post-flight procedures as ground lessons
10. Teaching mountain flying as ground lessons
11. Teaching special operations as ground lessons

**LEARNING OUTCOMES:**

1. Adapt ground lesson plans and prescribe specific lessons to each recreational, private, and commercial student pilot. (1-11)
2. Critique student pilot maneuvers. (1-11)
3. Outline a series of ground lessons based on differing student levels of experience and aptitude. (1-11)
4. Diagnose student pilot learning problems. (1-11)
5. Develop effective professional relationships with student pilots to improve learning. (1-11)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Aviation Department

**Course Attributes:**  
Creative Thinking (CR)

#### AVT 221 - Flight Instructor Helicopter Flight

**COURSE DESCRIPTION:**

AVT 221. Flight Instructor Helicopter Flight (4). Techniques for giving one-on-one instruction to helicopter student pilots and critiquing student performance. Preparation for Federal Aviation Administration flight instructor helicopter oral and practical test. Prerequisite: AVT 210 and AVT 212. Corequisite: AVT 220. Three lecture. Three lab.

**COURSE CONTENT:**

1. Teaching recreational, private, and commercial preflight preparation and procedures
2. Teaching recreational, private, and commercial airport and heliport operations
3. Teaching recreational, private, and commercial hovering maneuvers
4. Teaching recreational, private, and commercial takeoffs, landings, and go-arounds
5. Teaching recreational, private, and commercial performance maneuvers
6. Teaching recreational, private, and commercial navigation
7. Teaching recreational, private, and commercial emergency operations
8. Teaching recreational, private, and commercial night operations
9. Teaching recreational, private, and commercial post-flight procedures
10. Teaching mountain flying
11. Teaching special operations

**LEARNING OUTCOMES:**

1. Adapt lesson plans and prescribe specific lessons to each recreational, private, and commercial student pilot. (1-11)
2. Critique recreational, private, and commercial student pilot maneuvers. (1-11)
3. Outline a series of recreational, private, and commercial flight lessons based on differing student levels of experience and aptitude. (1-11)
4. Diagnose recreational, private, and commercial student pilot learning problems. (1-11)
5. Develop effective professional relationships with recreational, private, and commercial student pilots to improve learning. (1-11)
6. Model professional behaviors and attitudes to recreational, private, and commercial student pilots. (1-11)

**REQUIRED ASSESSMENT:**

At least one oral exam (2-3 hrs) & a flight exam (1-2 hrs) based on FAA criteria

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Aviation Department

**Course Attributes:**  
Critical Thinking (CT)

#### AVT 225 - Flight Instructor Instrument Airplane Ground

**COURSE DESCRIPTION:**

AVT 225. Flight Instructor Instrument Airplane Ground (2). Instrument pilot teaching techniques utilizing Instrument Flight Rules (IFR) regulatory guidelines. Preparation to take the Federal Aviation Administration (FAA) flight instrument instructor written test and a portion of the oral and practical exam. Prerequisite: AVT 207. Corequisite: AVT 225. Two lecture.

## COURSE CONTENT:

1. IFR regulations
2. Charts and IFR approach procedures
3. Weather charts
4. Flight instrument function
5. Aircraft performance capability
6. Anti-icing systems
7. Preflight checks
8. Aeronautical decision making

## LEARNING OUTCOMES:

1. Apply federal regulations to IFR conditions. (1)
2. Choose instrument charts for navigational use. (2)
3. Evaluate weather charts for cross country planning. (3)
4. Determine function, use, and limitations of the flight instruments required for IFR flights. (4)
5. Predict aircraft performance. (5)
6. Discriminate between the anti-icing measures for the airframe, fuel intake, and propeller/intake systems. (6)
7. Explain pre-flight instrument checks for avionics and navigation. (7)
8. Evaluate aircraft performance capability for time en route and fuel consumption based on wind, power consumption, altitude, and fuel services. (8)

## REQUIRED ASSESSMENT:

FAA written exam.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

**AVT 226 - Flight Instructor Instrument Airplane Flight**

## COURSE DESCRIPTION:

AVT 226. Flight Instructor Instrument Airplane Flight (2). Teaching flying in clouds and poor weather solely by reference to aircraft instruments. Includes teaching in a flight-training device (simulator). Preparation for Federal Aviation Administration (FAA) flight instructor instrument airplane oral and practical test. Corequisite: AVT 225. Two lecture.

## COURSE CONTENT:

1. Instructing fundamentals
2. Teaching technical subject areas
3. Teaching instrument preflight preparation
4. Teaching instrument preflight lessons
5. Teaching air traffic control clearances and procedures
6. Teaching flight by reference to instruments
7. Teaching navigation systems
8. Teaching instrument approach procedures
9. Teaching instrument emergency procedures
10. Teaching instrument post-flight procedures

## LEARNING OUTCOMES:

1. 1. Adapt lesson plans and prescribe specific lessons to individual instrument student pilots. (1-10)
2. Critique instrument student pilot maneuvers. (1-10)
3. Outline a series of instrument flight lessons based on differing student levels of experience and aptitude. (1-10)
4. Diagnose instrument student pilot learning problems. (1-10)
5. Develop effective professional relationships with the instrument pilot students for maximum teaching and learning experiences. (1-10)
6. Model professional behaviors and attitudes to instrument student pilots. (1-10)

## REQUIRED ASSESSMENT:

FAA oral and flight exam.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Aviation Department

**AVT 227 - Air Traffic Control Test Preparation**

## COURSE DESCRIPTION:

AVT 227. Air Traffic Control Test Preparation (1). Preparation for taking the AT-SAT and CTO entrance examinations to the Federal Aviation Administration (FAA) Air Traffic Control Academy in Oklahoma. Prerequisite: AVT 127. One lecture.

## COURSE CONTENT:

1. Air traffic control (ATC) applied math
2. Dial reading
3. Scan
4. Analogies
5. Angles
6. Letter Factory
7. Scenarios

## LEARNING OUTCOMES:

1. Solve math word problems pertaining to ATC. (1)
2. Interpolate ATC dial readings. (2)
3. Determine speed by efficiently interpreting range numbers. (3)
4. Expand vocabulary through ATC analogies. (4)
5. Develop ATC Letter Factory scenarios (6)
6. Practice landing and exiting airplanes at the required speed and altitude required. (7)
7. Determine illusions that different vector lines create and how to avoid them. (5)

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Aviation Department

#### **AVT 230 - Flight Instructor Instrument Helicopter Ground**

##### **COURSE DESCRIPTION:**

AVT 230. Flight Instructor Instrument Helicopter Ground (2). Instrument pilot teaching techniques utilizing Instrument Flight Rules (IFR) regulatory guidelines. Preparation to take the Federal Aviation Administration flight instructor instrument helicopter written test and a portion of the oral and practical exam. Prerequisite: AVT 210. Two lecture.

##### **COURSE CONTENT:**

1. IFR regulations
2. Charts and IFR approach procedures
3. Weather charts
4. Flight instrument function
5. Aircraft performance capability
6. Anti-icing systems
7. Preflight checks
8. Aeronautical decision-making

##### **LEARNING OUTCOMES:**

1. Apply Federal Regulations to IFR conditions. (1)
2. Choose instrument charts for navigational use. (2)
3. Evaluate weather charts for cross-country planning. (3)
4. Determine the function, use, and limitations of the flight instruments required for IFR flights. (4)
5. Predict aircraft performance. (5)
6. Discriminate between the anti-icing measures for the airframe, fuel intake, and propeller/intake systems. (6)
7. Explain preflight instrument checks for avionics and navigation. (7)
8. Evaluate aircraft performance capability for time en route and fuel consumption based on wind, power consumption, altitude, and fuel reserves. (8)

##### **REQUIRED ASSESSMENT:**

Federal Aviation Administration written test.

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Aviation Department

#### **AVT 231 - Flight Instructor Instrument Helicopter Flight**

##### **COURSE DESCRIPTION:**

AVT 231. Flight Instructor Instrument Helicopter Flight (2). Teaching flying in clouds and poor weather solely by reference to aircraft instruments. Includes teaching in a flight-training device (simulator). Preparation for Federal Aviation Administration flight instructor instrument helicopter oral and practical test. Corequisite: AVT 230. One lecture. Three lab.

##### **COURSE CONTENT:**

1. instructing fundamentals
2. Teaching technical subject areas
3. Teaching instrument preflight preparation
4. Teaching instrument preflight lessons
5. Teaching air traffic control clearances and procedures
6. Teaching flight by reference to instruments
7. Teaching navigation systems
8. Teaching instrument approach procedures
9. Teaching instrument emergency operations
10. Teaching instrument post-flight procedures

##### **LEARNING OUTCOMES:**

1. Adapt lesson plans and prescribe specific lessons to individual instrument student pilots. (1-10)
2. Critique instrument student pilot maneuvers. (1-10)
3. Outline a series of instrument flight lessons based on differing student levels of experience and aptitude. (1-10)
4. Diagnose instrument student pilot learning problems. (1-10)
5. Develop effective professional relationships with instrument pilot students for maximum teaching and learning experiences. (1-10)
6. Model professional behaviors and attitudes to instrument student pilots. (1-10)

##### **REQUIRED ASSESSMENT:**

At least one oral exam (2-3 hrs) & a flight exam (1-2 hrs) based on FAA criteria.

2.000 Credit hours  
 1.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Aviation Department

**Course Attributes:**  
 Oral Communication (OC)

**AVT 235 - Airplane Pilot Preventative Maintenance****COURSE DESCRIPTION:**

AVT 235. Airplane Pilot Preventative Maintenance (1). Basic airplane maintenance theory, documentation, and standard industry practices to return an aircraft to service in accordance with Federal Aviation Administration (FAA) standards. Emphasis on maintenance tasks that pilots are authorized to perform on airplanes. Prerequisite: AVT 107. One-half lecture. One and one-half lab.

**COURSE CONTENT:**

1. Federal Aviation Administration (FAA) maintenance regulations
2. Industry standard maintenance practices
3. Airplane specific maintenance procedures
4. Use of common hand tools
5. Recording aircraft maintenance
6. Tool safety and chemical hazards

**LEARNING OUTCOMES:**

1. Replace bulbs, reflectors, and lenses of position and landing lights. (1-6)
2. Replace defective safety wiring or cotter keys. (1-6)
3. Replenish hydraulic fluid in the hydraulic reservoir. (1-6)
4. Replace or service and gap spark plugs. (1-6)
5. Clean or replace fuel and oil strainers or filter elements. (1-6)
6. Remove, check, and replace wheels and tires. (1-6)
7. Update self-contained navigational software data bases. (1-6)
8. Replace and service batteries. (1-6)

1.000 Credit hours  
0.500 Lecture hours  
1.500 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Aviation Department

**Course Attributes:**

Creative Thinking (CR)

**AVT 240 - Helicopter Pilot Preventative Maintenance****COURSE DESCRIPTION:**

AVT 240. Helicopter Pilot Preventative Maintenance (1). Basic helicopter maintenance theory, documentation, and standard industry practices to return an aircraft to service in accordance with Federal Aviation Administration standards. Emphasis on maintenance tasks that pilots are authorized to perform on helicopters. Prerequisite: AVT 110. One-half lecture. One and one-half lab.

**COURSE CONTENT:**

1. FAA maintenance regulations
2. Industry standard maintenance practices
3. Helicopter specific maintenance procedures
4. Use of common hand tools
5. Recording aircraft maintenance
6. Tool safety and chemical hazards

**LEARNING OUTCOMES:**

1. Replace bulbs, reflectors, and lenses of position and landing lights. (1-6)
2. Replace defective safety wiring or cotter keys. (1-6)
3. Replenish hydraulic fluid in the hydraulic reservoir. (1-6)
4. Replace or service and gap spark plugs. (1-6)
5. Clean or replace fuel and oil strainers or filter elements. (1-6)
6. Remove, check, and replace magnetic chip detectors. (1-6)
7. Update self-contained navigational software data bases. (1-6)
8. Replace and service batteries. (1-6)

**REQUIRED ASSESSMENT:**

At least one oral exam & 8 lab exercises.

1.000 Credit hours  
0.500 Lecture hours  
1.500 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Aviation Department

**AVT 245 - Dispatch Operations II****COURSE DESCRIPTION:**

AVT 245. Dispatch Operations II (3). Intermediate flight dispatcher operations. Includes instrument procedures, weight and balance, charts, traffic management, aircraft limitations and performance. Prerequisite: A. Three lecture.

**COURSE CONTENT:**

1. Instrument procedures
2. Weight and balance
3. Aeronautical publications
4. Meteorology for dispatchers
5. Minimum Equipment Lists (MELs) and Configuration Deviation Lists (CDLs)
6. Holding procedures
7. Traffic management
8. Emergency and abnormal procedures
9. Aircraft limitations
10. Performance

## 11. Fuel requirements

## LEARNING OUTCOMES:

1. Summarize instrument and holding procedures. (1,6)
2. Generate weight and balance and performance calculations. (2,10)
3. Calculate fuel requirements. (11)
4. Review aeronautical publications and aircraft limitations. (3,9)
5. Review meteorology and charts (MELs/CDLs). (4,5)
6. Explain air traffic management concepts and strategies. (7)
7. List emergency and abnormal procedures. (8)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

**AVT 246 - Dispatch Operations III**

## COURSE DESCRIPTION:

AVT 246. Dispatch Operations III (3). Advanced flight dispatcher operations. Includes practical applications of dispatching, flight planning, briefing techniques, and dispatch release. Final preparation for the Flight Dispatcher written test and oral/practical test. Prerequisite: AVT 245. Two lecture. Three lab.

## COURSE CONTENT:

1. Applied dispatching
2. Flight plans
3. Decision making
4. Briefing techniques
5. Pre-flight actions
6. Flight documentation
7. Dispatch release
8. In-flight operational control
9. Information exchange
10. Post-flight actions

## LEARNING OUTCOMES:

1. Create a complete set of dispatch documents and brief as required by Federal Aviation Administration (FAA) Part 121 to FAA oral/practical test standards. (1-10)
2. Use decision making skills and briefing techniques in a dispatch scenario. (3,4)
3. List flight documents, pre-flight actions, and post-flight actions required of a flight dispatcher. (5,6,10)
4. Construct a typical FAA regulation Part 121 flight plan. (2)
5. Diagram dispatch release, in-flight operational control, and information exchange as it occurs during a typical scheduled airline flight. (7-9)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Aviation Department

## Course Attributes:

Quantitative Lit (QL)

**AVT 247 - Flight Service Specialist**

## COURSE DESCRIPTION:

AVT 247. Flight Service Specialist (3). Advanced skill sets needed for employment as a Flight Service Specialist. Proficiencies include providing information to pilots such as weather, hazardous phenomena, and NOTAMS ("Notice to Airmen"). Additional skills comprise situational awareness of weather, processing flight plans, initiating search and rescue, communications techniques, and handling emergency situations. Prerequisite: GEO 212. Two lecture. Three lab.

## COURSE CONTENT:

1. En route and terminal weather and hazardous phenomena
2. Aeronautical information pertinent to route of flight
3. NOTAMS and delays
4. Judgement
5. Situational awareness of weather via alphanumerical and graphical displays
6. In-flight communications techniques
7. Handling emergency situations and pilot requests for assistance

## LEARNING OUTCOMES:

1. Generate weather, hazardous phenomena, and aeronautical briefings for pilots. (1-3)
2. Describe NOTAM applicability and delays. (3)
3. Employ sound judgment under simulated emergencies. (4,5,7)
4. Predict weather impacts on flights. (3)
5. Recommend procedures during search and rescue and emergency scenarios. (5,7)
6. Choose in-flight communications techniques. (6)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Aviation Department



**Course Attributes:**  
Critical Thinking (CT)

#### **AVT 260 - Fundamentals of Instruction**

**COURSE DESCRIPTION:**

AVT 260. Fundamentals of Instruction (1). Instructional strategies and planning, communications, student evaluation, the learning process and instructor responsibilities. Prerequisite: Admission to program. One lecture.

**COURSE CONTENT:**

1. Learning process and human behavior
2. Effective communication
3. Instructional critique and evaluation
4. Instructor responsibilities
5. Instructional planning

**LEARNING OUTCOMES:**

1. Explain the components of the learning process. (1)
2. Describe human behavior based on control, needs, defense mechanisms, and the instructor's role in relations. (1)
3. Describe the barriers and basic elements of the communication process. (1,2)
4. Identify basic preparation, evaluation, and presentation techniques for effective instruction. (3,5)
5. Describe the purpose and characteristics of critique. (3)
6. Identify use and theory of instructional aides in the classroom. (1,3,5)
7. Prepare evaluation examinations including written, oral and performance based. (3,5)
8. Describe the basic responsibilities of the instructor. (4)

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

**Course Attributes:**

Civic Engagement (CE), Diversity (DA), Written Comm (WC)

#### **AVT 261 - Advanced Aviation Meteorology**

**COURSE DESCRIPTION:**

AVT 261. Advanced Aviation Meteorology (4). Advanced weather and forecasting with application to flight. Includes detailed applications of meteorological functions as applied to aviation. Jet streams, air masses, fronts, thunderstorms and their effects on aviation. Advanced weather observations, prediction and charting applications. Prerequisite: Admission to program and GEO 212. Four lecture.

**COURSE CONTENT:**

1. Aviation weather service programs with the National Oceanic and Atmospheric Administration (NOAA) and National Weather Service
2. Aviation weather product classification and policy
3. Observed products
4. Radar and satellite imagery
5. Graphical observations and derived products
6. Products for aviation hazards
7. Forecast products covering issuance, standardization, amendments, corrections, responsibilities and minimums
8. Forecast charts for short-range surface prognostics, mid-level and high-level significant weather charting
9. Meteorological tools and weather monitoring

**LEARNING OUTCOMES:**

1. Describe weather programs and their functions within the aviation system on a regional and global scale. (1)
2. Identify and interpret classifications, policies and sources as they pertain to the aviation weather industry. (2-9)
3. Describe and explain the application of tools used in forecasting and determining weather outcomes with accuracy. (4-9)
4. Apply the tools and their effective uses such as radar and satellite imagery, observations, charts, advisories and monitoring devices. (1-9)
5. Determine weather prognostications with accuracy. (7)
6. Describe instrument, approach and landing procedures. (2)
7. Classify airspace. (3)
8. Correctly pronounce ATC communication phraseology. (4)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

#### **AVT 280 - Upset Recovery Training**

**COURSE DESCRIPTION:**

AVT 280. Upset Recovery Training (1). Advanced flight training to include basic upset scenarios, aircraft control in abnormal flight altitudes, and spin recover procedures. Prerequisite: Admission to program and AVT 207. Two lab.

**COURSE CONTENT:**

1. Upset scenarios
2. National Transportation Safety Board (NTSB) accident data
3. Maneuvering an aircraft in non standard flight
4. Spins

**LEARNING OUTCOMES:**

1. Define an aircraft upset. (1)
2. Recognize and correct an aircraft upset. (2-4)
3. Explain aircraft situational awareness and show control of an aircraft in the context of complex operational environments. (2-4)

4. Perform proper spin recovery techniques. (4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

#### **AVT 281 - Commercial Single Engine Seaplane Training**

##### COURSE DESCRIPTION:

AVT 281. Commercial Single Engine Seaplane Training (1). Advanced flight training to include seaplane operations, seaplane characteristics, water operations and water regulations. Prerequisite: Admission to program and AVT 206. Two lab.

##### COURSE CONTENT:

1. Preflight procedure
2. Water and seaplane characteristics
3. Water takeoffs
4. Water landings
5. Maneuvering an aircraft on water
6. Emergency operations
7. Post-flight operations

##### LEARNING OUTCOMES:

1. Determine if an airplane is airworthy prior to flight. (1)
2. Identify water conditions and water hazards. (2-5)
3. Operate a seaplane on water in varying conditions. (2-5)
4. Employ proper procedures for beaching and docking. (5)
5. Employ appropriate responses to simulated emergencies. (6)
6. Accomplish aircraft and engine shutdown procedures. (7)

##### REQUIRED ASSESSMENT:

1. FAA Practical Test.

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

#### **AVT 282 - High Altitude CRM Training**

##### COURSE DESCRIPTION:

AVT 282. High Altitude CRM Training (1). Advanced flight training to include high altitude operations and fundamentals of crew resource management (CRM) with a two pilot crew. Prerequisite: Admission to program and AVT 207 Two lab.

##### COURSE CONTENT:

1. Preflight procedures
2. High altitude flight planning and weather
3. High altitude flight operations
4. Crew resource management (CRM) principles
5. Aircraft operations as a crew
6. Emergency operations
7. Post-flight operations

##### LEARNING OUTCOMES:

1. Determine if an airplane is airworthy prior to flight. (1)
2. Calculate aircraft performance for a large aircraft. (1-5)
3. Analyze weather information and apply to flight considerations. (1-4)
4. Operate aircraft at high altitude (above FL250). (3-7)
5. Generate and execute a high altitude flight plan. (1,2,4,5)
6. Incorporate CRM into all phases of flight. (1-7)
7. Employ appropriate responses to simulated emergencies. (4,5,7)
8. Accomplish aircraft and engine shutdown procedures. (5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

#### **AVT 283 - Night Vision Goggles Helicopter Flight Operations**

##### COURSE DESCRIPTION:

AVT 283. Night Vision Goggles Helicopter Flight Operations (3). Fundamentals of helicopter night vision goggle flight operations. Components, functions, operation and use of night vision goggles under variable conditions. Prerequisite: Admission to program and AVT 212. One lecture. Six lab.

##### COURSE CONTENT:

1. Night vision goggle (NVG) system
2. NVG functions, limitations and operator-level maintenance
3. NVG visual limitations and illusions

4. Terrain identification and interpretation during night flight
5. Visual restrictions
6. Environmental factors

## LEARNING OUTCOMES:

1. Identify components, capabilities, functions and operations of the night vision goggle (NVG) system. (1,2)
2. Explain functions of components, operations and limitations of NVGs. (2)
3. Describe use, applications and maintenance of NVGs. (4,5)
4. Operate NVGs with proficiency. (4,5)
5. Identify effects of visual limitations during night flight under various conditions. (3-5)

Required Assessment Measure: At least one flight exam (1-2 hrs).

3.000 Credit hours  
1.000 Lecture hours  
6.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture

Career & Technical Education Division  
Aviation Department

### AVT 284 - 135 Helicopter Operations and Flight

## COURSE DESCRIPTION:

AVT 284. 135 Helicopter Operations and Flight (3). Rules, operating limitations, and procedures for Federal Aviation Administration (FAA) Part 135 helicopter operations. Emphasis placed on helicopter flying in tour operations. Compliance, safety, and procedures for professional helicopter pilots flying 135 operations. Prerequisite: Admission to program and AVT 212. One-half lecture. Seven and one-half lab.

## COURSE CONTENT:

1. 135 regulations
2. Pilot qualifications and training requirements
3. Flight crew flight time and duty day requirements
4. Operating limitations
5. Hazardous materials
6. Tour operations
7. Emergencies
8. Special equipment
9. 135 manual requirements

## LEARNING OUTCOMES:

1. Choose applicable 135 regulations. (1,5,9)
2. Select applicable pilot qualifications and training requirements. (2,3)
3. Define hazardous materials and special equipment criteria. (4,5,8)
4. Review typical tour operations, operating limitations and related emergencies. (4,6,7)

3.000 Credit hours  
0.500 Lecture hours  
7.500 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Aviation Department

### AVT 285 - Advanced Turbine Helicopter Flight

## COURSE DESCRIPTION:

AVT 285. Advanced Turbine Helicopter Flight (3). Advanced turbine helicopter flight operations. Includes turbine engine systems, cockpit resource management, and performance parameters and limitations. Prerequisite: Admission to program and AVT 212. One lecture. Six lab.

## COURSE CONTENT:

1. Advanced turbine engine systems
2. Flight characteristics of helicopter turbine engines
3. Cockpit resource management
4. Performance parameters of the engine/drive train systems
5. Performance limitations, weight and balance, pre-flight and normal and emergency procedures.

## LEARNING OUTCOMES:

1. Identify the internal systems and functions of the turbine helicopter engine. (1,2,4)
2. Describe in detail how turbine systems perform under various conditions and environments. (1,2,4,5)
3. Perform and integrate, with accuracy, weight and balance, pre-and post-flights, and start-up procedures. (4,5)
4. Reproduce maneuvers, takeoffs, approaches and landings to include emergency procedures and autorotation. (4,5)
5. Identify crew resource management components and scenarios along with best outcomes. (3)

## REQUIRED ASSESSMENT:

1. At least one flight exam (1-2hrs).

3.000 Credit hours  
1.000 Lecture hours  
6.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Aviation Department

### AVT 286 - Long Line Helicopter Flight Operations

**COURSE DESCRIPTION:**

AVT 286. Long Line Helicopter Flight Operations (3). Fundamentals of long line (vertical reference) helicopter flight operations. Preflight (lines, remote hook, swivel, nets, etc.) equipment, weight and balance, load factors, mission parameters and forecasting. Includes long line flying. Prerequisite: Admission to program and AVT 212. One lecture. Six lab.

**COURSE CONTENT:**

1. Basic procedures with vertical loads, lines, hooks, baskets
2. Functions, limitations and procedures based on safety and efficiency
3. Various conditions, environments and subsequent impact
4. Performance planning for environment and aircraft
5. Common and uncommon hazards

**LEARNING OUTCOMES:**

1. Explain operations for safe, efficient and proficient long line operations. (1,2)
2. Identify issues pertaining to various settings and environments to optimize safety and success. (2)
3. Describe components and variables in a long line mission from evaluation and pre-flight planning to post mission briefing. (2,3)
4. Choose best procedures in variable settings under multiple scenarios. (2,3)
5. Produce accurate and proficient performance plans. (4)
6. Identify common and uncommon hazards and procedures addressing best practice. (5)

**REQUIRED ASSESSMENT:**

1. At least one flight exam (1-2hrs).

3.000 Credit hours  
1.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture

Career & Technical Education Division  
Aviation Department

**AVT 290 - Commercial/Instrument Pilot Airplane Flight Transition****COURSE DESCRIPTION:**

AVT 290. Commercial/Instrument Pilot Airplane Flight Transition. (6) Advanced Airplane flight operations and navigation including mountain flying techniques for students who are crossing over from helicopter and have obtained a commercial helicopter rating. Preparation for Federal Aviation Administration commercial pilot oral and practical test. Prerequisite: AVT . Two and one-half lecture. Eleven and one-half lab.

**COURSE CONTENT:**

1. Preflight procedures
2. Airplane flight maneuvers
3. Takeoffs, landings, and go-arounds
4. Performance maneuvers
5. Air traffic control clearances and procedures
6. Flight by reference to instruments
7. Navigation systems
8. Instrument approach procedures
9. Instrument emergency operations
10. Instrument post-flight procedures
11. Post-flight procedures

**LEARNING OUTCOMES:**

1. Validate airplane worthiness with simulated discrepancies. (1)
2. Predict aircraft performance under adverse and abnormal conditions. (1-4)
3. Evaluate weather information as it applies to complex and atypical flight scenarios. (1)
4. Differentiate between procedures used during multiple airplane configurations. (2-4)
5. Use basic instrument flight maneuvers and criteria. (6,8,9)
6. Optimize use of radio navigation aids. (7)
7. Employ appropriate responses to instrument emergencies. (10)
8. Verify condition of aircraft after engine shutdown. (11)

**REQUIRED ASSESSMENT:**

1. FAA oral exam and check ride.

6.000 Credit hours  
2.500 Lecture hours  
11.500 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Aviation Department

**AVT 299 - Independent Study Aviation****COURSE DESCRIPTION:**

AVT 299. Independent Study Aviation (1-6) (Fall). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal

skills; initiative and follow-through.

6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.

7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours

0.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Career & Technical Education Division

Aviation Department

### BIO 100 - Biology Concepts

#### COURSE DESCRIPTION:

BIO 100. Biology Concepts (4). Basic principles and concepts of biology. Methods of scientific inquiry, energetics and metabolism, genetics, evolution and natural selection. Not for majors in the biological or preprofessional sciences. Duplicate credit for BIO 100 and BIO 156 will not be awarded. Prerequisite: Reading Proficiency. Three lecture. Three lab.

#### COURSE CONTENT:

1. Characteristics of life
2. Scientific Method
3. Basic chemistry and biological macromolecules
4. Cellular structure and function
5. Energy and Enzymes
6. Photosynthesis
7. Cellular respiration
8. The cell cycle
9. Genetics
10. Gene expression
11. Evolution and natural selection
12. Survey of kingdoms
13. Written analyses of scientific information
14. Data collection and analysis
15. Light microscopy

#### LEARNING OUTCOMES:

1. Describe the characteristics of life. (1)
2. Apply the scientific method in problem solving. (2) (PBS 1-3)
3. Describe the basic chemistry of life. (3)
4. Describe the structure and function of the four main types of biological macromolecules. (3)
5. Identify and describe the function of the parts of a typical cell. (4)
6. Describe the properties of enzymes and their relation to cellular metabolism. (5)
7. Explain the fundamental processes of photosynthesis. (6)
8. Explain the fundamental processes of cellular respiration. (7)
9. Describe the biological processes of cell division including the cell cycle, mitosis, and meiosis. (8)
10. Solve mendelian and nonmendelian genetics problems. (9)
11. Describe the fundamental processes of gene expression. (10)
12. Describe the scientific evidence for evolution and the role of natural selection. (11) (PBS 1-3)
13. Explain the evolutionary patterns of multicellular life. (12)
14. Conduct experiments, observe biological phenomena, record and analyze data in written form. (13,14) (PBS 1-3)
15. Use a light microscope to examine cells and cell structures. (4,15)

4.000 Credit hours

3.000 Lecture hours

3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division

Biological Sciences Department

#### Course Attributes:

Physical & Biol Science (AGEC), Scientific (SL)

### BIO 103 - Plant Biology

#### COURSE DESCRIPTION:

BIO 103. Plant Biology (4). Introduction to the growth, development, reproduction, and structure of vascular plants. Fundamental activities of plants including photosynthesis and respiration. Emphasis on agricultural and horticultural crops of Arizona. This course is cross-listed with AGS 103. Prerequisite: Reading Proficiency Three lecture. Three lab.

#### COURSE CONTENT:

1. Classification of plants
2. Cell structures of plants
3. Cellular activity of plants
4. Chemical activity of plants
5. Mitosis and Meiosis
6. Plant tissues
7. Vegetative components
8. Plant growth improvement
9. Plant propagation
10. Plant growth environments
11. Economic and ecological importance
12. The scientific method

#### LEARNING OUTCOMES:

1. Use scientific reasoning to evaluate physical and natural phenomena. (2, 3, 4, 5, 7, 8, 10, 12) (PBS 3)
2. Identify the unifying themes of the scientific field of study. (2, 3, 4, 5, 7, 8, 10, 12) (PBS 1)
3. Interpret the numerical and/or graphical presentation of scientific data. (12) (PBS 2)
4. Use the tools and equipment necessary for basic scientific analysis and research. (9, 12) (PBS 2)
5. Record the results of investigation through writing. (3, 4, 10, 12) (PBS 2)

6. Discuss the role of plants in the living world. (10)
7. Classify and name plants (1)
8. Compare monocots and dicots. (1, 7, 9)
9. Describe the plant cell structure. (2)
10. Describe cellular activity during meiosis. (3)
11. Explain the process and implications of mitosis and meiosis. (5)
12. Differentiate between various plant tissues. (6)
13. Identify the components of roots, stems, flowers, and leaves. (7)
14. Describe the origin and domestication of cultivated plants. (8)
15. Identify basic concepts in plant improvement. (8) (PBS 2)
16. Distinguish between effective and ineffective plant propagation methods for specific plants. (9)
17. Summarize vegetative and reproductive growth and development principles. (7, 10, 12)
18. Identify the properties of photosynthesis, respiration, and translocation in vascular plants. (4)
19. Identify the physical and chemical properties of soil and soil water. (10)
20. Discuss the climactic factors affecting plant growth. (10)
21. Identify major economic crops in Arizona. (11)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Biological Sciences Department

Course Attributes:

Physical & Biol Science (AGEC), Scientific (SL)

### [BIO 105 - Environmental Biology](#)

COURSE DESCRIPTION:

BIO 105. Environmental Biology (4). Introduction to ecological systems, natural resources, and applications to environmental issues. Includes population, community, and ecosystem analysis. Emphasis on field, laboratory, and writing activities. This course is cross-listed with ENV 105. Prerequisite: Reading Proficiency. Three lecture. Three lab.

COURSE CONTENT:

1. Interactions of individual organisms with the physical environment
2. Interactions of individuals and populations with the biological environment
3. Energy flow through communities and ecosystems
4. Factors affecting global distribution of climate
5. Characteristics of the major biomes
6. Interaction between humans and the environment
7. Field data collection techniques
8. Recording data and observations
9. Interpretation of data
10. Elementary statistics
11. Biogeochemical cycles
12. Population variation, adaptations, and natural selection
13. Island biogeography and conservation applications

LEARNING OUTCOMES:

1. Describe the adaptations of organisms to the physical environment. (1)
2. Describe intra and inter specific competition, and other types of interactions between individuals and populations. (2)
3. Describe and graph exponential and logistic population growth. (2) (PBS 1,2)
4. Describe the flow of energy through ecosystems emphasizing trophic levels and food webs. (3)
5. Describe the processes generating climatic zones on the Earth. (4)
6. Correlate biomes with climate patterns (4,5)
7. List the physical and biotic characteristics of the major biomes (5)
8. Describe interactions between hunter-gatherer, pastoral, agrarian, and industrial societies and the environment. (6)
9. Collect quantifiable data using various field methods. (7,8) (PBS 2)
10. Analyze data using graphical and statistical methods. (9,10) (PBS 2,3)
11. Describe the major biogeochemical cycles including water, carbon, and nitrogen. (11)
12. Describe the basic mechanisms and conditions affecting populations with respect to evolution and natural selection. (12) (PBS 1-3)
13. Describe the influence of area, distance, and other factors in predicting species diversity. (13)(PBS 2)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
Biological Sciences Department

Course Attributes:

Physical & Biol Science (AGEC), Scientific (SL)

### [BIO 107 - Introduction to Biotechnology](#)

COURSE DESCRIPTION:

BIO 107. Introduction to Biotechnology (4). Introduction to biotechnology and its global impact on society. Covers applications, laboratory techniques, limitations and international economic benefits, risks and legal and moral issues associated with biotechnology. Prerequisite: Reading Proficiency. Three lecture. Three lab.

COURSE CONTENT:

1. Biotechnology in society
2. Organisms used in biotechnology
3. Measurement
4. DNA structure and function
5. Protein structure and function
6. Producing recombinant products
7. Marketing biotechnology products

8. Plant biotechnology
9. Medical biotechnology
10. Opportunities in biotechnology
11. Global application of biotechnology

## LEARNING OUTCOMES:

1. Define the term "biotechnology," and discuss its applications and impact on society from ancient times to the present. (1) (PBS 1)
2. Define, describe and utilize macromolecules relevant to biotechnology. (4, 5) (PBS 2)
3. Analyze the physical properties of deoxyribonucleic acid (DNA) and explain its uses in biotechnology. (4)
4. Purify DNA. (3, 4)
5. Determine the identity of a DNA sample, using restriction digestion and mapping. (4) (PBS 3)
6. Explain the concept of gene expression, recombinant DNA methodology, cloning, and genetic engineering. (3, 6)
7. Use model organisms relevant to biotechnological applications. (2, 6)
8. Describe, explain, and apply biotechnology in forensics. (11) (PBS 2)
9. Explain the uses of biotechnology in pharmaceutical development and medicine, and its worldwide applications. (7-11)
10. Discuss the history and global advantages and disadvantages of genetic engineering used in agriculture. (8)
11. Describe and debate the international regulations on genetically modified foods and organisms. (8)
12. Use model organisms to illustrate "bioremediation" and explain the advantages and disadvantages of applying biotechnological solutions to global environmental problems. (11)
13. Describe biological weapons and explain their impact on public health. (11)
14. Describe and explain how the discovery and research of novel organisms contributes to the advancement of biotechnology. (2)
15. Define "bioinformatics." (10)
16. Trace and debate the worldwide economic, moral, ethical, and legal issues surrounding biotechnology. (10, 11)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Lab, Lecture

Sciences, Health & Public Safe Division  
Mathematics Department

## Course Attributes:

Physical &amp; Biol Science (AGEC), Scientific (SL)

**BIO 108 - Concepts in Plant Biology**

## COURSE DESCRIPTION:

BIO 108. Concepts in Plant Biology (4). Principles of plant biology with an emphasis on human relevance including plants as a source of food, fiber, medicine, and other commercially important uses. Not for majors in the biological or preprofessional sciences. Prerequisite: Reading Proficiency. Three lecture. Three lab.

## COURSE CONTENT:

1. Methods of scientific inquiry
2. The plant cell
3. Plant anatomy and physiology
4. Life cycle of flowering plants
5. Systematics and survey of plant kingdom
6. Plants as a source of food
7. Agriculture and the food demands of society
8. Plant beverages, herbs, and spices
9. Cloth, paper, and wood products
10. Medicinal plants
11. Psychoactive plants
12. Poisonous and allergy plants
13. Fungi and human affairs

## LEARNING OUTCOMES:

1. Describe and utilize the scientific method. (1) (PBS 1)
2. Identify the parts of a typical plant cell and describe their function and structure. (2) (PBS 2)
3. Identify and describe basic plant anatomy and physiology. (3) (PBS 2,3)
4. Describe the biological processes involved in basic plant physiology. (3)
5. Identify and describe fundamental life cycles of flowering plants. (4) (PBS 2)
6. Describe the fundamental processes of photosynthesis and related energy transformations, enzymes, and cell structures. (2,3)
7. Describe and analyze agricultural relationships and society. (6,7) (PBS 3)
8. Describe and analyze various plant products. (7,8,9) (PBS 2,3)
9. Describe the biological processes involved in medicinal and psychoactive plants. (10,11,13)
10. Describe the biological processes involved in poisonous and allergenic plants. (12)
11. Identify the major groups of plants and basic anatomic characteristics and evolutionary relationships. (3,5)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Biological Sciences Department

## Course Attributes:

Physical &amp; Biol Science (AGEC), Scientific (SL)

**BIO 109 - Natural History of the Southwest**

## COURSE DESCRIPTION:

BIO 109. Natural History of the Southwest (4). Biological history of plants and animals of major biotic communities in the Southwest with special emphasis on Arizona. Prerequisite: Reading Proficiency. Three lecture. Three lab.

## COURSE CONTENT:

1. Scientific method
2. Physical and historical environment of Arizona: climate, geography, and geology
3. Physiological ecology

4. Population ecology
5. Community ecology
6. Arizona habitats and ecosystems
7. Fossils and ancient life in Arizona
8. Biogeography of Arizona
9. Animal behavior
10. Natural history
11. Written analysis
12. Sampling techniques and ecological methods
13. Data analysis

## LEARNING OUTCOMES:

1. Use the scientific method and reasoning to evaluate ecological concepts. (1, 12) (PBS 1)
2. Examine and critically analyze significant and representative ecological interpretations. (3-6, 8)
3. Identify the unifying themes of ecology applied to organism, population, community, and ecosystem levels. (3-9, 12)
4. Evaluate the natural diversity within the Southwest and the ecological communities that reside in it. (2,6,7,8)
5. Define general ecology as a foundation for the issues specific to the Southwest. (3-9)
6. Classify plants and animals and their geographical range. (2,6-8,10) (PBS 2)
7. Record the results of investigation through writing and field note taking, basic interpretation, critical thinking, and problem solving. (11-13) (PBS 2, 5)
8. Describe and discuss geology, geography and ecology of the Southwest. (2-10)
9. Use the tools and equipment for basic scientific analysis and research in field biology. (12) (PBS 2)
10. Investigate basic sampling techniques for plants and animals and evaluate mathematical results using quantitative analysis. (12) (PBS 3)
11. Interpret the numerical and/or graphical presentation of biological field data. (13) (PBS 3)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Biological Sciences Department

## Course Attributes:

Physical &amp; Biol Science (AGEC), Scientific (SL)

**BIO 117 - Birds of the Region I**

## COURSE DESCRIPTION:

BIO 117. Birds of the Region I (3). Study of local birds including identification, behavior and ecology. Two lecture. Three lab.

## COURSE CONTENT:

1. Techniques of bird identification and field observation
2. Sight and sound identification
3. Plant communities of Arizona
4. Life histories of local birds
5. Feathers and Flight
6. Diet and Feeding Methods
7. Vocal Communication
8. Anatomy and Physiology
9. Migration and Navigation
10. Local areas for birding
11. Resources available for bird study

## LEARNING OUTCOMES:

1. Identify by sight and sound the common birds of Arizona.
2. Explain the life histories of some of the common birds in the local area.
3. Explain how a bird is constructed and how it functions
  - a. Avian anatomy
  - b. Physiological systems
  - c. Feathers and flight
  - d. Vocalization
  - e. Diet and Feeding habits.
  - f. migration and navigation
4. Describe the plant communities (habitat types) of Arizona
5. Locate and identify birds in their natural habitats.
6. Investigate literature and other sources concerning birds.
7. Identify areas suitable for bird observation and research around the central Arizona area.

3.000 Credit hours  
 2.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Biological Sciences Department

**BIO 118 - Birds of the Region II**

## COURSE DESCRIPTION:

BIO 118. Birds of the Region II (3). Expanded study of local birds with emphasis on behavior, the life cycle, including growth, development, and reproduction. Two lecture. Three lab.

## COURSE CONTENT:

1. Life histories of local birds not covered in Birds of the Region I
2. Sight and sound identification
3. Bird family characteristics
4. Bird Behavior
  - a. Maintenance behavior
  - b. Social behavior
5. Life Cycle



- a. Courtship
- b. Nesting
- c. Eggs
- d. Development of young
6. Plumage and molt
7. Field techniques for bird observation and study

## LEARNING OUTCOMES:

1. Identify by sight and sound some of the common birds of central Arizona.
2. Explain the life histories of some of the common birds in the local area.
3. Describe characteristics of avian families represented in central Arizona.
4. Examine and explain various bird behaviors.
5. Locate and identify birds in their natural habitats.
6. Explain the reproductive cycle in birds: courtship, nesting, egg-laying, and caring for the young.
7. Apply field observation and identification skills.

3.000 Credit hours  
 2.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Biological Sciences Department

**BIO 119 - Field Study of Southwestern Birds:**

## COURSE DESCRIPTION:

BIO 119. Field Study of Southwestern Birds (2). Study of birdlife in selected areas of the southwestern United States. Emphasis on vegetative communities, bird habitats, and avian specialties. Prerequisite: BIO 117. One lecture. Three lab.

## COURSE CONTENT:

1. Selected area
  - A. Introduction
    1. Location
    2. Topography
    3. History
  - B. Plant communities
    1. vegetation
    2. representative bird species
      2. Avian species accounts
        - A. Common species
          1. adaptations to lifestyle
          2. food preferences and foraging behavior
        3. breeding habits
          - B. Distribution
            1. range
            2. season
    - C. Area Specialties
      1. adaptations to lifestyle
      2. food preference and foraging behavior
      3. breeding habits
      4. migration
    - D. Distribution.
      1. range
      2. season

## LEARNING OUTCOMES:

1. Describe the area's vegetative communities and bird habitats.
2. Explain the presence of the area's bird species.
3. Identify birds common to the area.
4. Describe life histories of local species including adaptations, habitats, diet, feeding habits, courtship and nesting behavior, and seasonal movements.
5. Describe the selected locations topography and history.

2.000 Credit hours  
 1.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Biological Sciences Department

**BIO 135 - Extraterrestrial Life**

## COURSE DESCRIPTION:

BIO 135. Extraterrestrial Life (2).A scientific approach to the definition and search for life in the universe combined with a historical and popular culture perspective on this topic. Two lecture.

## COURSE CONTENT:

1. Science and critical thinking
2. Non-falsifiable data: UFOs
3. Aliens in myth and history
4. Attacking Mars
5. Extraterrestrials in popular culture
6. Characteristics and minimum requirements of life
7. Near life, viruses, and exotic life
8. Chemistry of life and speculations for extraterrestrial life
9. Goldilock's zones, planetary habitats and extremophiles
10. Talking with ET: the Drake equation and modifications
11. Origins for life

12. Evolution and the history of life on Earth
13. Cosmic scales: time, space and evolution
14. Alien ecologies and the laws of energy
15. Scientific searches for life beyond Earth

## LEARNING OUTCOMES:

1. Evaluate claims of extraterrestrial life using science and critical thinking. (1, 2)
2. Compare and contrast perspectives between literature, film, popular culture, and science as they relate to extraterrestrial life, and describe the impact of these on a personal level. (2-5)
3. Outline the steps and difficulties required of the scientific community to substantiate evidence of life beyond Earth. (1, 2, 4, 7, 9, 10, 13, 15)
4. Evaluate the characteristics of life on Earth to determine which would be found elsewhere. (1, 6, 7)
5. Analyze difficulties in communicating with extraterrestrials and non-humanoid terrestrial animals. (1, 10)
6. Illustrate how both science and fiction have altered our perceptions of Mars and the possibility of Martians. (4, 5, 15)
7. Articulate the ramifications of human contact with extraterrestrials and future possibilities of humanity in the universe. (5, 10, 15)
8. Define life and evaluate variations that could apply as life on Earth and elsewhere. (1, 6)
9. Discuss the possible origins of life on Earth and how these conditions may be replicated elsewhere. (11)
10. Summarize the importance of chemistry, heredity, metabolism, and energy to life on Earth and evaluate whether these may be the same elsewhere in the universe. (6, 8, 14)
11. Discuss the basic processes of evolution and the history of life on Earth and what this indicates about life elsewhere. (12)
12. Describe the scales of time and space in the cosmos and its bearing on life in the universe. (13)
13. Evaluate the potential for the rarity or commonness of life in the universe. (9, 10)
14. Identify current and future scientific searches and indications for extraterrestrial life. (15)
15. Describe how ecological principles could relate to an alien biosphere. (14)
16. Explain convergent evolution and its implications for extraterrestrial life. (12)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Sciences, Health & Public Safe Division  
 Biological Sciences Department

**BIO 156 - Human Biology for Allied Health**

## COURSE DESCRIPTION:

BIO 156. Human Biology for Allied Health (4). An introductory biology course for allied health majors with an emphasis on humans. Topics include fundamental concepts of cell history, histology, microbiology, and genetics. Duplicate credit for BIO 100 and BIO 156 will not be awarded. Prerequisite: Reading Proficiency. Three lecture. Three lab.

## COURSE CONTENT:

1. Light microscopy
2. Scientific method
3. Introduction to biochemistry
4. Cellular structure, function, histology and reproduction
5. Cellular evolution and respiration
6. Mendelian genetics
7. Molecular genetics
8. Clinical microbiology
9. Human evolution and natural selection
10. Human impacts and the environment
11. Selected topics in human biology

## LEARNING OUTCOMES:

1. Use a light microscope to examine cells and cell structures. (1)
2. Describe the principles of the scientific method and relate them to topics in the allied health fields. (2) (PSB 1,2)
3. Describe the principles of biochemistry and how these principles apply to all cellular life. (3,5)
4. Describe the structure of a eukaryotic cell including the properties of the cell membrane. (4)
5. Identify common human cell types and describe the organization of human cells into tissues and organs. (4)
6. Describe cell reproduction in eukaryotes and how this process occurs in various human tissues. (4)
7. Describe the principles of cell metabolism including aerobic cellular respiration. (5)
8. Describe the evolutionary support for the domains of life. (5) (PSB 1-3)
9. Describe the principles of Mendelian genetics as they apply to inheritance in humans. (6)
10. Describe DNA structure, replication and protein synthesis. (7)
11. Identify characteristics of clinically important microbes and the diseases they produce. (8)
12. Define natural selection, describe varied evidences for evolution, and discuss the implications for human evolution. (9) (PBS 1-3)
13. Describe major ecological impacts of humans and health-related implications. (10)
14. Apply general concepts to selected topics in human biology. (11)
15. Use scientific reasoning to evaluate the biology of human cells, organisms and populations. (1-11) (PBS 1,3)
16. Identify the broad themes that unify studying the biology of human cells, organisms and populations. (1-11)
17. Interpret the numerical and/or graphical representation of data related to human cells, organisms and populations. (1-11) (PBS 2,3)
18. Record the results of investigation through writing. (1-11) (PBS 2)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Biological Sciences Department

## Course Attributes:

Physical &amp; Biol Science (AGEC), Scientific (SL)

**BIO 160 - Introduction to Human Anatomy and Physiology**

## COURSE DESCRIPTION:

BIO 160. Introduction to Human Anatomy and Physiology (4). Principles of scientific method. Structural organization, homeostasis and control mechanisms of the body. Specific chemistry concepts. Structure and function of the major systems of the body. This course is cross-listed with AHS 160. Prerequisite: Reading Proficiency. Three lecture. Three lab.

## COURSE CONTENT:

1. Scientific method and physiological measurements
2. Structural organization of the body
3. Homeostasis and homeostatic control mechanisms
4. Specific chemistry concepts of the body
5. Integumentary system
6. Skeletal system and joints
7. Muscular system
8. Nervous system
9. Endocrine system
10. Cardiovascular system
11. Lymphatics and immune system
12. Respiratory system
13. Digestive system
14. Urinary system
15. Reproductive system

**LEARNING OUTCOMES:**

1. Use the scientific method to evaluate basic principles of human physiology. (1) (PBS 1,2)
2. Identify the unifying themes of human anatomy and physiology. (2) (PBS 2)
3. Interpret numerical and graphical presentations of physiological data. (1, 12) (PBS 2,3)
4. Explain the role of specific tools and equipment utilized in clinical evaluation of human physiology. (1) (PBS 2,4)
5. Record or evaluate investigative results. (1) (PBS 2,3,5)
6. Describe the structural organization of the body. (2)
7. Describe homeostasis and homeostatic control mechanisms. (3)
8. Describe the specific chemistry concepts of the body. (4)
9. Describe the structure and function of the integumentary system and body membranes, skeletal system and joints, muscular system, nervous system, endocrine system, cardiovascular system, lymphatic system and immunity, respiratory system, digestive system, urinary system, and the reproductive system. (5-15)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours


**Levels:** Credit**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
 Biological Sciences Department

**Course Attributes:**

Physical &amp; Biol Science (AGEC), Scientific (SL)

**BIO 181 - General Biology I****COURSE DESCRIPTION:**

BIO 181. General Biology I (4).  **BIO 1181.** Biological principles emphasizing structure and function at the molecular, cellular, and organismal levels of biological systems. Secondary school chemistry strongly recommended. Primarily for biology majors and preprofessional students in health-related fields. Prerequisite: Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Scientific Method
2. Basic chemistry and biological macromolecules
3. Organization of cells
4. Energy and Enzymes
5. Photosynthesis
6. Cellular respiration
7. Cell division
8. Genetics
9. Gene expression and regulation
10. Gene technology
11. Data collection and analysis

**LEARNING OUTCOMES:**

1. Apply the scientific method in problem solving (1) (PBS 1,3)
2. Describe the basic chemistry and chemical interactions of life (2)
3. Describe the structure and function of the four main types of biological macromolecules (2)
4. Identify and describe the structure and function of the parts of typical prokaryotic and eukaryotic cells (3)
5. Describe the properties of enzymes and their relation to cellular metabolism (4)
6. Explain and diagram the fundamental processes of photosynthesis (5)
7. Explain and diagram the fundamental processes of cellular respiration (6)
8. Describe the biological processes of cell division including the cell cycle, mitosis, and meiosis (7)
9. Solve mendelian and nonmendelian genetics problems (8) (PBS 2)
10. Describe the fundamental processes of gene expression and control of gene expression (9)
11. Describe basic genetic engineering techniques and tools including recombinant DNA techniques and Polymerase Chain Reaction (10)
12. Conduct experiments, observe biological phenomena, and record information in a laboratory notebook (11)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)


Sciences, Health & Public Safe Division  
 Biological Sciences Department

**Course Attributes:**

Physical &amp; Biol Science (AGEC), Scientific (SL), SUN# BIO 1181

**BIO 182 - General Biology II**

**COURSE DESCRIPTION:**

BIO 182. General Biology II (4).  **BIO 1182.** Principles of plant and animal structure, function, and diversity; evolution, and ecology of populations and communities emphasizing biotic interactions. Primarily designed for biology and pre-professional majors. Prerequisite: Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Bacteria, fungi, and virus
2. Plant anatomy and physiology
3. Plant diversity
4. Animal anatomy and physiology
5. Animal diversity
6. Evolution and natural selection
7. Classification and phylogeny
8. Ecological principles
9. Population ecology
10. Community ecology

**LEARNING OUTCOMES:**

1. Describe the classification and characteristics of bacteria, fungi and virus.
2. Describe plant diversity in respect to structure, function, and classification.
3. Describe animal diversity in respect to structure, function, and classification.
4. Describe and analyze processes involved in evolution and natural selection. (PBS 1-3)
5. Describe the characteristics of each kingdom in biological classification.
6. Describe and demonstrate phylogenetic relationships of plants and animals. (PBS 1)
7. Describe and demonstrate the principles of ecology.
8. Describe and demonstrate the principles of population ecology.
9. Describe and demonstrate the principles of community ecology.

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, **Lecture/Lab**

Sciences, Health & Public Safe Division  
Biological Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL), SUN# BIO 1182

**BIO 194 - Research Opportunities for Community College Students****COURSE DESCRIPTION:**

BIO 194. Research Opportunities for Community College Students (1). Exploration of undergraduate research opportunities for community college students with current activities in physical and biological sciences research at Yavapai College highlighted. Includes the identification of, and application processes for, external research internships and undergraduate research experiences. Prerequisite: Reading Proficiency. One lecture.

**COURSE CONTENT:**

1. Undergraduate research for community college students
2. Internship opportunities
3. Internship and research application processes
4. Yavapai College (YC) research topics and opportunities

**LEARNING OUTCOMES:**

1. Identify potential internship and/or research opportunities in area of interest. (1,2)
2. Apply for internship and/or research opportunities in area of interest. (3)
3. Describe ongoing research efforts by YC research directors. (4)

**REQUIRED ASSESSMENT:**

1. Portfolio of research topics
2. External internship/research application

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Directed Research, Lecture

Sciences, Health & Public Safe Division  
Biological Sciences Department

**BIO 196 - Directed Research Biology****COURSE DESCRIPTION:**

BIO 196. Directed Research: Biology (1-2). Faculty or mentor directed student research in an area of current scientific investigation. Lab or fieldwork with the object of contributing to the professional body of scientific knowledge. Includes data collection, analysis and written and oral presentation. Prerequisite: Reading Proficiency.

**COURSE CONTENT:**

1. Safety training
2. Concepts and central themes in the research area
3. Methods of inquiry
4. Instrumental, laboratory and fieldwork methods and techniques
5. Data analysis and presentation
6. Written communication of research results
7. Oral communication of research results

**LEARNING OUTCOMES:**

1. Use the tools, equipment, and instrumentation relevant to the research area to gather scientific information. (1-5)
2. Maintain a permanent and timely record of research progress and results. (4-6)
3. Communicate the scope and detail of the project to others through written and verbal presentations. (6,7)

**REQUIRED ASSESSMENT:**

1. Professional laboratory notebook including log of research hours 2. **Poster presentation or authorship of scientific paper**

**1.000 TO 2.000 Credit hours**


**Levels: Credit**

**Schedule Types: Directed Research**

**Sciences, Health & Public Safe Division  
Biological Sciences Department**

**BIO 201 - Human Anatomy and Physiology I**

**COURSE DESCRIPTION:**

BIO 201. Human Anatomy and Physiology I (4).  **BIO 2201**. Structure and function of the human body. Topics include cells, tissues, integumentary, muscular, skeletal, and nervous systems. Prerequisite: BIO 156 or BIO 181. Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Anatomical terms and homeostasis
2. Cytological and histological anatomy and functions
3. Integumentary system
4. Anatomy and physiology of the skeletal system
5. Axial and appendicular skeleton, joints
6. Anatomy and physiology of the muscular system
7. Gross and microscopic anatomy of muscles
8. Muscle contraction
9. Anatomy and physiology of the nervous system
10. The central and peripheral nervous systems
11. The automatic nervous system
12. The senses

**LEARNING OUTCOMES:**

1. Identify the parts of a typical cell and describe their function and structure. (1, 2)
2. Identify and describe the four basic tissue types, their anatomy and functions. (1, 2)
3. Describe the anatomy and functions of the integumentary system. (1, 3)
4. Identify and describe the anatomy and physiology of the skeletal system. (1, 4)
5. Identify and describe the anatomy of joints, axial and appendicular skeletal systems. (1, 5)
6. Identify and describe the anatomy and physiology of the muscular system. (1, 6)
7. Identify and describe the gross and microscopic anatomy of muscles. (1, 7)
8. Describe the biological processes involved in muscle contraction. (1, 8) (PBS 1)
9. Identify and describe the anatomy and physiology of the nervous system. (1, 9)
10. Describe and identify brain and spinal cord anatomy and reflexes. (1, 10)
11. Describe the biological processes involved in the nerve impulse. (1, 10, 11)
12. Describe and identify the anatomy and physiology autonomic nervous system. (1, 10, 11)
13. Describe and identify the anatomy and physiology of the senses. (1, 12) (PBS 2,3)
14. Use scientific reasoning to evaluate the systems of the human body. (3-12)
15. Identify the broad themes that unify studying the systems of the body. (1-12)
16. Interpret the numerical and/or graphical representation of physiological data and anatomical structures. (1-12) (PBS 2)
17. Use the tools and equipment necessary for scientific analysis and research on physiological data and anatomical structures. (2-12)
18. Record the results of investigation through writing. (1-12)

4.000 Credit hours

3.000 Lecture hours

3.000 Lab hours

**Levels: Credit**

**Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab**


Sciences, Health & Public Safe Division  
Biological Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL), SUN# BIO 2201

**BIO 202 - Human Anatomy and Physiology II**

**COURSE DESCRIPTION:**

BIO 202. Human Anatomy and Physiology II (4).  **BIO 2202**. Structure and function of the human body. Topics include reproductive, endocrine, circulatory, respiratory, urinary, and digestive systems. Prerequisite: BIO 201. Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Anatomy and physiology of endocrine glands
2. Hormonal actions
3. Anatomy and physiology of the reproductive system
4. Anatomy and physiology of blood
5. Anatomy and physiology of the lymphatic system
6. Anatomy and physiology of the immune system
7. Fetal membranes and blood circulation
8. Anatomy and physiology of the digestive system
9. Metabolism
10. Anatomy and physiology of the circulatory system
11. Blood pressure and flow dynamics
12. Anatomy and physiology of the respiratory system
13. Ventilation mechanisms and gas transport
14. Anatomy and physiology of the urinary system
15. Urine formation

**LEARNING OUTCOMES:**

1. Describe the anatomy and physiology of endocrine glands. (1)
2. Describe the biological processes involved in hormonal actions. (2)
3. Identify and describe the anatomy and physiology of the reproductive system. (3)
4. Describe the anatomy and functions of blood. (4)
5. Identify and describe the anatomy and physiology of the lymphatic system. (5)
6. Identify and describe the anatomy and physiology of the immune system. (6)

7. Identify and describe the anatomy and physiology of fetal membranes and circulation. (7)
8. Identify and describe the anatomy and physiology of the digestive system. (8)
9. Describe the biological processes involved in metabolism. (9)
10. Identify and describe the anatomy and physiology of the circulatory system. (10)
11. Describe the biological processes involved in blood pressure dynamics. (11)
12. Identify and describe the anatomy and physiology of the respiratory system. (12)
13. Describe and identify ventilation mechanisms. (13)
14. Identify and describe the anatomy and physiology of the urinary system. (14)
15. Describe the biological processes involved urine formation. (15)
16. Use scientific reasoning to evaluate the systems of the body. (1-15) (PBS 1)
17. Identify the broad themes that unify studying the systems of the body. (1-15)
18. Interpret the numerical and/or graphical representation of physiological data and anatomical structures. (1-15) (PBS 2)
19. Use the tools and equipment necessary for scientific analysis and research on physiological data and anatomical structures. (1-15) (PBS 2,3)
20. Record the results of investigation through writing. (1-15)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)


Sciences, Health & Public Safe Division  
Biological Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL), SUN# BIO 2202

### BIO 205 - Microbiology

**COURSE DESCRIPTION:**

BIO 205. Microbiology (4).  **BIO 2205.** Introduction to microorganisms and viruses of medical importance. Chemical and physical methods of microbial control; bacterial, fungal, protozoal, and viral drug therapy; the immune system response to infection; transmission of human disease; and common clinical presentation of various diseases. Prerequisite: BIO 156 or BIO 100 or BIO 181, and CHM 138 (Preferred) or CHM 130 or CHM 151. Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Microbial anatomy
2. Bacterial nutrition, metabolism, and physiology
3. Bacterial genetics
4. Physical and chemical control of microorganisms
5. Anti-microbial therapy
6. Basic principles of epidemiology
7. Humoral and Cellular immunity
8. Bacteria of medical importance
9. Viruses of medical importance
10. Fungi and protozoa of medical importance

**LEARNING OUTCOMES:**

1. Identify and describe the principal physical features of bacterial, fungal, and protozoal cells. (1) (PBS 1)
2. Use the standard microbiological laboratory protocols to isolate, cultivate, and identify bacteria. Prepare a written summary of the identification. (2) (PBS 2,3)
3. Describe the method of inheritance in haploid microorganisms, with emphasis on mutation rate. (3) (PBS 2)
4. Use the standard microbiological laboratory protocols to prepare sterile microbiological media and demonstrate the effects of chemical agents on bacterial growth. (4) (PBS 2,3)
5. Use the standard microbiological laboratory protocols to demonstrate the effects of antibiotics on medically important bacteria. (5)
6. Describe the various methods of transmission of human disease from other humans, the environment, and animal vectors. (6)
7. Describe the relationship between the human immune system and resistance to disease. (7)
8. Describe the important clinical features of human diseases due to bacteria. (8) (PBS 1)
9. Describe the principal structural and genetic features of medically important viruses, and their usual clinical presentation. (9) (PBS 1)
10. Describe the important clinical features of human diseases due to fungi and protozoa. (10)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
Biological Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL), SUN# BIO 2205

### BIO 296 - Internship: Biology

**COURSE DESCRIPTION:**

BIO 296. Internship: Biology (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.

4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Internship

Sciences, Health & Public Safe Division  
Biological Sciences Department

**BIO 299 - Independent Study Biology****COURSE DESCRIPTION:**

BIO 299. Independent Study Biology (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Independent Study

Sciences, Health & Public Safe Division  
Biological Sciences Department

**BSA 102 - Career Search and Success: Skills for Entering and Succeeding in the Workplace****COURSE DESCRIPTION:**

BSA 102. Career Search and Success: Skills for Entering and Succeeding in the Workplace (1). Techniques to enhance and emphasize the relationship between resume development and job search skills. Includes a strong focus on human relations in the workplace. One lecture.

**COURSE CONTENT:**

1. Job search skills and employability packet including: labor market analysis; networking and job lead development; application, resume and cover letter preparation; the interview process
2. Personal financial management
3. Workplace communication and teamwork skills
4. Workplace ethics, attitudes, absenteeism, stress management skills
5. Elements of critical thinking and decision-making including setting career and educational goals

**LEARNING OUTCOMES:**

1. Identify employment opportunities for a field of study. (1)
2. Produce an employability packet (i.e. application, resume, cover letter, work sample, reference letter). (1)
3. Prepare for and participate in employment interview activities. (1)
4. Assess various types of communication and teamwork skills in the workplace. (3)
5. Discuss workplace ethics, attitudes, absenteeism, stress management. (4)
6. Describe the strategies involved in decision making in a job search. (5)
7. Evaluate job search efforts. (1)
8. Develop a career/educational plan. (5)
9. Identify importance of money management and budgeting. (2)

1.000 Credit hours  
1.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Business Administration Department

**Course Attributes:**

Oral Communication (OC), Written Comm (WC)

**BSA 105 - Business English****COURSE DESCRIPTION:**

BSA 105. Business English (3). Developing or reviewing good language skills for occupational purposes. Covers spelling, punctuation, capitalization, sentence structure and word usage. Utilizes business-oriented materials. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Basic language skills
  - a. Grammar
  - b. Punctuation
  - c. Word usage
  - d. Numbers in business
2. Business vocabulary
  - a. Spelling
  - b. Definitions
3. Business correspondence
  - a. Stationery
  - b. Parts of a business letter
  - c. Arrangements
  - d. Message

**LEARNING OUTCOMES:**

1. Define more than 100 business terms.
2. Master a spelling list emphasizing business terms.
3. Demonstrate basic grammar and punctuation skills.
4. Identify the parts of a business letter and envelope.
5. Select appropriate salutations and closings.
6. Demonstrate techniques of paragraphing a business letter.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Business Administration Department

**Course Attributes:**

Applied Communication/Writing, Written Comm (WC)

**BSA 110 - Personal Finance****COURSE DESCRIPTION:**

BSA 110. Personal Finance (3). Information for making personal and family financial decisions. Includes budgeting, saving, credit, installment buying, insurance, buying vs. renting a home, investment, and estate disposal through will and trust. Three lecture.

**COURSE CONTENT:**

1. The economics of love and pain
2. You have to live with what you have
3. The high Cost of living
4. Banks and the banking system
5. The overextended American
6. Putting a roof over your head
7. Getting there by car is half the worry
8. Other forms of protection: life insurance and Social Security
9. Saving
10. Investing
11. Retirement and the golden years

**LEARNING OUTCOMES:**

1. Make intelligent consumer decisions in such areas as:
  - a. Budgeting
  - b. Cost of living
  - c. Banking
  - d. Credit
  - e. Mortgages
  - f. Transportation
  - g. Insurance and Social Security
  - h. Saving
  - i. Investing
  - j. Retirement

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Business & Computer ScienceOBS Division  
 Business Administration Department

**BSA 111 - Creative Leadership****COURSE DESCRIPTION:**

BSA 111. Creative Leadership (1). Lead, motivate and inspire your team with creative leadership. One lecture.

**COURSE CONTENT:**



1. Motivate and recognize employees.
2. Benefits of humor in the workplace.
3. Create a work atmosphere that stimulates innovation.
4. Positive and negative thinking.

## LEARNING OUTCOMES:

1. Identify ways to motivate and recognize employees. (1)
2. Discuss the benefits of humor in the workplace. (2)
3. Identify ways to create a work atmosphere that stimulates innovation. (3)
4. Create an action plan to recognize negative and promote positive thinking in the workplace. (4)

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Business Administration Department

## Course Attributes:

Creative Thinking (CR)

**BSA 112 - Leadership: Juggling Multiple Priorities**

## COURSE DESCRIPTION:

BSA 112. Leadership: Juggling Multiple Priorities (1). Basic techniques to increase team collaboration. How effective leaders spend their time. One lecture.

## COURSE CONTENT:

1. Leadership principles.
2. How leaders increase collaboration among their team.
3. Time management
4. Urgency addiction

## LEARNING OUTCOMES:

1. Identify skills of effective leaders. (1)
2. Apply team-building strategies. (2)
3. Apply time management strategies. (3)
4. Explain urgency addiction. (4)

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Business Administration Department

**BSA 113 - Leadership Communication: Leading Out Loud**

## COURSE DESCRIPTION:

BSA 113. Leadership Communication: Leading Out Loud (1). Speaking skills and communication techniques for leaders. One lecture.

## COURSE CONTENT:

1. Speaking skills of leader/communicator.
2. Oral communication delivery techniques.
  - a. Informative
  - b. Impromptu
  - c. Vision

## LEARNING OUTCOMES:

1. Identify skills of leaders/communicators. (1)
2. Analyze and discuss communication delivery techniques to enhance leadership development. (2)
3. Apply oral communication delivery and presentation techniques. (2)
  - a. Informative
  - b. Impromptu
  - c. Vision

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Business Administration Department

**BSA 120 - Principles of Supervision**

## COURSE DESCRIPTION:

BSA 120. Principles of Supervision (3). Supervisory principles and skill building. Includes decision making, problem solving, time management, leadership models, and communication process. Emphasis on selecting, motivating and evaluating employees. Three lecture.

## COURSE CONTENT:

1. Supervisory roles and challenges
2. Decision making and problem solving
3. Planning and time management
4. Motivation
5. Leadership

6. Communication
7. Selecting, training, and compensating employees
8. Appraising and disciplinary procedures
9. Resolving employee conflict

## LEARNING OUTCOMES:

1. Explain the basic skills required for effective supervision.
2. Define decision making and identify at least four elements involved.
3. Explain how planning differs at top, middle, and supervisory management levels.
4. Describe ways to effectively manage time.
5. Identify three levels of employee motivation and five steps to motivating employees.
6. Discuss and explain two frequently used leadership models.
7. Describe the components of the communication process model.
8. Describe the steps in the employee selection procedure, including the proper orientation of new employees.
9. List commonly provided employee benefits.
10. Explain what employee performance appraisal is and who is involved in the process.
11. Discuss the difference between positive and negative discipline.
12. Discuss conflict management styles and identify when each would be appropriate.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Business Administration Department

**BSA 130 - Business Financial Applications**

## COURSE DESCRIPTION:

BSA 130. Business Financial Applications (3). Foundation and experience in evaluating inventory, preparing financial statements, determining taxes, reconciling bank statements, preparing payroll and solving other financial problems necessary in business fields, including administrative management, accounting, office administration, and finance. Three lecture.

## COURSE CONTENT:

1. Bank statement reconciliation
2. Payroll spreadsheet preparation
3. Consumer credit
4. Commissions
5. Principles of pricing
6. Installment loans
7. Depreciation schedules
8. Insurance premiums
9. Property taxes
10. Present value and annuities
11. Data analysis
12. Line and bar graph analysis
13. Dividends and rate of return
14. Spreadsheet analysis
15. Spreadsheet manipulation
16. Financial statements
17. Business statistics

## LEARNING OUTCOMES:

1. Use fractions and percents in business situations.
2. Identify and use bank functions.
3. Calculate gross earnings and deductions for wages and salaries.
4. Complete invoices and calculate various types of discounts.
5. Determine and apply percent markup based on cost and sales.
6. Calculate maturity dates, values and discounts related to simple and compound interest.
7. Compare costs of consumer credit.
8. Calculate personal and property taxes.
9. Prepare depreciation schedules.
10. Analyze financial statements.
11. Define and read various types of stock and bond tables.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Business Administration Department

**BSA 131 - Introduction to Business**

## COURSE DESCRIPTION:

BSA 131. Introduction to Business (3). Introduction to the function of business. Overview of marketing, management, economics, finance, and accounting. Concepts of government and business, business ethics and international trade. Emphasis on current business issues. Three lecture.

## COURSE CONTENT:

1. Contemporary business and its environments
2. Organization and management
3. Human resources and production
4. Marketing management
5. Information for decision making
6. Financing the enterprise
7. International/government business

## LEARNING OUTCOMES:

1. Acquire basic fluency in the vocabulary of business.
2. Understand the free enterprise system.
3. Select a vocational field.
4. Develop a basis for further studies in business.
5. Gain knowledge necessary to the discerning consumer.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

Course Attributes:  
Critical Thinking (CT)

### [BSA 132 - Ethics in Business](#)

#### COURSE DESCRIPTION:

BSA 132. Ethics in Business (3). Techniques of moral reasoning and argumentation used to analyze and resolve modern business issues: legal issues, corporate responsibility, worker's rights and responsibilities, technological issues, information, and advertising. Three lecture.

#### COURSE CONTENT:

1. Values, morals and ethics
2. Individuals, culture, and society
3. Ethics and business
4. American business and its basis
5. Business organizations and the people in them
6. Business organizations and society
7. Ethical reasoning and argumentation
8. Ethical frameworks
9. Ethical decision making
10. Ethical issues in contemporary business and industry
11. Ethical standards in contemporary business and industry

#### LEARNING OUTCOMES:

1. Differentiate values, morals, and ethics.
2. Explain the role of culture in values development.
3. Explain the relationships among morals, ethics and society.
4. Describe the relationships among ethics, society, and business.
5. Demonstrate techniques of moral reasoning and argumentation.
6. Identify, interpret, evaluate, and synthesize insights from various ethics frameworks in the development of ethical reasoning and decision making.
7. Apply insights from various ethical frameworks in the analysis and resolution of ethical issues in contemporary business and industry.
8. Apply ethical standards to contemporary business and industry.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

### [BSA 140 - Human Relations in Business](#)

#### COURSE DESCRIPTION:

BSA 140. Human Relations in Business (3). Study of basic business behavior patterns. Human aspects of business, as distinguished from economic and technical aspects, and how they influence efficiency, morale, and management practice. Three lecture.

#### COURSE CONTENT:

1. The nature of organizational behavior
2. The goals of organizational behavior
3. Foundations of individual behavior
4. Motivation
5. Foundations of group behavior
6. Leadership
7. The organization system

#### LEARNING OUTCOMES:

1. Define organizational behavior.
2. Identify the goals of organizational behavior.
3. Analyze how the foundations of individual behavior impact employee behavior and attitudes within the organization.
4. Combine the foundations of individual behavior with theories of motivation to explain and predict employee behavior and attitudes within the organization.
5. Analyze the impact of effective leadership on group behavior; and
6. Compare and contrast the impact of changing organization systems on the human resource management process.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

### [BSA 162 - Executive Transcription](#)

**COURSE DESCRIPTION:**

BSA 162. Executive Transcription (3). Executive transcription to develop familiarity with business English and document formatting. Speed and accuracy in transcription is emphasized. Prerequisite: CSA 130 or CSA 140. One lecture. Four lab.

**COURSE CONTENT:**

1. Originating information for word processing
  - a. Responsibilities of the originator
  - b. Responsibilities of the transcriptionist
  - c. Ways of originating ideas
  - d. Machine dictation advantages
2. Output devices and terminology
  - a. Printing devices
  - b. Storage media
  - c. Format systems
  - d. Multiple copy documents
3. Reprographics in output and basic terminology
  - a. Copy processing methods
  - b. Photocopying processes
  - c. Facsimile
4. Feedback
  - a. Remedies
  - b. Analysis of feedback
  - c. Work anatomy
5. Document transcription
  - a. Multiple copy letters
  - b. Repetitive Forms
  - c. Format procedures
  - d. Business reports
  - e. Research reports
  - f. Statistical reports
  - g. Interoffice memorandum
  - h. Financial reports
6. Basic skills
  - a. Vocabulary
  - b. Punctuation
  - c. Spelling
  - d. Grammar and usage

**LEARNING OUTCOMES:**

1. Transcribe accurate, mailable documents from pre-recorded tapes.
2. Use grammar, punctuation, spelling, and capitalization skills to transcribe mailable documents.
3. Identify the responsibilities of originator and transcriptionist.
4. Use different output methods to store information.

3.000 Credit hours  
 1.000 Lecture hours  
 4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
 Business Administration Department

**BSA 163 - Legal Transcription****COURSE DESCRIPTION:**

BSA 163. Legal Transcription (3). Legal correspondence and documents dictated and transcribed from machine transcription. Techniques in preparing legal documents and forms. Production standards of legal office emphasized. Prerequisite: CSA 130 or CSA 140. One lecture. Four lab.

**COURSE CONTENT:**

1. The law office
  - a. Personal qualifications
  - b. Vocabulary
  - c. Privileged information
2. The court structure
  - a. Jurisdiction
  - b. Filing procedures
  - c. Vocabulary
3. Legal research
  - a. Computer-assisted research
  - b. Legal publications
  - c. Legal citations
  - d. Vocabulary
4. The lawsuit
  - a. Complaint
  - b. Summons
  - c. Pleading
5. Preparing legal documents
  - a. General information
  - b. Guidelines for preparing legal documents
  - c. General litigation information
  - d. Vocabulary
6. Preparations for trial
  - a. Preparing the complaint
  - b. Preparing the summons
  - c. Filing procedures
7. Litigation and discovery procedures
  - a. Default
  - b. Notifying witnesses and adverse parties
  - c. Vocabulary: Litigation and discovery procedures
8. Pretrial and concluding procedures
  - a. Instructions to the jury

- b. Non-jury trial
- c. Writ of execution
- d. Appellate procedures
- e. Briefs
- f. Vocabulary: pretrial and concluding procedures
- 9. Family law
  - a. Marriage
  - b. Divorce and dissolution of marriage
  - c. Adoptions
  - d. Guardianship and conservatorship
  - e. Vocabulary: family law
- 10. Wills and probate
  - a. Wills
  - b. Probate
  - c. Vocabulary wills and probate
- 11. Corporations
  - a. Corporate organizations
  - b. Law governing corporations
  - c. Corporation stock
  - d. Vocabulary
- 12. Real estate
  - a. Classification of property
  - b. Deeds
  - c. Real estate mortgages
  - d. Leases
  - e. Eviction of a tenant
  - f. Vocabulary
- 13. Bankruptcy
  - a. Notices of first meeting of creditors
  - b. Proof of claim
  - c. Priority of claims
  - d. Discharge of bankruptcy
  - e. Vocabulary
- 14. Criminal law
  - a. Warrant of arrest
  - b. Arrest
  - c. Arraignment
  - d. Types of crimes
  - e. Classes of crimes
  - f. Vocabulary

**LEARNING OUTCOMES:**

1. Transcribe and format accurate and mailable legal documents from tapes
2. Use grammar, punctuation, spelling and capitalization skills to transcribe mailable documents.

3.000 Credit hours  
 1.000 Lecture hours  
 4.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
 Business Administration Department

**BSA 210 - International Business****COURSE DESCRIPTION:**

BSA 210. International Business (3). Business principles pertaining to international markets and trade. Global perspective of investments, finances, operations, and monetary systems. lecture.

**COURSE CONTENT:**

1. World economic regions and trading system
2. Current trade issues affecting the global economy
3. Economic theories of international business
4. Modes of entry
5. Cultural awareness for international companies
6. International Monetary Fund
7. Foreign exchange market
8. World Trade Organization
9. Coordination of international production systems
10. Global marketing strategies
11. Staffing policies for international companies

**LEARNING OUTCOMES:**

1. Summarize the development and geography of the world trading system. (1)
2. Identify current trade issues. (2)
3. Explain various economic theories of international trade and investment. (3)
4. Describe and evaluate modes of entry used to launch an international business. (4)
5. Identify cultural factors for consideration when conducting business in a foreign country. (5)
6. Describe the International Monetary Fund and how foreign exchange markets work. (6, 7)
7. Discuss the role of the World Trade Organization in promoting free trade. (8)
8. Identify requirements to coordinate a globally dispersed production system. (9)
9. Explain reasons for varying marketing strategies from country to country. (10)
10. Evaluate staffing policy approaches in an international business. (11)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division

Business Administration Department

### BSA 220 - Principles of Management

**COURSE DESCRIPTION:**

BSA 220. Principles of Management (3). Principles of management that have general applicability to all types of enterprise; basic management philosophy and decision making; principles involved in planning, directing and controlling. Recent concepts in management. Three lecture.

**COURSE CONTENT:**

1. Managers and management
2. Challenges confronting modern managers
3. Planning
4. Organizing
5. Leading
6. Controlling
7. Managing the E-Business

**LEARNING OUTCOMES:**

1. Define a manager;
2. Define management;
3. Define challenges confronting the modern manager;
4. Explain the relationship between planning, strategy, and decision making;
5. Analyze how changes in organization design impact the human resource management process;
6. Analyze the impact of effective leadership on group behavior;
7. Explain how technological change impacts the foundations of control;
8. Compare and contrast the management process of the traditional business with that of the e-business.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

### BSA 221 - Entrepreneurship

**COURSE DESCRIPTION:**

BSA 221. Entrepreneurship (3). Introduction to economic, social and human factors necessary to opening and operating a business. Emphasis on writing and analyzing business plans, developing marketing strategies and raising capital to start a new business. Three lecture.

**COURSE CONTENT:**

1. Economic, environmental, ethical, social and human aspects of opening/operating a business
2. Writing a comprehensive business plan
3. Market planning, development, and evaluation
4. Financial planning and development
5. Personnel planning, personnel management, and supervision
6. Fundamentals of macro/micro economics, especially the business cycle

**LEARNING OUTCOMES:**

1. Understand the social, economic, ethical, and human aspects of opening and operating a business.
2. Develop a business plan with emphasis on marketing techniques.
3. Analyze and synthesize market research.
4. Examine, analyze and evaluate financial services required in opening and operating a business including types of loans, and interest rates.
5. Employ critical reasoning, and analytical discourse through assigned writing projects including a business plan, market research project, journals, and essay exams.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

**Course Attributes:**

Scientific (SL)

### BSA 223 - Human Resource Management

**COURSE DESCRIPTION:**

BSA 223. Human Resource Management (3). Human resource theory and practice, planning, recruitment, placement, employee development, evaluation, benefits and services, health and safety, and employee relations. Three lecture.

**COURSE CONTENT:**

1. Planning
2. Recruitment, and Selection
3. Orientation and Training
4. Performance Appraisals
5. Employee Incentives and Benefits
6. Wage and Salary Administration
7. Organizational Maintenance (personnel health and safety).

**LEARNING OUTCOMES:**

1. Identify and explain the stages of human resource planning.
2. Explain the human resources process within an organization for recruitment and selection.
3. Identify and describe specific legislative acts that deal with equal employment issues.
4. Explain the characteristics of an effective orientation system.
5. Describe the major phases of a training system in an organization.
6. Identify the components of a legal performance appraisal system.

7. List three types of employee incentives.
8. Describe the major components of a wage and salary administration system.
9. List the most commonly provided employee benefits and explain how benefits serve the needs of employees and employers.
10. Describe the role of safety and health in today's business environment.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

### [BSA 224 - Records and Database Management](#)

#### COURSE DESCRIPTION:

BSA 224. Records and Database Management (3). Study of the comprehensive field of records management emphasizing the principles and practices of effective records management for manual and automated records systems. Three lecture.

#### COURSE CONTENT:

1. The field of records management
  - a. Records classification and use
  - b. Records management history and legislation
  - c. Career opportunities in records management
2. Alphabetic storage and retrieval
  - a. Alphabetic indexing rules
  - b. Alphabetic indexing rules for computer databases
  - c. Correspondence records storage
  - d. Records retrieval, retention, and transfer
3. Subject, numeric, and geographic storage and retrieval
  - a. Subject records storage
  - b. Numeric records storage
  - c. Geographic records storage
4. Records management technology
  - a. Automated records systems
  - b. Microimage records
5. Record control
  - a. Guidelines for evaluating records management programs
  - b. Methods of controlling paperwork
  - c. Controlling records in the small office

#### LEARNING OUTCOMES:

1. Apply principles of effective records management and of criteria by which records are created, stored, retrieved, retained, and disposed.
2. Use records storage methods and apply principles for selection of personnel, equipment, and supplies.
3. Demonstrate knowledge of all filing rules by successful completion of hands-on practice filing of materials dealing with alphabetic, geographic, subject, and numerical filing systems.
4. Use storage and retrieval systems including micro-records, computer retrieval, and magnetic storage media.
5. Manage and select equipment and supplies for various records systems.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

### [BSA 225 - Administrative Office Management](#)

#### COURSE DESCRIPTION:

BSA 225. Administrative Professional: Office Management (3). Office management including management of administrative office resources, supervision and staffing issues, and filing and records management practice. Three lecture.

#### COURSE CONTENT:

1. Office and digital technologies
2. Project and task management
3. Management skills
4. Interpersonal communication
5. Career development

#### LEARNING OUTCOMES:

1. Develop a working knowledge of business applications, online resources, and critical office technologies. (1)
2. Evaluate workloads, prioritize and plan tasks in order to meet organizational objectives. (2)
3. Determine knowledge and skills that provide management support at the highest levels. (3)
4. Design effective and functional communications for use in a business environment. (4)
5. Analyze career opportunities for Administrative Professionals in all types and sizes of companies. (5)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#), [Lecture](#), [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
Business Administration Department

### [BSA 229 - Management Problems](#)

**COURSE DESCRIPTION:**

BSA 229. Management Problems (3). Examination of how the business organization constructs, organizes, extends, maintains, and renews its competitive advantage in the marketplace. Three lecture.

**COURSE CONTENT:**

1. The strategic management process
2. Market dynamics
3. The role of organizations in the competitive advantage process
4. Static business environments and the competitive advantage process
5. New markets and the competitive advantage process
6. Organizational structure and the competitive advantage process

**LEARNING OUTCOMES:**

1. Describe and analyze the strategic management process.
2. Identify and analyze methods for reshaping the strategic management process in the face of a changing market environment.
3. Identify and describe the elements of the process of organizing for a competitive advantage.
4. Develop a plan for leveraging resources as a method for extending the organization's competitive advantage.
5. Analyze trends in global economic and business development and integrate this information into a plan for penetrating new markets as a method for extending the organization's competitive advantage.
6. Discuss how a changing organization structure can renew the organization's competitive advantage.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Business Administration Department

### [BSA 230 - Principles of Marketing](#)

**COURSE DESCRIPTION:**

BSA 230. Principles of Marketing (3). Survey of marketing problems and possible solutions. Retail and wholesale areas with emphasis on the consumer's needs and relationship to marketing practices. Three lecture.

**COURSE CONTENT:**

1. Marketing in a changing world
2. Strategic planning and the marketing process
3. Marketing research and information systems
4. Consumer and business buying behavior
5. Pricing strategies and issues
6. Advertising and public relations
7. Personal selling and sales promotion
8. Direct and on-line marketing

**LEARNING OUTCOMES:**

1. Identify recent trends in marketing;
2. Analyze different marketing strategies for different types of business enterprises and business environments;
3. Explain the use of marketing research and information systems to achieve the organization's goals;
4. Analyze and discuss the Theory of Buyer Behavior;
5. Analyze commonly accepted theories of pricing.
6. Compare and contrast advertising and public relations.
7. Compare and contrast personal selling and sales promotion.
8. Analyze direct and on-line marketing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours


**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Business Administration Department

### [BSA 232 - Business Statistical Analysis](#)

**COURSE DESCRIPTION:**

BSA 232. Business Statistical Analysis (3).  **BUS 2201**. Survey of standard tools of statistical analysis. Topics include descriptive measures, probability, discrete probability distributions, continuous probability distributions, confidence intervals, hypothesis testing, and regression analysis. Prerequisite: MAT 122. Three lecture.

**COURSE CONTENT:**

1. Descriptive measures
2. Probability
3. Discrete data analysis
4. Continuous data analysis
5. Prediction intervals
6. Hypothesis testing (One population)
7. Hypothesis testing (Two populations)
8. Regression Analysis

**LEARNING OUTCOMES:**

1. Calculate and interpret parametric and statistical descriptive measures of centrality and dispersion. (1)
2. Apply rules of probability to statistical problems in business. (2)
3. Use discrete probability distributions to solve statistical problems in business. (3)
4. Use continuous probability distributions to solve statistical problems in business. (4)
5. Use statistical methods to construct and interpret confidence intervals. (5)
6. Construct and test a hypothesis using data from a single population. (6)
7. Construct and test a hypothesis using data from two populations. (7)
8. Construct a regression model and interpret computer output of the model. (8)



3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Business Administration Department

Course Attributes:  
Quantitative Lit (QL), SUN# BUS 2201

### BSA 233 - Business Communications

#### COURSE DESCRIPTION:

BSA 233. Business Communication (3). Communication theory, writing for the workplace, business letters and reports, electronic communication, professional presentations and communicating for employment. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Communication foundations
  - a. process of communication
  - b. verbal and nonverbal communication
  - c. using words effectively
2. Written communication in the workplace
  - a. positive and negative messages
  - b. persuasive writing
  - c. memorandums
3. Letters and reports
  - a. business letter formats
  - b. short reports
4. Electronic media and communication
  - a. email messages
  - b. communicating with new technology
  - c. social networking in the workplace
5. Professional presentations
  - a. oral presentations
  - b. public speaking skills
  - c. presentation software
6. Communicating for employment
  - a. resume and cover letter
  - b. interview preparation

#### LEARNING OUTCOMES:

1. Identify the elements of effective communication. (1)
2. Create purposeful written messages to a specific business audience. (2)
3. Compose business letters and short reports to communicate information or data. (3)
4. Identify methods of communication using the latest technology. (4)
5. Prepare and deliver an oral presentation. (5)
6. Compose a professional resume and employment cover letter. (6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Business Administration Department

Course Attributes:  
Applied Communication/Comm., Oral Communication (OC), Written Comm (WC)

### BSA 234 - Quantitative Methods

#### COURSE DESCRIPTION:

BSA 234. Quantitative Methods (3) (Fall). Exploration of basic models of statistical decision making, linear programming, inventory management, CPM and simulation with emphasis on model building. Use of standard computer programs. Prerequisite: BSA 232. Three lecture.

#### COURSE CONTENT:

1. Introduction to quantitative methods
  - a. Quantitative methods
  - b. Management sciences
  - c. Procedures and applications
  - d. Models and decision making
2. Probability concepts
  - a. Fundamental concepts
  - b. Various probability laws
  - c. Various probability events
  - d. Common errors in applying probability
3. Probability distributions and expected value
  - a. Random variable
  - b. Expected value
  - c. Binomial distribution
  - d. Normal distribution
4. Forecasting
  - a. Using past data
  - b. Forecasting using regression
  - c. Seasonal indexes
5. Basic concepts of decision making
  - a. Certainty and uncertainty
  - b. Looking at the alternatives

- c. Reducing the number of alternatives
- d. Maximizing payoff
- 6. Elements of decision theory
  - a. Decision criteria
  - b. Various strategies
  - c. Expected value
- 7. Linear programming
  - a. The linear program
  - b. Procedures of linear programming
  - c. Various types of constraints
  - d. Optimal solutions
  - e. Problem formulations
  - f. Applications
- 8. The simplex method in linear programming
  - a. Basic simplex concepts
  - b. The simplex methods
  - c. Cost minimization
  - d. Summary of the simplex formulation
- 9. Decision making using sample information
  - a. Binomial probabilities
  - b. Sample mean
  - c. Traditional statistics
- 10. Decision making using the normal distribution
  - a. Opportunity losses
  - b. Sampling
  - c. Posterior and preposterior analysis
- 11. Network planning with PERT
  - a. Basic concepts of PERT
  - b. Analysis of PERT
  - c. Planning and control using PERT
  - d. Adjustment with PERT
- 12. Dynamic programming
  - a. Basic concepts
  - b. Types of dynamic programs
  - c. Maximizing payoff

**LEARNING OUTCOMES:**


1. Identify the key steps to solving a quantitative business problem.
2. Identify the steps involved in constructing a quantitative model.
3. Identify the main quantitative models for solving business problems.
4. Construct a model for solving a business problem.
5. Combine quantitative models to create new problem-solving models.
6. Evaluate the outcomes of the problem-solving process in business.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Business Administration Department

**BSA 235 - Principles of Economics-Macro****COURSE DESCRIPTION:**

BSA 235. Principles of Economics-Macro (3).  **SUN#ECN 2201.** An analysis of the national economy. Topics include macroeconomics problems, policy, standard analyses, international economics, and current thought. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Concepts, terms and applications
2. Economics diversity
3. Techniques of research
4. Goals and problems
5. Analyses
6. Policy
7. Global issues
8. Current thought.

**LEARNING OUTCOMES:**

1. Define relevant terms and concepts and apply to problems or issues. (1) (SBS 3)
2. Analyze how diversity contributes to various differences in human economic interaction or in world economic views. (2) (SBS 4)
3. Explain applicable methods that guide research in economics. (3) (SBS 1)
4. Identify macroeconomic goals and problems. (4)
5. Evaluate dominant analyses in macroeconomics. (5)
6. Analyze the use of macroeconomic policy under different economic conditions. (6) (SBS 2)
7. Synthesize elements of global economic activity to explain and to predict economic activity in the domestic economy. (7).
8. Synthesize macroeconomic concepts and analyses in the analysis of real-world issues. (8)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, [Lecture](#)


Business & Computer ScienceOBS Division  
 Business Administration Department

**Course Attributes:**

Critical Thinking (CT), Social Science (AGEC), SUN# ECN 2201

**BSA 236 - Principles of Economics-Micro**

## COURSE DESCRIPTION:

BSA 236. Principles of Economics-Micro (3).  ECN 2202. An analysis of markets. Topics include consumer choice, demand and supply, analyses of market structures, market failures, and current thought. Three lecture.

## COURSE CONTENT:

1. Concepts, terms and applications
2. Economics diversity
3. Techniques of research
4. Consumer choice
5. Demand and supply
6. Analyses of market structure
7. Market failure
8. Current thought

## LEARNING OUTCOMES:

1. Define relevant terms and concepts and apply to problems and issues. (1)
2. Analyze how diversity contributes to differences in human economic interaction or in the world economic views. (2)
3. Explain applicable methods that guide research in economics. (3)
4. Use the analysis of choice to explain and predict consumer behavior. (4)
5. Use the models of demand and supply to analyze economic issues. (5)
6. Evaluate the dominant analyses in the microeconomics literature. (6)
7. Identify market failures and explain why these occur. (7)
8. Synthesize microeconomics concepts and analyses in the analysis of real-world issues. (8)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Business Administration Department

## Course Attributes:

Civic Engagement (CE), Diversity (DA), Info Literacy (IL), Scientific (SL), SUN# ECN 2202

**BSA 237 - Legal Environment of Business**

## COURSE DESCRIPTION:

BSA 237. Legal Environment of Business (3). Examination of legal framework governing rules of conduct among businesses and impact on establishing business policy. Three lecture.

## COURSE CONTENT:

1. The American legal system
  - a. The origin of the American system of jurisprudence
  - b. Sources of American law
  - c. Various legal systems
2. Courts and procedures
  - a. Court systems: federal and state
  - b. The judicial decision-making process
  - c. Courts as lawmakers
  - d. Alternative dispute resolution methods
3. Ethics
  - a. Legal ethics
  - b. Business ethics
  - c. Ethical analysis
4. Common law and business
  - a. Criminal law
    1. Sources of criminal law
    2. Constitution and criminal law
    3. Business and crimes
  - b. Torts
    1. Theories and background of torts
    2. Competitive torts
    3. Product liability
  - c. Contracts
    1. Concepts and background
    2. Statutory modifications
    3. Applications
  - d. Private Property
    1. Concepts
    2. Regulations
  5. Constitutional law and business
    - a. Introduction
    - b. Businesses and the Constitution
    - c. Commerce clause
  6. Statutory and regulatory environment of business
    - a. Administrative agency: overview
    - b. Legal nature of business entities
    - c. Labor/management relations
    - d. Employment law
    - e. Antitrust
    - f. Security regulations
    - g. Federal Trade Commission
    - h. Consumer protection law
    - i. Environmental law
    - j. Franchising law
    - k. Legal environment for international business

## LEARNING OUTCOMES:

1. Develop a basic knowledge of the legal environment of private (profit and nonprofit) and public organizations

2. Be acquainted with current ethical and legal problems confronting private and public organizations.
3. Develop an appreciation of the origins of legal institutions, legal procedure, various methods of resolving disputes, and the functions of the law as a system of social and political thought and action.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

**Course Attributes:**  
Diversity (DA)

#### [BSA 296 - Internship: Business Administration](#)

##### COURSE DESCRIPTION:

BSA 296. Internship: Business Administration (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

##### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

##### LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

##### REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Business & Computer ScienceOBS Division  
Business Administration Department

**Course Attributes:**  
Info Literacy (L)

#### [BSA 299 - Independent Study Business](#)

##### COURSE DESCRIPTION:

BSA 299. Independent Study Business (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

##### COURSE CONTENT:

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

##### LEARNING OUTCOMES:

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Business & Computer ScienceOBS Division  
Business Administration Department

### CHM 121 - Environmental Chemistry

**COURSE DESCRIPTION:**

CHM 121. Environmental Chemistry (4). Atomic structure, the Periodic Table, chemical bonding and reactions with emphasis on environmental applications: the atmosphere and air pollution, water and water pollution, pesticides, food additives, and nuclear wastes. This course is cross-listed with ENV 121. Prerequisite: Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Introduction, atomic structure, chemical bonding, chemical reactions, states of matter, gases
2. The atmosphere and atmospheric pollution
3. Water properties, pollutants--organic, heavy metals, biological and thermal
4. Organic compounds in the environment - structures, carcinogens and mutagens, pesticides, food additives, drugs
5. Nuclear chemistry - natural radioactivity, fission and fusion, nuclear energy.

**LEARNING OUTCOMES:**

1. Understand the basic atomic nature of matter, chemical bonding and the periodic table. (PBS 1)
2. Demonstrate an elementary understanding of the states of matter. (PBS 1,2)
3. Understand the basic chemical principles involved in chemical reactions. (PBS 2)
4. Understand the atmosphere, its composition and various atmospheric pollutants. (PBS 1,3)
5. Understand the chemical significance of water and the effects of chemical, biological and thermal pollution. (PBS 1,3)
6. Understand the basic structure of organic compounds used as pesticides and food additives and their effects. (PBS 1,3)
7. Demonstrate an elementary understanding of radioactivity and nuclear chemistry and the effects of radiation on biological systems. (PBS 1,3)
8. Understand basic ecology from a chemical point of view and the effects of pollutants on food chains and ecosystems. ((PSS 1,3)
9. Appreciate the social and economic implications of technology which underlie decisions about pollution, nuclear energy and food additives. (PBS 1,3)
10. Perform basic laboratory procedures such as titrations. (PBS 2)
11. Use common laboratory instruments including analytical balances, pH meters, specific ion electrodes, spectrophotometers, flame photometers and gas chromatographs. (PBS 2)
12. Perform simple chemical analysis such as biochemical oxygen demand, heavy metal detection, soil analysis. (PBS 2)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab


Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL)

### CHM 130 - Fundamental Chemistry

**COURSE DESCRIPTION:**

CHM 130. Fundamental Chemistry (4).  **CHM 1130.** Introduction to the study of chemistry as a basis for understanding our complicated world. Overview of classification, structure, and chemical behavior, including inorganic, organic, and biological materials. Prerequisite: MAT 092 or one year of high school algebra or satisfactory score on mathematics skills assessment. Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. The Scientific Method
2. Measurement and units of measurement.
  - a. The metric system, dimensional analysis
3. The structure, properties, and classification of matter
  - a. Atoms, isotopes, ions, elements and compounds
  - b. Electronic structure, and periodic properties
  - c. Formulas, equations, names
4. Nuclear Radiation
  - a. Radioactivity and Radioisotopes
5. Compounds and Bonding
  - a. Ions and molecules
  - b. Ionic and covalent bonds
  - c. Geometry of molecules
6. Chemical Reactions
  - a. Writing and balancing chemical equations
  - b. Equations and the mole
  - c. Problem solving using dimensional analysis
7. Gases Liquids and Solids
  - a. Kinetic Molecular Theory
  - b. Intermolecular forces
8. Changes of state
8. Solutions
  - a. Concentration
  - b. Colligative properties
9. Chemical reactions and behavior
  - a. Acid -base equilibrium, pH, and buffers
10. Introductory aspects of elementary organic, and biological chemistry
  - a. Functional groups, isomers polymers, carbohydrates, lipids proteins, and enzymes
  - b. Reactions and synthesis

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-10) (PBS 1,3)
  - a. Solve chemical problems using concepts central to chemistry
  - b. Relate molecular shape and polarity to physical properties
2. Identify the unifying themes of the scientific field of study. (1-10) (PBS 1,3)
  - a. Use scientific vocabulary to describe chemical phenomenon.
  - b. Write equations that describe chemical change using accepted nomenclature and symbols.

- c. Describe the major themes associated with concepts presented during the term of study
- 3. Interpret the numerical and graphical presentation of scientific data. (1-10) ((PBS 2)
  - a. Use data to support a conclusion or interpretation.
  - b. Use graphical data to analyze unknowns.
  - c. Draw conclusions regarding a chemical relationship using information presented on graphs.
- 4. Use the tools and equipment necessary for basic scientific analysis and research. (1,2,4,8,9) (PBS 2)
  - a. Use standard glassware and instruments to manipulate and measure chemical quantities.
- 5. Record the results of investigation through writing. (1-10) (PBS 1,3)
  - a. Complete a report sheet that documents the result of an investigation.

**REQUIRED ASSESSMENT:**

1. Students will complete a common comprehensive written final exam. Assessment will also include departmental pre-semester and post-semester evaluations. Instructors may utilize a variety of additional assessment measures including, but not limited to, quizzes, mid-term exams, written assignments, and homework. In all cases the required assessment measures will be outlined on the course syllabus.

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL), SUN# CHM 1130

**CHM 138 - Chemistry for Allied Health****COURSE DESCRIPTION:**

CHM 138. Chemistry for Allied Health (5). Elements of general, organic and biochemistry. A study of the chemical behavior of matter for Nursing and allied health applications. Prerequisite: MAT 092 OR MAT 122 OR MAT 142 OR MAT 152. Reading Proficiency. Four lecture. Three lab.

**COURSE CONTENT:**

1. Math Preview
  - a. Exponential Notation, metric System, dimensional Analysis
2. Definition of Chemistry and Scientific Method
3. Properties of matter
  - a. States of matter, atomic Theory, electron configurations of atoms, Periodic Table
4. Chemical bonding
  - a. Ionic and covalent bonds, electron dot structures, shape and polarity of molecules
5. Chemical equations
  - a. Balancing equations, types of chemical reactions, mole calculations
6. Intermolecular Forces
  - a. London Dispersion Forces, dipole Interaction, hydrogen bonding
7. Properties of solids, liquids, and gases
  - a. Kinetic molecular theory, changes of state
8. Solutions
  - a. Definition, properties, weight percent concentration, molarity, osmolarity, osmosis and dialysis
9. Reaction Rates
  - a. Exothermic and endothermic reactions, catalysts, half-life and drug dose
10. Acids-bases
  - a. Arrhenius definitions, pH scale, buffers, blood buffers, analysis of blood gases
11. Nuclear Chemistry
  - a. Types of radioactive decay, medical usage of radioisotopes, nuclear scans, medical imaging,
12. Organic Chemistry
  - a. Types of organic compounds, organic reactions, organic synthesis, biosynthesis of cholesterol
13. Polymers
  - a. Types, names, formulas, synthetic and natural polymers
14. Biochemical molecules
  - a. Carbohydrates, lipids, proteins, enzymes, cholesterol and heart disease

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (all content items 1-15) (PBS 1,3)
  - a. Solve chemical problems using concepts central to chemistry
  - b. Relate molecular shape and polarity to physical properties
2. Identify the unifying themes of the scientific field of study. (items 1-15) (PBS 1,3)
  - a. Use scientific vocabulary to describe chemical phenomenon.
  - b. Write equations that describe chemical change using accepted nomenclature and symbols.
  - c. Describe the major themes associated with concepts presented during the term of study
3. Interpret the numerical and graphical presentation of scientific data. (items 1-15) ((PBS 2)
  - a. Use data to support a conclusion or interpretation.
  - b. Use graphical data to analyze unknowns.
  - c. Draw conclusions regarding a chemical relationship using information presented on graphs.
4. Use the tools and equipment necessary for basic scientific analysis and research. (items 1,2,7,11) ((PBS 2)
  - a. Use standard glassware and instruments to manipulate and measure chemical quantities.
5. Record the results of investigation through writing. (items 1-15)
6. Use chemical theory to analyze allied health applications. (items 7,8,10,12,14)

**REQUIRED ASSESSMENT:**

1. Students will complete a common comprehensive written final exam. Assessment will also include departmental pre-semester and post-semester evaluations. Instructors may utilize a variety of additional assessment measures including, but not limited to, quizzes, mid-term exams, written assignments, and homework. In all cases the required assessment measures will be outlined on the course syllabus.

5.000 Credit hours  
4.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit


**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical &amp; Biol Science (AGEC), Scientific (SL)

**CHM 151 - General Chemistry I****COURSE DESCRIPTION:**

CHM 151. General Chemistry I (5).  **CHM 1151.** Exploration of chemical measurement, classification, stoichiometry, and structure/function relationships for inorganic, organic and biological materials. Chemical principles are presented at a level appropriate for science majors and pre-professional students. Prerequisite: MAT 122 or higher or two years of high school algebra. Reading Proficiency. Four lecture. Three lab.

**COURSE CONTENT:**

1. Scientific method and measurement
  - a. Observation, description, and experiment
  - b. The metric system
  - c. Problem solving using dimensional analysis
2. Structure, properties, and classification of matter
  - a. Atomic structure and electron configurations
  - b. Elements, molecules, ions, and compounds
  - c. Chemical formulas, equations, nomenclature
3. Physical behavior of matter
  - a. Gases, liquids and solids
  - b. Solutions and electrolytes
  - c. Concentration, and dilution
4. Stoichiometry and reactions
  - a. The mole concept
  - b. Writing and balancing chemical equations
  - c. Limiting reagent and reaction yield
5. Chemical reactions and behavior
  - a. Acids and bases, oxidation and reduction
6. Chemical bonding
  - a. Ionic vs. Covalent compounds
  - b. Lewis Structures
  - c. VSEPR and Valence Bond Theory
  - d. Molecular structure and properties
7. Introductory aspects of organic, and biological chemistry
  - a. Hydrocarbons, structural formulas, functional groups
8. Laboratory practice
  - a. Conventional and Instrumental analysis, experimental design, electronic data processing and scientific report writing.

**LEARNING OUTCOMES::**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-8) (PBS 1,3)
  - a. Solve chemical problems using the concepts central to chemistry.
  - b. Draw conclusions regarding physical and chemical phenomenon through evaluation of data and observations.
2. Identify the unifying themes of the scientific field of study. (1-8) (PBS 1,3)
  - a. Use scientific vocabulary to describe or identify chemical phenomenon.
  - b. Write equations that describe chemical change using accepted nomenclature and symbols.
  - c. Describe the major themes associated with concepts presented during the term of study.
  - d. Identify the correct analysis of a problem or explanation of a concept.
3. Interpret the numerical and graphical presentation of scientific data. (1-8) (PBS 2)
  - a. Use data to support a conclusion or interpretation.
  - b. Draw conclusions from chemical information presented on graphs.
4. Use the tools and equipment necessary for basic scientific analysis and research. (8) (PBS 2)
  - a. Use standard glassware and instruments to manipulate and measure chemical quantities.
5. Record the results of investigation through writing. (8) (PBS 2,3)
  - a. Write a report, using chemical literature norms, to document the result of an investigation.

**REQUIRED ASSESSMENT:**

1. Students will complete a common comprehensive written final exam. Assessment will also include departmental pre-semester and post-semester evaluations. Instructors may utilize a variety of additional assessment measures including, but not limited to, quizzes, mid-term exams, written assignments, and homework. In all cases the required assessment measures will be outlined on the course syllabus.

5.000 Credit hours

4.000 Lecture hours

3.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab


Sciences, Health &amp; Public Safe Division

Physical Sciences Department

**Course Attributes:**

Physical &amp; Biol Science (AGEC), Scientific (SL), SUN# CHM 1151

**CHM 152 - General Chemistry II****COURSE DESCRIPTION:**

CHM 152. General Chemistry II (5) (Spring).  **CHM 1152.** Advanced topics in general chemistry including chemical kinetics, equilibrium, acid-base, and electrochemistry. Chemical principles are presented at a level appropriate for science majors and pre-professional students. Prerequisite: CHM 151. Reading Proficiency. Four lecture. Three lab.

**COURSE CONTENT:**

1. Laboratory practice
  - a. Instrumental analysis, computer assisted data acquisition in a laboratory setting (pH titrations, etc.), experimental design, long term project management, electronic data processing and scientific report writing.
2. Solutions and Colligative Properties of Solutions
3. Chemical Kinetics: Reaction Mechanisms and Reaction Rates
4. Chemical Equilibrium: Equilibrium Constants, Reaction Diagrams, and Le Chatelier's Principle
5. Advanced Equilibrium Principles: Acid-Base behavior, pH and Titration Curves, Buffers and Buffer preparation, solubility products.
6. Chemical Thermodynamics: Enthalpy, Entropy, and Gibbs Free Energy.
7. Electrochemistry: Balancing Redox Equations, Electrochemical Cells, Connections with Thermodynamics and Equilibrium
8. Nuclear Chemistry: Nuclear power, bombs, waste, radiologic dating, and writing nuclear equations

## LEARNING OUTCOMES:

1. Introductory aspects of organic, and biological chemistry<sup>1</sup>. Use scientific reasoning to evaluate physical and natural phenomena. (1-9) (PBS 1,3)
  - a. Solve chemical problems associated with kinetic, equilibrium, thermodynamic, and electrochemical principles.
  - b. Draw conclusions regarding physical and chemical phenomenon through evaluation of data and observations collected in a traditional laboratory setting.
2. Identify the unifying themes of the scientific field of study. (1-9) (PBS 1,3)
  - a. Use appropriate scientific vocabulary to describe or identify chemical phenomenon associated with kinetics, equilibrium, thermodynamics, electrochemistry and nuclear chemistry.
  - b. Write equations that represent chemical equilibrium, and mechanisms of reaction using accepted nomenclature and symbols.
  - c. Describe the major themes associated with concepts presented during the term of study.
  - d. Identify the correct analysis of a problem or explanation of a concept.
3. Interpret the numerical and graphical presentation of scientific data. (1-9) (PBS 2,3)
  - a. Use data to support a conclusion or interpretation.
  - b. Draw conclusions from chemical information presented on graphs.
4. Use the tools and equipment necessary for basic scientific analysis and research. (1) (PBS 2)
  - a. Use laboratory glassware and instruments in a traditional laboratory environment to manipulate and measure chemical quantities.
5. Record the results of investigation through writing. (1) (PBS 2,3)
  - a. Write a report, using chemical literature norms, to document the result of an investigation.

## REQUIRED ASSESSMENT:

1. Students will complete a common comprehensive written final exam. Assessment will also include departmental pre-semester and post-semester evaluations. Instructors may utilize a variety of additional assessment measures including, but not limited to, quizzes, mid-term exams, written assignments, and homework. In all cases the required assessment measures will be outlined on the course syllabus.

5.000 Credit hours  
4.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

## Course Attributes:

Physical & Biol Science (AGEC), Scientific (SL), SUN# CHM 1152

**CHM 194 - Research Opportunities for Community College Students**

## COURSE DESCRIPTION:

CHM 194. Research Opportunities for Community College Students (1). Exploration of undergraduate research opportunities for community college students with current activities in physical and biological sciences research at Yavapai College highlighted. Includes the identification of, and application processes for, external research internships and undergraduate research experiences. Prerequisite: Reading Proficiency. One lecture.

## COURSE CONTENT:

1. Undergraduate research for community college students
2. Internship opportunities
3. Internship and research application processes
4. Yavapai College (YC) research topics and opportunities

## LEARNING OUTCOMES:

1. Identify potential internship and/or research opportunities in area of interest. (1,2)
2. Apply for internship and/or research opportunities in area of interest. (3)
3. Describe ongoing research efforts by YC research directors. (4)

## REQUIRED ASSESSMENT:

1. Portfolio of research topics
2. External internship/research application

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Physical Sciences Department

**CHM 196 - Directed Research Chemistry**

## COURSE DESCRIPTION:

CHM 196. Directed Research: Chemistry (1-2). Faculty or mentor directed student research in an area of current scientific investigation. Lab or fieldwork with the object of contributing to the professional body of scientific knowledge. Includes data collection, analysis and written and oral presentation. Prerequisite: Reading Proficiency.

## COURSE CONTENT:

1. Safety training
2. Concepts and central themes in the research area
3. Methods of inquiry
4. Instrumental, laboratory and fieldwork methods and techniques
5. Data analysis and presentation
6. Written communication of research results
7. Oral communication of research results

## LEARNING OUTCOMES:

1. Use the tools, equipment, and instrumentation relevant to the research area to gather scientific information. (1-5)
2. Maintain a permanent and timely record of research progress and results. (4-6)
3. Communicate the scope and detail of the project to others through written and verbal presentations. (6,7)

## REQUIRED ASSESSMENT:


1. Professional laboratory notebook including log of research hours
2. **Poster presentation or authorship of scientific paper**

**1.000 TO 2.000 Credit hours**

Levels: Credit



**Schedule Types: Directed Research****Sciences, Health & Public Safe Division  
Biological Sciences Department****CHM 235 - General Organic Chemistry I****COURSE DESCRIPTION:**

CHM 235. General Organic Chemistry I (4) (Fall).  **CHM 2235**. Chemistry of organic compounds with emphasis on reaction mechanisms, stereo-chemistry, and structure. Chemical principles are presented at a level appropriate for science majors, and pre-professional students. Concurrent registration in CHM 235L recommended. Prerequisite: CHM 151. Reading Proficiency. Four lecture.

**COURSE CONTENT:**

1. Bonding, and Molecular Structure
2. Functional Groups and Infrared Spectroscopy
3. Hydrocarbons (alkanes, alkenes, alkynes) structure, properties, reactivity and nomenclature
4. Stereochemistry-Chiral Molecules
5. Organic Reactions and Mechanisms - substitutions, eliminations, additions, oxidations/reductions, and radical reactions.
6. Preparation and reactions of alkenes, alkynes, and alkyl halides
7. Preparation and reactions of alcohols and ethers
8. Nuclear Magnetic Resonance and Mass Spectroscopy

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-8) (PBS 1,3)
  - a. Solve chemical problems associated with synthetic pathways and mechanisms of reaction.
  - b. Draw conclusions regarding physical and chemical phenomenon through evaluation of data and observations.
2. Identify the unifying themes of the scientific field of study. (1-8) (PBS 1,3)
  - a. Use appropriate scientific vocabulary to describe or identify chemical phenomenon associated with alkanes, alkenes, alkynes, alkyl halides, alcohols, and ethers.
  - b. Write mechanistic diagrams that represent the step-by-step progress of organic reactions using accepted nomenclature and symbols.
  - c. Describe the major themes associated with concepts presented during the term of study.
3. Interpret the numerical and graphical presentation of scientific data. (1-8) (PBS 3)
  - a. Use data to support a conclusion or interpretation.
  - b. Draw conclusions from chemical information presented on graphs.
4. Use the tools and equipment necessary for basic scientific analysis and research. (1-8) (PBS 4)
  - a. Use spectroscopic analysis to identify specific organic structures.
5. Record the results of investigation through writing. (1-8) (PBS 5)
  - a. Write papers and/or short essays on research oriented topics associated the major themes and concepts presented during the term of study.

**REQUIRED ASSESSMENT:**

1. Students will complete a common comprehensive written final exam. Assessment will also include departmental pre-semester and post-semester evaluations. Instructors may utilize a variety of additional assessment measures including, but not limited to, quizzes, mid-term exams, written assignments, and homework. In all cases the required assessment measures will be outlined on the course syllabus.

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit


**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL), SUN# CHM 2235

**CHM 235L - General Organic Chemistry I Lab****COURSE DESCRIPTION:**

CHM 235L. General Organic Chemistry I Lab (1) (Fall).  **CHM 2235**. Laboratory techniques and practice with emphasis on separations, purification, synthesis and spectroscopic identification of organic structures. For science majors and pre-professional students. Prerequisite: CHM 235 (may be taken concurrently). Reading Proficiency. Three lab.

**COURSE CONTENT:**

1. Purification of Organic Molecules: separations, extraction, distillation, chromatography, and recrystallization
2. Synthesis of organic compounds
3. Functional groups and infrared spectroscopy
4. Nuclear magnetic resonance spectroscopy
5. Laboratory notebooks
6. Scientific reports
7. Organic laboratory glassware, equipment, instrumentation and techniques

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-6) (PBS 1,2,3)
  - a. Solve chemical problems associated with synthetic pathways and mechanisms of reaction.
  - b. Draw conclusions regarding physical and chemical phenomena through evaluation of data and observations.
2. Identify the unifying themes of the scientific field of study. (5, 6) (PBS 1,2,3)
  - a. Use appropriate scientific vocabulary (verbal and written) to describe and/or identify chemical phenomena associated with organic laboratory techniques.
  - b. Write mechanistic diagrams that represent the step-by-step progress of organic reactions using accepted nomenclature and symbols.
  - c. Document the ongoing and final efforts associated with laboratory projects.
3. Interpret the numerical and graphical presentation of scientific data. (3-6) (PBS 2,3)
  - a. Use data to support a conclusion or interpretation.
  - b. Use spectroscopic analysis to identify organic structures.
4. Use the tools and equipment necessary for research in the organic chemistry laboratory. (1-4, 7) (PBS 2)
5. Record the results of investigation through writing. (5, 6) (PBS 2,3)

**REQUIRED ASSESSMENT MEASURES:**

All CHM 235 students will maintain a portfolio of work in the form of a laboratory notebook. The notebook will document all laboratory efforts including any plots of spectroscopic, chromatographic or other computer generated data. Students will prepare one report in the style of a professional chemistry publication. In all cases the required assessment measures will be outlined on the course syllabus.

1.000 Credit hours  
0.000 Lecture hours

3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab


Sciences, Health & Public Safe Division  
Physical Sciences Department

Course Attributes:

Physical & Biol Science (AGEC), Scientific (SL), SUN# CHM 2235

### CHM 236 - General Organic Chemistry II

COURSE DESCRIPTION:

CHM 236. General Organic Chemistry II (4) (Spring).  **CHM 2236**. Advanced topics in organic chemistry including the synthesis and reactions of aromatic and carbonyl compounds. Chemical principles are presented at a level appropriate for science majors and pre-professional students. Concurrent registration in CHM 236L recommended. Prerequisite: CHM 235. Reading Proficiency. Four lecture.

COURSE CONTENT:

1. Spectroscopic Identification of Organic Compounds
2. Properties, Synthesis, and Reactions of Dienes and Conjugated Molecules.
3. Properties, Synthesis, and Reactions of Aromatic Molecules.
4. Properties, Synthesis, and Reactions of Aldehydes and Ketones.
5. Properties, Synthesis, and Reactions of Carboxylic Acids and Carboxylic Acid Derivatives.
6. Properties, Synthesis, and Reactions of Amines.
7. Electrophilic and Nucleophilic Aromatic Substitution Reactions
8. Nucleophilic Substitution Reactions of Carbonyls
9. Introduction to the properties and reactions of Amino Acids and Proteins
10. Introduction to the properties and reactions of lipids and carbohydrates.

LEARNING OUTCOMES:

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-10) (PBS 1,3)
  - a. Solve chemical problems associated synthetic pathways and mechanisms of reaction.
  - b. Draw conclusions regarding physical and chemical phenomenon through evaluation of data and observations.
2. Identify the unifying themes of the scientific field of study. (1-10) (PBS 1,3)
  - a. Use appropriate scientific vocabulary to describe or identify chemical phenomenon associated with aromatic and carbonyl compounds
  - b. Write mechanistic diagrams that represent the step-by-step progress of organic reactions using accepted nomenclature and symbols.
  - c. Describe the major themes associated with concepts presented during the term of study.
3. Interpret the numerical and graphical presentation of scientific data. (1-10) (PBS 2,3)
  - a. Use data to support a conclusion or interpretation.
  - b. Draw conclusions from chemical information presented on graphs.
4. Use the tools and equipment necessary for basic scientific analysis and research. (1-10) (PBS 2,3)
  - a. Use spectroscopic analysis to identify specific organic structures.
  - b. Use computer generated graphics and computer modeling programs to illustrate and model the mechanisms and structures associated with organic transformations.
5. Record the results of investigation through writing. (1-10) (PBS 2,3)
  - a. Write papers and/or short essays on research oriented topics associated the major themes and concepts presented during the term of study.

REQUIRED ASSESSMENT:

1. Students will complete a common comprehensive written final exam. Assessment will also include departmental pre-semester and post-semester evaluations. Instructors may utilize a variety of additional assessment measures including, but not limited to, quizzes, mid-term exams, written assignments, and homework. In all cases the required assessment measures will be outlined on the course syllabus.

4.000 Credit hours

4.000 Lecture hours

0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture


Sciences, Health & Public Safe Division  
Physical Sciences Department

Course Attributes:

Physical & Biol Science (AGEC), Scientific (SL), SUN# CHM 2236

### CHM 236L - General Organic Chemistry II Lab

COURSE DESCRIPTION:

CHM 236L. General Organic Chemistry II Lab (1) (Spring).  **CHM 2236**. Additional techniques in organic chemistry; preparation, separation and identification of organic compounds. Prerequisite: CHM 236 (may be taken concurrently) and CHM 235L. Three lab.

COURSE CONTENT:

1. Preparation of homophthalic acid
2. The Wittig reaction
3. Synthesis and resolutionary--phenylethylamine
4. Acetoacetic ester and malonic ester synthesis
5. Sandmeyer reaction
6. Beckmann rearrangement; benzylic acid rearrangement
7. Carbenes
8. Crossed aldo condensation
9. Individual project

LEARNING OUTCOMES:

1. Demonstrate laboratory techniques including steam and vacuum distillation, thin layer chromatography, vapor phase chromatography, photochemical reaction techniques.
2. Demonstrate ability to complete multi-step synthesis.
3. Demonstrate ability to resolve enantiomers.
4. Demonstrate ability to plan, design and complete and individual project in either synthesis a natural product and purification.

1.000 Credit hours

0.000 Lecture hours

3.000 Lab hours

Levels: Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL), SUN# CHM 2236

**CHM 296 - Internship: Chemistry**

**COURSE DESCRIPTION:**

CHM 296. Internship: Chemistry (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Sciences, Health & Public Safe Division  
Physical Sciences Department

**CHM 299 - Independent Study Chemistry**

**COURSE DESCRIPTION:**

CHM 299. Independent Study Chemistry (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Sciences, Health & Public Safe Division  
Physical Sciences Department

**CHP 190 - Honors Colloquium**

**COURSE DESCRIPTION:**

CHP 190. Honors Colloquium (1). Critical thinking topics for College Honors Program participants. Prerequisite: Admission to the College Honors Program. Reading Proficiency. One lecture. One lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Critical thinking concepts
2. Reading and research activities
3. Questioning and problem solving methods
4. Community service
5. Interpersonal and group skills
6. Leadership skills
7. Group consciousness and team building skills
8. Analysis and Synthesis
9. Academic planning
10. Educational travel

**LEARNING OUTCOMES:**

1. Describe the elements and aspects of the critical thinking processes. (1) (CT 1,3)
2. Describe alternative ways of approaching and exploring an issue or controversy. (1,3,8) (CT 1,3)
3. Select, evaluate, and organize materials for use in academic presentations. (1,2,8,9) (CT 2)
4. Organize and manage a collaborative seminar presentation/discussion. (1,3,5-7,9) (CT 4)
5. Manage and participate in small and large groups engaged in accomplishing a focused task. (3-7) (CT 3)
6. Support, verbally and in writing, views regarding academic and social/political issues. (1,3,8) (CT 1,3,4)
7. Organize and complete community service projects. (4,5-7) (CT 4)
8. Scrutinize his or her performance as a team member in group activity. (5-7) (CT 3,4)
9. Distinguish between group responsibility and individual choices. (1,3,5-7) (CT 3,4)
10. Incorporate multiple resources leading to long term academic planning. (9) (CT 2,4)
11. Research, organize, implement and evaluate educational travel opportunities. (10) (CT 2,4)

1.000 Credit hours  
1.000 Lecture hours  
1.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
College Honors Program Department

**Course Attributes:**

Critical Thinking (AGEC), Critical Thinking (CT)

**CHP 296 - Internship: College Honors****COURSE DESCRIPTION:**

CHP 296. Internship: College Honors (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
College Honors Program Department

**CHP 299 - Independent Study College Honors**

**COURSE DESCRIPTION:**

CHP 299. Independent Study College Honors (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours

0.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division

College Honors Program Department

**CNC 101 - CNC Machine Operator****COURSE DESCRIPTION:**

CNC 101. CNC Machine Operator (2). Basic principles and operative skills in CNC milling machines and lathes. One lecture. Three lab.

**COURSE CONTENT:**

1. Shop safety
2. Measuring instruments and Micrometer reading
3. CNC Machine Operation

**LEARNING OUTCOMES:**

1. Apply machine shop safety principles. (1)
2. Use micro-measurement instruments. (2)
3. Read a micrometer (2)
4. Turn on, home the machine and determine the active program. (3)
5. Load CNC programs into the controller using at least 3 of the 4 accepted methods. (3)
6. Load the proper program into the "EDITOR" and confirm that listed tools in the program are those which correspond to the tools in the machine. (3)
7. Run a part program to completion. (3)
8. Check oil levels, coolant levels, and coolant concentration. (3)
9. Set tooling and record the appropriate tooling data into the controller. (3)
10. Set the work coordinate for a given part and input data into the work offset page of the controller (3)
11. Discern the difference between a graphical representation of a good tool path vs. a near net shape. (3)
12. Move, copy, delete, insert and find & replace data in a program. (3)
13. Operate the CNC milling machine in a manual mode and set the machine to specific operational settings. (3)
14. Restart the program at any tool change or at any point in the program. (3)
15. Touch off all the tools and record their offset data on the tool offset page. (3)
16. Measure the stock to determine the amount of excess length. (3)
17. Load work into the Chuck. (3)
18. Select a facing/turning tool to face the work piece off. (3)
19. Set CNC for appropriate RPMs. (3)
20. Face the part off using the hand wheel. (3)
21. Find all the feed rates concerning linear motion for a finish pass from .003 to .005. (3)

2.000 Credit hours

1.000 Lecture hours

3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division

Machining & Manufacturing Tech Department

**Course Attributes:**

Written Comm (WC)

**CNC 102 - CNC Machine Set Up****COURSE DESCRIPTION:**

CNC 102. CNC Machine Setup (2) (Fall). Basic principles and operative skills to setup and operate through 1st. article part CNC mills and lathes. Prerequisite: CNC 101. One lecture. Three lab.

**COURSE CONTENT:**

1. CNC Mill and lathe operation.
2. Speeds and feeds.
3. Blueprint reading.
4. Troubleshooting tooling problems.
5. Dimensioning.

**LEARNING OUTCOMES:**

1. Identify coordinate and primary machine axes. (1)
2. Define and describe absolute and incremental positioning. (1)
3. Show procedures in starting the CNC milling machine and for running a program in graphics mode.(1)

4. Identify the machine coordinate systems and how to use them. (1)
5. Identify CNC tooling and applications. (1,4)
6. Identify cutting tool collets and holding fixtures. (1,4)
7. Identify the proper use of fixtures, setups and gaging. (1)
8. Set work offsets. (1,4)
9. Load tools and set tool length offsets. (1,5)
10. Use proper cutter compensation and calculate cutting tool speeds and feeds. (1,4)
11. Read blue prints and interrupt job operation sheets. (3)
12. Identify geometric tolerance and how they are used. (5)
13. Define program format and definitions within. (1,2)
14. Identify and define machine default "G" codes and miscellaneous "M" codes. (1,2,4)
15. Describe the program structure. (4,5)
16. Read, interrupt and edit machine programs. (1,2,4,5)
17. Identify alphabetical address codes. (1)
18. Determine solutions for twist drill and endmill problems. (4)
19. Determine how to maintain part reliability and dimensional specifications for multiple parts. (5)
20. Adjust for tool nose compensation and determine solutions for tooling problems. (4)

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Machining & Manufacturing Tech Department

### CNC 201 - Computer Aided Programming for CNC Machining

#### COURSE DESCRIPTION:

CNC 201. Computer Aided Programming for CNC Machining (3) (Spring). Two-dimensional designing of machinery parts using Feature Cam software. Includes design and illustration of the part, tooling sequencing, starting a lathe using Feature Cam, part cutting simulation, and Numerical Control Code. Prerequisite: CNC 101 (may be taken concurrently). Two lecture. Two lab.

#### COURSE CONTENT:

1. Tooling for Machining Centers.
2. Using FeatureCam.
3. Introduction to 2.5D milling.
4. Introduction to Turning.

#### LEARNING OUTCOMES:

1. Describe tooling used in a CNC Mill Machine. (1)
2. Produce a CADD drawing for CNC machines using Feature Cam. (2)
3. Produce a 2.5 D milling part. (3)
4. Manage a CNC lathe and Mill after Feature Cam programming for production of parts.(4)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Machining & Manufacturing Tech Department

#### Course Attributes:

Critical Thinking (CT)

### CNC 202 - 3-D Programming and Rapid Prototyping for CNC

#### COURSE DESCRIPTION:

CNC 202. 3-D Programming and Rapid Prototyping for CNC (4). Basic principles of 3-D programming and rapid prototyping for modern manufacturing applications. Prerequisite: CNC 201. Three lecture. Three lab.

#### COURSE CONTENT:

1. Features and 3-D CAD models
2. 3-D milling
3. 3-D scanner and rapid prototyping

#### LEARNING OUTCOMES:

1. Create a 3-D CAD model and manipulate its alignment. (1)
2. Setup automatic feature recognition. (1)
3. Setup hole and pocket recognition features. (1)
4. Create a slot feature. (1)
5. Create a 3-D surface feature. (2)
6. Create a surface milling feature. (2)
7. Import a 3-D Part. (2)
8. Select tool path and tool type strategies. (2)
9. Discuss 3-D scanning strategies. (3)
10. Review 3-D printing in plastic. (3)
11. Review 3-D machining from 3-D scans. (3)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Machining & Manufacturing Tech Department

**Course Attributes:**  
Creative Thinking (CR)

### **CNT 100 - Introduction to Computer Networking Technology**

**COURSE DESCRIPTION:**

CNT 100. Introduction to Computer Networking Technology (3). Introduction to technologies, terminology, and skills used in the world of data networking. Emphasis on practical applications of networking and computer technology to real-world problems, including home and small-business network setup. Three lecture.

**COURSE CONTENT:**

1. Computer network fundamentals
2. Network hardware essentials
3. Network topologies and technologies
4. Network media
5. Network protocols
6. Network models and standards
7. Advanced network hardware concepts
8. Network operating systems

**LEARNING OUTCOMES:**

1. Identify computer and network components and describe network communication. (1)
2. Describe the function of common network hardware. (2)
3. Compare and contrast characteristics of the major network topologies and technologies. (3)
4. Describe network media characteristics and install network cabling. (4)
5. Configure and describe the operation of network protocols. (5)
6. Describe the OSI and TCP/IP models of networking. (6)
7. Configure and compare network infrastructure hardware. (7)
8. Install and configure a network operating system. (8)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**Course Attributes:**  
Diversity (DA)

### **CNT 110 - A+ Computer Technician Certification**

**COURSE DESCRIPTION:**

CNT 110. A+ Computer Technician Certification (4). Install, configure, support, and troubleshoot personal computers. Emphasis on PC hardware, and installation, operation, and upgrade procedures. Focus on practical networking in a PC environment along with server hardware maintenance and troubleshooting. Preparation for the Comp TIA A+ Certification exam. This course, with CNT 120, prepares the learner for the Comp/TIA Server+ Certification Exam. Preparedness Recommendations: Experience using a computer keyboard and accessing the Internet with a web browser. Three lecture. Three lab.

**COURSE CONTENT:**

1. Information Technology (IT) basics
2. How Computers Work
3. Assembling a Computer
4. Troubleshooting PC Hardware
5. Preventive Maintenance
6. Operating System Fundamentals
7. Troubleshooting Software and Operating Systems
8. Multimedia Capabilities
9. Printers and Printing
10. Hardware Fundamentals for Servers
11. Networking Fundamentals

**LEARNING OUTCOMES:**

1. Discuss the fundamentals of information technology (IT) and identify major IT components in a PC environment.
2. Install, configure, and upgrade PC hardware components, PC peripherals, and PC firmware.
3. Diagnose and troubleshoot a variety of PC hardware and peripheral component problems.
4. Identify and avoid potential safety hazards while working with PCs.
5. Identify PC components related to the PC motherboard, processors, and memory modules.
6. Implement preventive maintenance procedures.
7. Utilize common PC operating systems and discuss their operation.
8. Diagnose and troubleshoot PC software and operating systems problems.
9. Work with multimedia components in a PC environment.
10. Describe the printing process and identify printer components for a variety of printing technologies.
11. Implement care and maintenance procedures for printers.
12. Compare and contrast server hardware requirements versus PC hardware requirements.
13. Describe redundant disk configurations.
14. Configure and upgrade major server components.
15. Describe basic networking concepts including topologies, protocols, and network components.
16. Install and configure network cards and identify network media types.
17. Identify the causes of common network problems.

**REQUIRED ASSESSMENT:**

1. Cisco Academy on-line chapter exams and final exam. Cisco Academy skills final exam.

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**Course Attributes:**  
Civic Engagement (CE)

### **CNT 115 - Network+: Networking Technologies Certification**

#### **COURSE DESCRIPTION:**

CNT 115. Network+: Networking Technologies Certification (4). A broad range of networking technologies is examined. Topics include network media, topologies, protocols, operating systems, network management, and security. Preparation for the Comp TIA Network+ certification exam. Three lecture. Three lab.

#### **COURSE CONTENT:**

1. Introduction to networking
2. Networking standards and the OSI model
3. Transmission basics and networking media
4. Introduction to Transmission Control Protocol/Internet Protocol (TCP/IP)
5. Topologies and Ethernet standards
6. Networking hardware, switching, and routing
7. Wide Area Networks (WAN)
8. Wireless networking
9. In-depth TCP/IP networking
10. Virtual networking
11. Network security
12. Voice and video over IP
13. Troubleshooting network problems
14. Ensuring integrity and availability
15. Network management

#### **LEARNING OUTCOMES:**

1. Describe and define introductory network concepts and terms. (1)
2. Identify network standards and describe the seven layers of the OSI networking model. (2)
3. Identify network media types and describe transmission methods. (3)
4. Identify and explain the functions of the core TCP/IP protocols. (4)
5. Describe network topologies and compare Ethernet standards. (5)
6. Identify networking hardware and describe the operation of network devices. (6)
7. Describe the major WAN technologies. (7)
8. Identify and configure various wireless networking technologies. (8)
9. Configure the TCP/IP protocol and devise IP addressing schemes. (9)
10. Describe virtual network technologies. (10)
11. Employ network security features. (11)
12. Explain voice over IP (VoIP) services. (12)
13. Troubleshoot and manage network problems. (13)
14. Develop policies to ensure network availability and reliability. (14)
15. Manage network components and maintain network documentation. (15)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

### **CNT 120 - Introduction to Windows Server**

#### **COURSE DESCRIPTION:**

CNT 120. Introduction to Windows Server (3). Introduction to the Windows Server line of network operating systems. Topics include installation, file systems, networking, directory services, file and printer sharing, and security. Extensive hands-on exercises with realistic scenarios to help students apply new concepts and sharpen problem-solving skills. Two lecture. Three lab.

#### **COURSE CONTENT:**

1. Windows Server products and requirements
2. Windows Server installation
3. Server environment
4. Directory services
5. Resource access
6. Printing
7. Data storage
8. Networking
9. Remote access
10. Security

#### **LEARNING OUTCOMES:**

1. Describe the Windows Server family of products and define system requirements for each. (1)
2. Install Windows Server and describe the options and requirements for installing Windows Server. (2)
3. Configure the server environment. (3)
4. Install and configure Windows directory services. (4)
5. Manage access to resources. (5)
6. Configure printing services. (6)
7. Manage and configure data storage. (7)
8. Configure and troubleshoot Windows network protocols and services. (8)
9. Configure remote access services. (9)
10. Configure security protocols. (10)

#### **REQUIRED ASSESSMENT:**

1. Cisco Academy on-line chapter exams and final exam. Cisco Academy skills final exam.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours



**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**Course Attributes:**  
Written Comm (WC)

### [CNT 121 - Windows Client Operating System](#)

**COURSE DESCRIPTION:**

CNT 121. Windows Client Operating System (3). A thorough examination of the Microsoft Windows client operating system. Installation, management, and support of the Windows client operating systems in a network environment. Includes advanced topics such as disk management, secure network configuration, disaster recovery, and performance tuning. Preparation for the Microsoft Windows MCTS certification exam. Prerequisite: CNT 100 or CNT 115 or CNT 120. Two lecture. Three lab.

**COURSE CONTENT:**

1. Windows client operating system
2. Installing Windows
3. System utilities
4. Disk and file system management
5. User management
6. Windows security features
7. Networking
8. Remote access
9. User productivity and media tools
10. Performance tuning
11. Application support
12. Disaster recovery and troubleshooting
13. Enterprise computing

**LEARNING OUTCOMES:**

1. Describe the Windows client family of products and define their system requirements. (1)
2. Perform a Windows installation and describe options and requirements for installation. (2)
3. Use Windows system utilities. (3)
4. Manage disks and describe storage technologies. (4)
5. Manage Windows file systems. (4)
6. Work with user accounts and profiles. (5)
7. Describe and implement Windows security features. (6)
8. Configure and troubleshoot Windows network protocols and services. (7)
9. Evaluate methods and configure protocols for remote access. (8)
10. Configure Windows printing and user productivity tools. (9)
11. Use Windows performance management utilities for monitoring and baseline logging. (10)
12. Utilize Windows application management facilities. (11)
13. Troubleshoot Windows configurations and use disaster recovery tools. (12)
14. Configure and manage a Windows client in an enterprise network environment. (13)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

[Syllabus Available](#)

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

### [CNT 122 - Windows Server I](#)

**COURSE DESCRIPTION:**

CNT 122. Windows Server I (4). Configuration of a Windows Server operating system. Topics include Active Directory services, group policy, DNS, and certificate services. Preparation for the Windows Server MCTS certification exam. Prerequisite: CNT 120. Three lecture. Three lab.

**COURSE CONTENT:**

1. Windows Server
2. Active Directory object types
3. Active Directory design and security
4. Account management
5. Windows file and printer services
6. Group policy
7. Windows networking
8. DNS for Active Directory
9. Active Directory infrastructure
10. Active Directory certificate services
11. Active Directory server roles
12. Server management

**LEARNING OUTCOMES:**

1. Explain Windows Server roles and core technologies. (1)
2. Install Windows Server. (1)
3. List and describe Active Directory object types. (2)
4. Design and secure an Active Directory database. (3)
5. Manage user and computer accounts. (4)
6. Use Windows file and printer services. (5)
7. Configure group policy. (6)
8. Describe the Windows networking paradigm. (7)
9. Configure DNS in an Active Directory environment. (8)
10. Configure and maintain the Active Directory infrastructure. (9)
11. Install and configure Active Directory certificate services and server roles. (10,11)
12. Maintain a Windows server. (12)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**Course Attributes:**  
Digital Lit (DL)

### [CNT 123 - Windows Server II](#)

#### COURSE DESCRIPTION:

CNT 123. Windows Server II (3). Configuration and management of a Windows Server network infrastructure. Topics include TCP/IP, DHCP, DNS, file and printer sharing, security, and network policy and access services. Prepares students for the Windows Server MCTS certification exam. Prerequisite: CNT 120. Two lecture. Three lab.

#### COURSE CONTENT:

1. Windows Server
2. Windows Server networks
3. Dynamic Host Configuration Protocol (DHCP)
4. Domain Name Services (DNS)
5. File services
6. Printing
7. Network policy and access services

#### LEARNING OUTCOMES:

1. Identify Windows editions and requirements. (1)
2. Deploy and secure Windows Server and Server Core. (1)
3. Manage and monitor a Windows network and configure Windows network protocols. (2)
4. Administer DHCP on clients and servers. (3)
5. Install and configure a DNS server. (4)
6. Manage a DNS environment. (4)
7. Configure shared file resources. (5)
8. Deploy shared printers. (6)
9. Configure routing and remote access. (7)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**Course Attributes:**  
Oral Communication (OC)

### [CNT 130 - Linux +:Linux Operating System Certification](#)

#### COURSE DESCRIPTION:

CNT 130. Linux+: Linux Operating System Certification (4). Installation, management, and support of the Linux operating system. Advanced topics including disk management, configuration of network services, and security. Prepares students for the CompTIA Linux+ certification requirements. Prerequisite: CNT 115 or CNT 120 or CNT 121. Three lecture. Three lab.

#### COURSE CONTENT:

1. Linux installation and setup
2. Linux configuration and system access
3. Linux file systems
4. Linux user accounts and file permission
5. Linux text editors
6. Linux command line interface and shell environments
7. The Linux graphical interface
8. Linux system troubleshooting
9. Linux system and hardware

#### LEARNING OUTCOMES:

1. Plan for and install a Linux operating system.(1)
2. Identify system hardware requirements and validate Linux support of the hardware.(1, 2, 9)
3. Manage and navigate the Linux file system.(3, 4)
4. Mount file systems and devices.(3)
5. Create and delete users and groups within the Linux environment.(4)
6. Identify and change file permission for users and groups in a Linux environment.(4)
7. Use text editors to create, edit and save files.(5)
8. Modify basic configuration files.(5)
9. Use the Linux command line interface to perform file management, check system status, and manage system configuration.(6)
10. Explain the concept of shell as used in the Linux operating system.(6)
11. Configure, and maintain the Linux graphical interface.(7)
12. Perform basic system management functions using the graphical user interface.(7)
13. Manage and configure network services.(2)
14. Install and configure network and file system security features. (2, 3)
15. Troubleshoot problems involving a Linux operating system. (8)

#### REQUIRED ASSESSMENT:

1. Cisco Academy on-line chapter exams and final exam. Cisco Academy skills final exam.

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

### **CNT 135 - Security+ Implement and Maintain Networksecurity**

**COURSE DESCRIPTION:**

CNT 135. Security+: Implementing and Maintaining Network Security (3). Network security concepts, communication security, network infrastructure security, basics of cryptography and operational/organizational security. Emphasis on network authentication and authorization, securing network devices and services, virus remedies, preventing network attacks, and securing remote access. Prepares students for the Comp/TIA Security+ certification. Prerequisite: CNT 115 or CNT 140. Two lecture. Three lab.

**COURSE CONTENT:**

1. Security elements
2. System Threats and risks
3. System protection
4. Network vulnerabilities and attacks
5. Network defenses
6. Wireless network security
7. Access control
8. Authentication
9. Vulnerability assessments
10. Security auditing
11. Cryptography basics
12. Cryptographic protocols and public key infrastructure
13. Business continuity planning and procedures
14. Policies and legislation

**LEARNING OUTCOMES:**

1. Define and describe the elements of network security. (1)
  2. Identify system threats and risks. (2)
  3. Configure security features for critical network infrastructure protocols and devices. (3)
  4. Describe system vulnerabilities and types of attacks. (4)
  5. Implement and configure network defenses. (5)
  6. Configure and describe network security. (6)
  7. Configure network access controls. (7)
  8. Describe system authentication methods. (8)
  9. Assess system vulnerability. (9)
  10. Audit network and system security configurations. (10)
  11. Define the elements of cryptography. (11)
  12. Configure cryptography protocols and describe a public key infrastructure. (12)
  13. Devise procedures for business continuity. (13)
  14. Develop network security policies. (14)
- 3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**Course Attributes:**

Scientific (SL)

### **CNT 140 - Cisco Networking Fundamentals**

**COURSE DESCRIPTION:**

CNT 140. Cisco Networking Fundamentals (4). Introduction to computer networking standards and operation. Includes network topologies, network addressing, basic network design, and cable installation. First of four courses to prepare students to pass the Cisco Certified Network Associate (CCNA) certification examination. Prerequisite: CNT 115 or CNT 120. Three lecture. Three lab.

**COURSE CONTENT:**

1. Communicating over the network
2. Application layer functionality and protocols
3. OSI (Open Systems Interconnection) transport layer
4. OSI network layer
5. Addressing the network: IPv4
6. OSI data link layer
7. OSI physical layer
8. Ethernet
9. Planning and cabling networks
10. Configuring and testing networks

**LEARNING OUTCOMES:**

1. Describe the process of data travelling across a network. (1)
2. Identify the functions of the TCP/IP (Transmission Control Protocol/Internet Protocol) application-layer protocols. (2)
3. Compare and contrast TCP and UDP's (User Datagram Protocol) function in networking. (3)
4. Describe the two parts of network addressing, and then identify the parts in specific protocol address examples. (4)
5. Calculate subnet masks to create an IP address scheme. (5)
6. Define and describe the function of a MAC address and other data-link layer addresses. (6)
7. Discuss a variety of network media and its qualities and application. (7)
8. Define the frame structure and functionality of the different Ethernet technologies. (8)
9. Develop a strategy for designing and implementing a physical network layout. (9)
10. Create a basic configuration for a layer three Cisco device and confirm the configuration. (10)

**REQUIRED ASSESSMENT:**

1. Cisco Academy on-line chapter exams and final exam. Cisco Academy skills final exam.

4.000 Credit hours

3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**Course Attributes:**  
Quantitative Lit (QL)

### [CNT 150 - Cisco Networking Router Technologies](#)

#### COURSE DESCRIPTION:

CNT 150. Cisco Networking Router Technologies (3). Introduction to network routing and router configuration. Includes routing protocols, Cisco IOS commands and operation, and network design using routers. Second of four courses to prepare students to pass the Cisco Certified Network Associate (CCNA) certification examination. Prerequisite: CNT 140. Two lecture. Three lab.

#### COURSE CONTENT:

1. Routing and packet forwarding
2. Static routing
3. Dynamic routing protocols
4. Distance vector routing protocols
5. Routing Information Protocol (RIP) version 1
6. Variable Length Subnet Masks (VLSM) and Classless Inter-Domain Routing (CIDR)
7. RIP version 2
8. The routing table
9. Enhance Interior Gateway Routing Protocol (EIGRP)
10. Link-state routing protocols
11. Open Shortest Path First (OSPF)

#### LEARNING OUTCOMES:

1. Describe the role of a router and identify its working components. (1)
2. Define the function and implementation of static routing. (2)
3. Categorize and compare various routing protocols. (3)
4. Identify the attributes of distance vector routing protocols. (4)
5. Configure an internetwork with routers using RIP version 1. (5)
6. Configure classless routing using variable length subnet masks. (6)
7. Compare and contrast the function and configuration of RIP version 1 and version 2. (7)
8. Examine how a router uses its routing table to perform packet switching. (8)
9. Configure a router for EIGRP operation and verify its operation. (9)
10. Recognize the attributes of link-state routing protocols. (10)
11. Configure and analyze OSPF and describe its operation as a link-state routing protocol. (11)

#### REQUIRED ASSESSMENT:

1. Cisco Academy on-line chapter exams and final exam. Cisco Academy skills final exam.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**Course Attributes:**  
Info Literacy (IL)

### [CNT 155 - Wireless Networking Fundamentals](#)

#### COURSE DESCRIPTION:

CNT 155. Wireless Networking Fundamentals (3). Wireless networking technologies, wireless security, and wireless LAN design best practices. Emphasis on hands-on skills. Helps prepare students for industry wireless certifications. Prerequisite: CNT 115 or CNT 120 or CNT 140 . Two lecture. Three lab.

#### COURSE CONTENT:

1. Introduction to wireless LANs
2. 802.11 standards and Network Interface Cards
3. Wireless radio technology
4. Wireless topologies
5. Access points
6. Bridges
7. Antennas
8. Security
9. Application design and site survey preparation
10. Site survey
11. Troubleshooting, management, monitoring and diagnostics

#### LEARNING OUTCOMES:

1. Define the terms and concepts used to describe wireless networking technologies.(1)
2. Compare and contrast the IEEE 802.11 wireless standards.(2)
3. Describe the operation of wireless access points, bridges, adapters, and antennae.(3)
4. Explain the physical and logical path of data in a wireless LAN.(4)
5. Configure and install wireless access points, bridges, adapters, and antennae.(5, 6, 7)
6. Use both command line and web-based interfaces to design, install, configure, monitor and maintain wireless LANs.(11)
7. Identify wireless security threats and vulnerabilities.(8)
8. Implement wireless security using filtering, wireless encryption protocol (WEP), and a variety of security and authentication protocols.(8)
9. Use proper site survey techniques and safety practices.(9, 10)
10. Configure wireless monitoring technologies.(11)

#### REQUIRED ASSESSMENT:

1. Cisco Academy on-line chapter exams and final exam. Cisco Academy skills final exam.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

#### **CNT 160 - Cisco LAN Switching and Wireless**

##### **COURSE DESCRIPTION:**

CNT 160. Cisco LAN Switching and Wireless (3). Intermediate routing concepts and configurations. Configure and install Local Area Networks (LANs) with an emphasis on LAN switching. Design and management of advanced networks. Third of four courses to prepare students to pass the Cisco Certified Network Associate (CCNA) certification examination. Prerequisite: CNT 150. Two lecture. Three lab.

##### **COURSE CONTENT:**

1. Local area network (LAN) design
2. Switch concepts and configuration
3. Virtual LANs (VLANs)
4. Virtual Trunking Protocol (VTP)
5. Spanning-tree Protocol (STP)
6. Inter-VLAN routing
7. Wireless concepts and configuration

##### **LEARNING OUTCOMES:**

1. Describe the 3 layer LAN design goals and determine the appropriate implementation for each layer. (1)
2. Configure a switch for default operation and management. (2)
3. Design and configure VLANs and describe their role in networking. (3)
4. Implement VTP on switches and routers. (4)
5. Develop a redundant switched topology and configure spanning-tree protocol to deal with bridging loops. (5)
6. Configure VLANs on a router and introduce the router-on-a-stick concept. (6)
7. Identify the components of, and configure, a wireless LAN. (7)

##### **REQUIRED ASSESSMENT:**

1. Cisco Academy on-line chapter exams and final exam. Cisco Academy skills final exam.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

#### **CNT 170 - Accessing the WAN**

##### **COURSE DESCRIPTION:**

CNT 170. Accessing the WAN (3). Introduction to the design and configuration of wide area networks (WANs). Includes terminology and concepts of Integrated Services Digital Network (ISDN), Frame Relay and Point-to-Point Protocol (PPP). Cisco threaded case study project and CCNA exam review. Fourth of four courses to prepare students to pass the Cisco Certified Network Associate (CCNA) certification examination. Prerequisite: CNT 160. Two lecture. Three lab.

##### **COURSE CONTENT:**

1. Wide area networks (WANs)
2. Point to Point Protocol (PPP)
3. Frame relay
4. Network security
5. Access Control Lists (ACLs)
6. Teleworker services
7. IP addressing services
8. Network troubleshooting

##### **LEARNING OUTCOMES:**

1. Describe the most common wide area network (WAN) technologies including standards, protocols, equipment, and topologies. (1)
2. Identify the hardware and software components required for point to point serial communication and perform basic router configuration. (2)
3. Compare frame relay topologies and configure routers to operate in these topologies. (3)
4. Recognize security risks and develop a strategy for shielding a network from those risks. (4)
5. Describe the operation of, and create and apply access control lists on, a Cisco router. (5)
6. Implement basic teleworker services and describe their functions. (6)
7. Describe the purpose and the application of network address translation (NAT) and dynamic host configuration protocol (DHCP) on Cisco equipment. (7)
8. Perform basic troubleshooting techniques in a functional Cisco network. (8)

##### **REQUIRED ASSESSMENT:**

1. Cisco Academy on-line chapter exams and final exam. Cisco Academy skills final exam.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**Course Attributes:**  
Creative Thinking (CR)

**CNT 180 - Web Site Implementation and Management****COURSE DESCRIPTION:**

CNT 180. Web Site Implementation and Management (3). Initiation and organization of a Web site with a Web hosting provider. Emphasis on Web site administrative tasks such as folder and file organization, E-mail and FTP account management, and security settings using an industry standard Web site control panel. Includes installation of Web add-on applications and scripts and monitoring of Web site traffic statistics. This course is cross-listed with WEB 180. Three lecture.

**COURSE CONTENT:**

1. Domain name registration
2. Web hosting services
3. Directory organization
4. FTP settings and operations
5. Directory management
6. Email accounts
7. Basic HTML concepts
8. Web scripts
9. Web applications
10. Website traffic statistics
11. General account settings
12. Advanced features
13. Web site backup

**LEARNING OUTCOMES:**

1. Research and select a domain name. (1)
2. Research and select a Web host. (2)
3. Plan and implement a directory tree. (3)
4. Use and manage FTP. (4)
5. Manage file folders. (5)
6. Create and configure email accounts. (6)
7. Work with HTML to create basic Web pages. (7)
8. Install and customize CGI (Common Gateway Interface) scripts. (8)
9. Install, configure and customize Web applications. (9)
10. Analyze statistics, logs, and bandwidth server reports. (10)
11. Manage Web site account settings and observe server status. (11)
12. Configure advanced features. (12)
13. Back up a Web site. (13)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**CNT 185 - IT Project Management****COURSE DESCRIPTION:**

CNT 185. IT Project Management (2). Concepts and techniques of information technology project management. Includes project definition, tools and techniques as well as an introduction to project lifecycle, phases, and process groups. Prerequisite: CNT 122 or CNT 150. Two lecture.

**COURSE CONTENT:**

1. Principles of information technology project management
2. The triple constraint
3. Project management elements
4. Project life cycle
5. Project management process groups
6. Project integration management

**LEARNING OUTCOMES:**

1. Discuss the principles of information technology project management. (1)
2. Describe the triple constraint. (2)
3. Explain the key elements of project management, including stakeholders, knowledge areas, common tools and techniques. (3)
4. Discuss the concepts of project life cycle, including the phases. (4)
5. Identify the five project management process groups, their activities, and their interactions. (5)
6. Describe project integration management as it relates to the project lifecycle. (6)

2.000 Credit hours  
2.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Lecture

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**CNT 220 - Windows Server Administrator****COURSE DESCRIPTION:**

CNT 220. Windows Server Administrator (3). Planning and deployment of Windows servers in a domain environment. Emphasis on server installation, server management and monitoring, virtualization, application deployment and high availability planning. Preparation for the Microsoft Certified IT Professional Server Administrator (70-646) exam. Prerequisite: CNT 122 (may be taken concurrently) and CNT 123 (may be taken concurrently). Three lecture.

**COURSE CONTENT:**

1. Server deployments
2. Infrastructure services
3. Active Directory deployment
4. Application services
5. File and print services
6. Storage solutions
7. High availability

8. Server and network security
9. Infrastructure security
10. Server management
11. Server monitoring
12. Backup

## LEARNING OUTCOMES:

1. Plan server deployments. (1)
2. Deploy infrastructure services. (2)
3. Design and deploy an Active Directory infrastructure. (3)
4. Plan application and virtualization services. (4)
5. Design and configure file and print services. (5)
6. Plan and deploy network storage solutions. (6)
7. Configure fault tolerance and redundancy. (7)
8. Secure access to server and network resources. (8)
9. Design a public key infrastructure. (9)
10. Perform server administration and maintenance. (10)
11. Monitor server reliability and performance. (11)
12. Plan a backup strategy. (12)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**CNT 294 - CNT Project**

## COURSE DESCRIPTION:

CNT 294. CNT Project (2). Incorporation of project design, project system analysis, and technology applications. Two lecture.

## COURSE CONTENT:

1. Project design
2. System analysis
3. Critical analysis of technology

## LEARNING OUTCOMES:

1. Design a project that includes Microsoft and/or Linux server technology and routing and switching technology. (1)
2. Analyze project requirements and develop a solution. (2)
3. Analyze available technology and select most appropriate options for the project. (3)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

**CNT 296 - Internship: Computer Networking Tech**

## COURSE DESCRIPTION:

CNT 296. Internship: Computer Networking Technology (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree or certificate requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

## COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

## LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

## REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.


3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Internship

Business & Computer ScienceOBS Division  
Computer Networking Technology Department

### COM 100 - Introduction to Human Communication

#### COURSE DESCRIPTION:

COM 100. Introduction to Human Communication (3).  **COM 1100.** Introduction to the essential elements of human communication and behavior, with emphasis on intrapersonal, interpersonal, group, public communication, and oral communication skills important to personal and professional settings. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Contemporary and historical theories of the dynamics and processes of human communication
2. Perception
3. Use of language
4. Nonverbal messages
5. Conflict management
6. Concepts and theories of listening
7. Interpersonal communication and relationship dynamics
8. Dynamic group communication
9. Intercultural communication
10. Gender communication
11. Basic public speaking

#### LEARNING OUTCOMES:

1. Use listening skills and oral presentations as modes of discovery, reflection, and understanding and sustained disciplined reasoning. (6,11)
2. Generate organized and logical speaking that responds to the demands of a specific rhetorical situation. (1,11)
3. Use precision in writing, speaking, and thinking and express awareness of the power and variety of language. (3,6,11)
4. Identify both the conscious and unconscious use of written, verbal and nonverbal communication. (4)
5. Identify and interpret discourse in specific communication environments. (2,3,4,5,6,7,8,9,10,11)
6. Express awareness of multiple meanings and perspectives of communication in both interpersonal and group/team situations. (2,7,8)
7. Evaluate communication theories for a variety of cultural contexts. (9)
8. Formulate and deliver effective oral presentations. (11)
9. Design simple, effective messages for a mass communication context (i.e., advertising and public relations). (8,11)
10. Analyze the impact of new communication technologies on human communication. (1)

#### REQUIRED ASSESSMENT:

1. 1,500 words of monitored writing and submission of a portfolio

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
Communications Department

#### Course Attributes:

Applied Communication/Comm., YC Communication Requirement, Oral Communication (OC), SUN# COM 1100

### COM 131 - Fundamentals of Speech Communication

#### COURSE DESCRIPTION:

COM 131. Fundamentals of Speech Communication (3). Study of the essential elements of oral communication, with major emphasis on public speaking. Includes use of multimedia technologies for presentations. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Communication Discipline
2. Basic Rhetoric
3. Speech Structure
4. Content Development
5. Speech Preparation
6. Speech Anxiety
7. Delivery Techniques and Styles
8. Listening
9. Multicultural Communication
10. Speech Analysis
11. Communication Ethics
12. Audience Analysis.
13. Public Speaking in Group Environments
14. Individual Research Project

#### LEARNING OUTCOMES:

1. Use listening skills and oral presentations as modes of discovery, reflection, understanding and sustained disciplined reasoning.(3-8)
2. Generate organized, logical communication appropriate to the needs of a specific communication environment (2,5,7)
3. Use precise writing, speaking and listening for a variety of audiences and purposes. (5,7,8,10,12)
4. Identify both the conscious and unconscious use of written, verbal and nonverbal communication. (10,12)
5. Identify and interpret discourse in specific communication environments.(9,11,12,13,14)
6. Express awareness of multiple meanings and perspectives of communication.(1, 2, 9,10)
7. Analyze audience and topic choice for various speaking situations(5,10,12)
8. Write full-sentence and speaking outlines. (4,5)
9. Identify and manage the causes of speech anxiety. (6)
10. Analyze speeches for use of stylistic and rhetorical devices, and implement the use of such devices in speeches. (2,3,10)
11. Implement strategies for delivery of messages to a variety of audiences, using a variety of visual aids (including multimedia technologies). (7,12,13,14)



3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
Communications Department

**Course Attributes:**

Applied Communication/Comm., YC Communication Requirement, Oral Communication (OC)

### [COM 134 - Interpersonal Communication](#)

**COURSE DESCRIPTION:**

COM 134. Interpersonal Communication (3). Build healthy personal and professional relationships. Includes listening, coping with criticism, resolving conflicts, managing emotions, nonverbal communication, and developing empathy for gender and cultural differences. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Perception of self and others
2. Self-awareness and self-acceptance
3. Irrational thinking and debilitating emotions
4. Responding to others: listening and feedback
5. Concrete versus abstract language
6. Communicating without words: nonverbal communication
7. Building positive relationships
8. Self-disclosure in relationships
9. Overcoming barriers and resolving conflicts
10. Assertiveness and aggression
11. Gender and cultural issues in a complex, diverse society

**LEARNING OUTCOMES:**

1. Use listening skills and oral presentations as modes of discovery, reflection, understanding and sustained disciplined reasoning. (4, 9)
2. Generate organized, logical communication appropriate to the needs of a specific communication environment. ( 1,3,4,7,8,10)
3. Use precise writing, speaking and listening for a variety of audiences and purposes.(5, 9, 10)
4. Identify both the conscious and unconscious use of written, verbal and nonverbal communication. (2,5, 6,7)
5. Identify and interpret discourse in specific communication environments. (1,2,3,4,5,6,7,8,9,10, 11)
6. Express awareness of multiple meanings and perspectives of communication.(1,11)
7. Differentiate between the use of concrete and abstract language. (5)
8. Identify skills for building positive relationships. (7,8)
9. Implement strategies for recognizing and managing the cause of conflict in relationships. (9,10)
10. Differentiate between stereotypes and legitimate differences in communication styles, based on gender and cultural background (11)

**REQUIRED ASSESSMENT:**

1. Written journal, minimum of 1,500 word entries.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
Communications Department

**Course Attributes:**

Applied Communication/Comm., YC Communication Requirement, Oral Communication (OC)

### [COM 135 - Workplace Communication Skills](#)

**COURSE DESCRIPTION:**

COM 135. Workplace Communication Skills (3). Oral and written workplace communication skills. Application of individual and group communication strategies to secure and maintain employment. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Written Communication:
  - a. Letters of application, follow-up, offer/rejection, and/or acceptance/refusal
  - b. Application forms
  - c. Resumes
  - d. Outlines of presentations
  - e. Evaluations of self and peers in individual and small group presentations
  - f. Email ethics and etiquette.
2. Oral Communication
  - a. Descriptions of effective communication and communication breakdown based on communication models
  - b. Giving and following instructions
  - c. Non-verbal communication experiments
  - d. Analyses of factors affecting communication
    1. Listening activities
    2. Denotation-connotation activities
    - e. Hypothetical job interviews
    - f. Large group discussions
    - g. Small group discussions
    - h. Decision-making
    - i. Informative and/or persuasive presentations

**LEARNING OUTCOMES:**

1. Use listening skills and oral presentations as modes of discovery, reflection, understanding and sustained disciplined reasoning. (2d1)
2. Generate organized, logical communication appropriate to the needs of a specific communication environment. (2b, 2d)
3. Use precise writing, speaking and listening for a variety of audiences and purposes. (1d, 2d1, 2d2, 2i)
4. Identify both the conscious and unconscious use of written, verbal and nonverbal communication. (1d, 2c)
5. Identify and interpret discourse in specific communication environments. (1f, 2h)

6. Express awareness of multiple meanings and perspectives of communication. (1f)
7. Describe a basic human communication model and its applications in work situations. (2a)
8. Prepare employment application materials. (1a, 1b, 1c)
9. Apply job interviewing techniques. (2e)
10. Apply communication skills in individual and group presentations. (1e, 2f,2g)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
Communications Department

**Course Attributes:**

Applied Communication/Comm., Oral Communication (OC)

#### **COM 217 - Introduction to Argumentation and Debate**

**COURSE DESCRIPTION:**

COM217. Introduction to Argumentation and Debate (3). Basic concepts and theories of argumentation. Emphasis on basic argumentation skills and their application to a variety of communication environments. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Basic communication theories
2. Contemporary and historical theories of argumentation
3. The process of intrapersonal argumentation
4. Interpersonal conflicts
5. Basic debate concepts
6. Effective listening
7. Formal argumentation environments
8. Intercultural communication theories

**LEARNING OUTCOMES:**

1. Describe the processes of argumentation from both contemporary and historical perspectives. (2)
2. Present oral arguments that would support the adoption or rejection of a proposed belief, attitude or plan of action. (5,8)
3. Research, analyze and test evidence used in support of a proposition and detect weaknesses in casual and analogous reasoning. (5,7) (CT 2)
4. Describe the elements and aspects of the critical thinking processes. (1,3)
5. Critically process and communicate information through writing, reading, speaking, viewing and listening activities. (1,4,6)
6. Define and create effective solutions to problems. (3,7) (CT 4)
7. Recognize that closure is not always achieved in intellectual discourse. (1) (CT 3)
8. Formulate and articulate informed choices based on refined critical thinking skills. (3,4,7)
9. Construct pertinent questions. (5,6) (CT 1)
10. Apply critical thinking skills when assessing philosophical, scientific, societal, and individual issues. (1,2,4,7,8)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
Communications Department

**Course Attributes:**

Critical Thinking (AGEC), Critical Thinking (CT)

#### **COM 271 - Small Group Communication**

**COURSE DESCRIPTION:**

COM271. Small Group Communication (3). Examination of the principles and processes of group communication as a vehicle for solving problems, reaching decisions and making recommendations. Students will study and practice the theories, behaviors and processes of group communication. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Group communication theory
2. Group and group processes
3. Group concepts
4. Group climate
5. Decision making and problem solving theories and strategies
6. Leadership theories and strategies
7. Technology and teams

**LEARNING OUTCOMES:**

1. Apply theories and principles of group communication (1,2,7)
2. Apply and identify group problem solving and decision making strategies (5)
3. Evaluate group processes and behavior (2,4)
4. Apply leadership and group participation skills (3,6)
5. Identify and apply available technologies for virtual meetings (7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Foundation Studies Division  
Communications Department

**Course Attributes:**

Applied Communication/Comm., YC Communication Requirement, Oral Communication (OC)

### COM 296 - Internship: Communications

#### COURSE DESCRIPTION:

COM 296. Internship: Communication (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

#### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

#### LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

#### REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Foundation Studies Division  
Communications Department

### COM 299 - Independent Study Communications

#### COURSE DESCRIPTION:

COM 299. Independent Study Communication (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

#### COURSE CONTENT:

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

#### LEARNING OUTCOMES:

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Foundation Studies Division  
Communications Department

### CPD 104 - Career and Personal Development

#### COURSE DESCRIPTION:

CPD 104. Career and Personal Development (3). Career/life planning through self-awareness and understanding. Focus is on dealing with change, decision making, goal setting and understanding lifestyles as well as evaluating interests, skills and values. Emphasis on the development of a comprehensive career search process including current occupational information, specific tools for researching the job market and acquiring employment. Three lecture.

#### COURSE CONTENT:

1. Defining terms
2. Adult development
3. Personal and career beliefs and values

4. Choices: change and decision-making skills
5. Personal inventory assessment
6. Occupational information
7. Job search methods

## LEARNING OUTCOMES:

1. Describe the process of career and life planning. (1)
2. Define and evaluate choices and resources for dealing with change. (4)
3. Identify specific personal skills and relate these skills to occupations. (5)
4. Identify and translate interests and abilities to occupations. (5)
5. Identify personal values and value conflicts as related to career decision-making. (3)
6. Identify obstacles to decision-making and resources for overcoming these obstacles. (4)
7. Identify systems for occupational grouping and use various sources of occupational information. (6)
8. Establish long range goals for personal and career development. (4)
9. Identify stages of adult development and describe their influence on lifestyle. (2)
10. Define and assess individual beliefs and motivations about work. (3, 5)
11. Identify environmental factors and trends which influence career and/or job choices. (6)
12. Identify and utilize a variety of effective job search methods and interviewing skills. (7)
13. Design and compose appropriate resumes. (7)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Career & Technical Education Division  
 Workforce Training Department

Course Attributes:  
 Diversity (DA)

**CRW 139 - Introduction to Creative Writing**

## COURSE DESCRIPTION:

CRW 139. Introduction to Creative Writing (3). Techniques in writing, evaluating, and critiquing poetry, fiction and creative non-fiction. Prerequisite: Reading Proficiency. Includes writing a documented analysis. Three lecture.

## COURSE CONTENT:

1. Analysis of literary and student texts
2. Elements of poetry (e.g. specific language, imagery, sound devices)
3. Elements of fiction and creative non-fiction (e.g. plot, viewpoint, characterization)
4. Methods of critiquing and revising
5. Workshop methodology for creative writing
6. Sources and documentation

## LEARNING OUTCOMES:

1. Analyze and evaluate literary and student texts. (1-5)
2. Identify and apply poetic elements (e.g. specific language, imagery, sound devices) (1,2)
3. Identify and apply elements of fiction and creative non-fiction (e.g. plot, viewpoint, characterization). (1,3)
4. Critique and revise personal writing. (4)
5. Use workshop process. (5)
6. Apply research methods and effectively integrate, synthesize and document sources in written work. (1-6)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 English Department

Course Attributes:  
 Applied Communication/Writing, Written Comm (WC)

**CRW 140 - Short Story Writing**

## COURSE DESCRIPTION:

CRW 140. Short Story Writing (3). Beginning techniques used in writing fiction, focusing on the short story. Three lecture.

## COURSE CONTENT:

1. Elements of fiction writing (e.g., plot, viewpoint, characterization)
2. Close reading of literary and student texts
3. Methods of crafting, critiquing and revising short stories

## LEARNING OUTCOMES:

1. Identify and apply elements of fiction (e.g. plot, viewpoint, characterization). (1)
2. Analyze and evaluate literary and student texts. (2)
3. Write, critique and revise own writing. (3)

## REQUIRED ASSESSMENT:

1. Minimum of 5,000 words monitored writing

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
English Department

### CRW 141 - Introduction to Poetry Writing

**COURSE DESCRIPTION:**

CRW 141. Introduction to Poetry Writing (3). Beginning techniques used for writing poetry. Three lecture.

**COURSE CONTENT:**

1. Elements of poetry writing (e.g., imagery, stanza, internal rhyme, alliteration, consonance)
2. Close reading of literary and student texts
3. Methods of crafting, critiquing and revising poetry

**LEARNING OUTCOMES:**

1. Identify and apply elements of poetry (e.g., imagery, stanza, internal rhyme, alliteration, consonance). (1)
2. Analyze and evaluate literary and student texts. (2)
3. Write, critique and revise own poetry. (3)

**REQUIRED ASSESSMENT:**

1. Minimum of five pieces (poems) of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
English Department

### CRW 142 - Creative Nonfiction Writing

**COURSE DESCRIPTION:**

CRW 142. Creative Nonfiction Writing (3). Techniques in writing creative nonfiction, focusing on the personal essay and memoir. Three lecture.

**COURSE CONTENT:**

1. Elements of creative nonfiction.
2. Close reading of literary and student texts
3. Methods of crafting, critiquing and revising creative nonfiction work
4. Markets and publishing resources

**LEARNING OUTCOMES:**

1. Identify and apply elements of creative nonfiction. (1)
2. Analyze and evaluate literary and student texts. (2)
3. Write, critique and revise own creative nonfiction work. (3)
4. Identify potential markets and publishing resources. (4)

**REQUIRED ASSESSMENT:**

1. Minimum of 5,000 words monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
English Department

### CRW 143 - Memoir Writing

**COURSE DESCRIPTION:**

CRW 143. Memoir Writing (3). Memoir writing, focusing on prewriting, analysis, evaluation, and revision of memoir. Three lecture.

**COURSE CONTENT:**

1. Elements of memoir
2. Critical reading of literary and student texts
3. Methods of crafting, critiquing, and revising memoir essays and larger works

**LEARNING OUTCOMES:**

1. Identify and apply elements of memoir. (1)
2. Analyze and evaluate literary and students texts. (2)
3. Write, critique and revise memoir pieces. (3)

**REQUIRED ASSESSMENT:**

1. Minimum of 5,000 words monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
English Department

### CRW 144 - Writing and Healing

**COURSE DESCRIPTION:**

CRW 144. Writing and Healing (3). Writing to explore and heal the relationship to one's self and the outside world; emphasis on journal writing as a source and foundation for public writing. Three lecture.

**COURSE CONTENT:**

1. Types and purposes of journals
2. Discovery and prewriting techniques
3. Published journals (e.g. Virginia Woolf, Anais Nin)
4. Narrative therapy techniques
5. Personal journal

**LEARNING OUTCOMES:**

1. Identify types and purposes of journals. (1)
2. Use discovery and prewriting techniques for journal writing. (2)
3. Analyze published journals. (3)
4. Use narrative therapy techniques. (4)
5. Create a personal journal. (5)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
English Department

**[CRW 198 - CRW Wrkshp:](#)****COURSE DESCRIPTION:**

CRW 198. Creative Writing Workshop: (1). Exploration of a creative writing component. One lecture. [Repeatable for a total of 2 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Creative writing component(s)
2. Personalized expression
3. Individual and group critique
4. Application of designated craft component(s) and principles

**LEARNING OUTCOMES:**

1. Explore creative writing component(s). (1)
2. Apply component(s) to personal expressions. (2)
3. Present and critique creative writing component(s). (3)
4. Identify, analyze, and synthesize creative writing component(s). (4)

1.000 Credit hours  
1.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
English Department

**[CRW 249 - Topics in CRW:](#)****COURSE DESCRIPTION:**

CRW 249. Topics in Creative Writing: (3). Analysis, writing, and revision of element within fiction, poetry, or creative nonfiction. Three lecture. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Primary element(s) of genre
2. The writing process: prewriting, drafting and revision technique
3. Professional work focused on the genre or element(s)
4. Workshop methodology for element(s) or genre

**LEARNING OUTCOMES:**

1. Analyze and integrate the primary element(s) of genre. (1)
2. Use the writing process to draft and revise original work. (2)
3. Analyze professional work focused on the genre or element(s). (3)
4. Use workshop critique for improving student's own work and work of peers. (4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
English Department

**[CRW 250 - Advanced Creative Writing: Poetry](#)****COURSE DESCRIPTION:**

CRW 250. Advanced Creative Writing: Poetry (3). Advanced techniques used for writing poetry. Prerequisite: CRW 139 or CRW 141. Three lecture.

**COURSE CONTENT:**

1. Elements of poetry writing (e.g., imagery, stanza, internal rhyme, alliteration)
2. Close reading of literary and student texts
3. Methods of crafting, critiquing and revising poetry
4. Markets

## LEARNING OUTCOMES:

1. Identify and apply elements of poetry (e.g., imagery, stanza, internal rhyme, alliteration, consonance). (1)
2. Analyze and evaluate literary and student texts. (2)
3. Write, critique and revise own poetry. (3)
4. Identify markets for poetry submission. (4)
5. Submit poetry for publication. (4)

## REQUIRED ASSESSMENT:

Minimum of 10 monitored poems.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
English Department

**CRW 251 - Advanced Creative Writing: Creative Non-Fiction**

## COURSE DESCRIPTION:

CRW 251. Advanced Creative Writing: Creative Non-Fiction (3). Advanced techniques in writing creative nonfiction, with emphasis on personal essay and memoir. Prerequisite: CRW 139 or CRW 142 or CRW 143. Three lecture.

## COURSE CONTENT:

1. Elements of creative nonfiction
2. Close reading of literary and student texts
3. Methods of crafting, critiquing and revising creative nonfiction work
4. Markets and publishing resources

## LEARNING OUTCOMES:

1. Identify and apply elements of creative nonfiction. (1)
2. Analyze and evaluate literary and student texts. (2)
3. Write, critique and revise own creative nonfiction work. (3)
4. Identify potential markets and publishing resources. (4)
5. Submit work for publication. (4)

## REQUIRED ASSESSMENT:

10,000 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
English Department

**CRW 252 - Advanced Creative Writing: Fiction**

## COURSE DESCRIPTION:

CRW 252. Advanced Creative Writing: Fiction (3). Advanced techniques used in writing fiction with emphasis on the short story. Prerequisite: CRW 139 or CRW 140 or CRW 255. Three lecture.

## COURSE CONTENT:

1. Elements of fiction writing (e.g., plot, viewpoint, characterization)
2. Close reading of literary and student texts
3. Methods of crafting, critiquing and revising short stories
4. Markets

## LEARNING OUTCOMES:

1. Identify and apply elements of fiction (e.g., plot, viewpoint, characterization). (1)
2. Analyze and evaluate literary and student texts. (2)
3. Write, critique and revise own writing. (3)
4. Identify markets for own writing. (4)
5. Submit work for publication. (4)

## REQUIRED ASSESSMENT:

10,000 words of monitored writing

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
English Department

**CRW 295 - Writers Wkshp:**

## COURSE DESCRIPTION:

CRW 295. Writers Workshop: (3). Intensive study and application of effective strategies used by selected authors in various genres to promote, explore, raise questions about, or provide insight into specified themes. Three lecture. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

## COURSE CONTENT:

1. Methods of analyzing, evaluating and critiquing written work
2. Rhetorical strategies to effectively present theme

3. Techniques for revision
4. Methods for researching theme and genre

## LEARNING OUTCOMES:

1. Analyze, evaluate, and critique written work. (1)
2. Apply rhetorical strategies to effectively present theme. (2)
3. Apply revision techniques. (3)
4. Research theme and genre. (4)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lecture

Visual/Performing/LiberalOBS Division  
 English Department

**CSA 100 - Getting to Know Your PC**

## COURSE DESCRIPTION:

CSA 100. Getting to Know Your PC (1). Concepts and techniques for inexperienced or first time users of personal computers. Basic introduction to the fundamentals of: Windows Operating System, word processing, Internet, email functions, and Yavapai College's Canvas system in preparation for other college level courses. Three lab.

## COURSE CONTENT:

1. Computer Terminology
2. Computer Usage
3. Keyboard and mouse
4. Email
5. Menus, windows and dialog boxes
6. Internet

## LEARNING OUTCOMES:

1. Use the mouse, keyboard, desktop and menu functions. (2,3,5)
2. Use basic terminology related to windows operating system and word processor system. (2)
3. Produce, edit, save and print documents. (2,5)
4. Use the Help feature. (5)
5. Locate previously created documents. (1-3, 5)
6. Access the Internet. (1,2,5,6)
7. Identify and use the Address Bar. (1,2,5,6)
8. Access and use an email program. (1-6)
9. Locate the Yavapai College portal and access student email and Blackboard system. (1-6)
10. Use online library facilities. (1-3,5,6)

1.000 Credit hours  
 0.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**CSA 101 - Windows Essentials**

## COURSE DESCRIPTION:

CSA 101. Windows Essentials (1). Introduction to Microsoft Windows. Emphasis on personal computer operations, accessing and storing of information, and desktop management. Three lab.

## COURSE CONTENT:

1. Desktop environment
2. Folders and files
3. Functions of the START button
4. Mouse controls and usage
5. Access Internet
6. Exposure to all standard Windows programs (ie. Word/PowerPoint/Data base)
7. Calculator
8. PC Paint
9. System tools
10. C:, A: and M: drives/and moving between them
11. Multitasking
12. MS Word/WordPad/NotePad

## LEARNING OUTCOMES:

1. Create and save documents to files and folders.
2. Create and remove icons.
3. Customize the desktop to their design.
4. Work with several documents at one time.
5. Create drawing and insert drawings into documents.
6. Open and use the main calculator functions.
7. Use the Help function to solve problems.
8. Download information off the Internet.
9. Retrieve and edit saved documents.

1.000 Credit hours  
 0.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab



Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 102 - Fundamentals of Personal Computing

#### COURSE DESCRIPTION:

CSA 102. Fundamentals of Personal Computing (1). Introduction to computer software applications and basics of computer hardware. Includes computer related vocabulary and computer operations. Three lab.

#### COURSE CONTENT:

1. History of computers
2. Mouse operations and the Windows environment
3. Basic wordprocessing skills
4. Basic database management skills
5. Basic spreadsheet skills
6. Basic page layout (desktop publishing) skills
7. Introduction to telecommunications, information services and the Internet
8. Introductory Windows file management skills
9. Recommendations for the purchase of a home computer system

#### LEARNING OUTCOMES:

1. Explain computer terminology.
2. Identify software applications that can be used with a personal microcomputer.
3. Create documents using various applications in the Windows environment, including word processing, database, spreadsheet, and desktop publishing.
4. Identify the necessary components of a computer system in preparation for buying a computer system.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 103 - Using Computers in the Workplace

#### COURSE DESCRIPTION:

CSA 103. Using Computers in the Workplace (1). Introduction to essential computer concepts, vocabulary, keyboarding and word processing skills. Emphasis on entry-level employability skills. Three lab.

#### COURSE CONTENT:

1. Basic computer components and operation (turn on/off, disk maintenance)
2. Introduction to computer system (hardware, input/output devices, central processing unit, software)
3. Basic ethics regarding computer use in the workplace
4. Email
5. Internet access
6. General use of a word processor, spreadsheet, and database programs and their specific application in the workplace
7. Basic word processing formatting
8. Alphabetic keyboarding
9. The numeric keypad

#### LEARNING OUTCOMES:

1. Define and use general computer terms including network, hardware, software, application program, data, file and operating system.
2. Identify various components of a computer screen such as: desktop, menu bar, toolbar, dialog box, and icons. Use these components to open an application program, create, save, and print a file within this program.
3. Describe basic ethical considerations involved in using a computer in the workplace.
4. Access an email program, send and receive email messages.
5. Access a network browser, locate a given URL, open a search engine and use it to locate Internet information on a given topic.
6. Identify the tasks best accomplished using a word processing program, a spreadsheet program, or a database.
7. Use a word processor to compose, format, edit, spell check, save, and print a document.
8. Key straight copy for three minutes with 80% accuracy at a minimum of 20 gross words per minute.
9. Key alphanumeric keys and the numeric keypad by touch.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 104 - Internet Essentials

#### COURSE DESCRIPTION:

CSA 104. Internet Essentials (1). Introduction to the world of the Internet. Includes surfing the World Wide Web, using e-mail, search engine and downloading files. This course is cross-listed with WEB 104. Three lab.

#### COURSE CONTENT:

1. Introduction to the Internet and the world wide web;
2. General use and configuration of a browser;
3. Electronic mail;
4. Search engines and subject directories;
5. Downloading files.

#### LEARNING OUTCOMES:

1. Configure and customize browser settings.
2. Navigate the web using history and favorites.
3. Use an e-mail program to send and receive messages and attachments.
4. Download and install programs and updates.

5. Unzip compressed programs.
6. Use a search engine and a subject directory to locate pertinent information.
7. Identify the local connection options for Internet access.
8. Communicate using Usenet Newsgroups and chat.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

#### **CSA 106 - E-book and Tablet Essentials**

##### **COURSE DESCRIPTION:**

CSA 106. E-book and Tablet Essentials (1). Introduction to e-book and tablet technology and software. Includes operating systems, commercial products and applications, and methodology for choosing a product. Demonstration of popular products on the market. One lecture.

##### **COURSE CONTENT:**

1. Android operating system (OS) and devices
2. iOS and devices
3. Kindle and devices
4. Decision analysis
5. Comparative analysis of products

##### **LEARNING OUTCOMES:**

1. Select and purchase an e-book or tablet based on a complete knowledge of the products currently available. (1-3)
2. Use decision analysis in choosing between alternatives. (4)
3. Differentiate between various operating systems and applications. (1-3)
4. Determine how to gather information on e-books and tablets from the Internet. (5)

1.000 Credit hours  
1.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

#### **CSA 108A - Workshop: Microsoft Windows Fundamentals**

##### **COURSE DESCRIPTION:**

CSA 108A. Workshop: Microsoft Windows Fundamentals (.5). Introduction to the Microsoft Windows operating system environment. .5 lecture.

##### **COURSE CONTENT:**

1. Introduction to the Windows desktop
2. Taskbar and Start menu
3. Window components
4. Help and Support Center
5. Favorites and History lists
6. My Computer and Windows Explorer

##### **LEARNING OUTCOMES:**

1. Log on to the workstation.
2. Identify the desktop components.
3. Use the mouse.
4. Use the Start button to open applications.
5. Switch between applications.
6. Move and size a window.
7. Use the Control menu buttons.
8. Work with menus and toolbars.
9. Use scrollbars.
10. Work with the Save As dialog box.
11. Choose a help topic.
12. Use the index.
13. Search for help topics.
14. Use the Favorites list.
15. Display the History list.
16. Use the View menu.
17. Browse the local disk.
18. Navigate the folder hierarchy.
19. Search for files and folders by name.
20. Search for files that contain specific text.
21. Log off and shut down the computer.

0.500 Credit hours  
0.500 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

#### **CSA 108B - Workshop:Microsoft Windows-Tools and Management**

**COURSE DESCRIPTION:**

CSA 108B. Workshop: Microsoft Windows Tools and Management (.5). Working with programs, files, and folders within the Windows operating system environment. .5 lecture.

**COURSE CONTENT:**

1. Creating files and folders
2. Managing files and folders
3. Storage devices
4. The Recycle Bin
5. WordPad and Paint
6. Customizing the workstation
7. Creating and deleting shortcuts
8. The Control Panel
9. Internet Explorer
10. Shutting down Windows

**LEARNING OUTCOMES:**

1. Create a folder.
2. Create a text file.
3. Move, copy and delete files and folders.
4. Rename a folder.
5. Format a floppy disk.
6. Copy files to a floppy disk.
7. Examine the contents of the Recycle Bin.
8. Restore deleted files.
9. Empty the Recycle Bin.
10. Create, save and format a document in WordPad.
11. Preview and print a document.
12. Create a simple drawing in Paint.
13. Copy a Paint drawing to the Clipboard.
14. Paste a Paint drawing into a WordPad document.
15. Title and cascade windows.
16. Create and manage desktop shortcuts.
17. Change the system date and time.
18. Set mouse, keyboard and display properties.
19. Use hyperlinks and the Address bar in Internet Explorer.
20. Work with the Favorites and history lists.
21. Add and remove Web content from the desktop.
22. Close programs by using Task Manager.
23. Log off and shut down Windows.

0.500 Credit hours  
0.500 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**CSA 108C - Workshop: Microsoft Word Basics****COURSE DESCRIPTION:**

CSA 108C. Workshop: Microsoft Word Basics (.5). Introduction to word processing concepts and the Microsoft Word software program. .5 lecture.

**COURSE CONTENT:**

1. Exploring the Word environment
2. Opening and navigating a document
3. Moving and copying text
4. Formatting characters and paragraphs
5. Creating and modifying tables
6. Page layout and printing options
7. Proofing tools

**LEARNING OUTCOMES:**

1. Use menus and toolbars to navigate and manipulate text.
2. Create, edit, and correct text.
3. Use AutoCorrect, Find and Replace, and Undo and Redo.
4. Use tabs and other advanced paragraph formatting techniques.
5. Create, enhance, and modify tables.
6. Use headers and footers, margins, and page layout options.
7. Use spell check, grammar, and thesaurus tools.
8. Preview and print final documents.

0.500 Credit hours  
0.500 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**CSA 108F - Workshop: Microsoft Excel Basic****COURSE DESCRIPTION:**

CSA 108F. Workshop: Microsoft Excel Basic (.5). Introduction to spreadsheet concepts and features of the Microsoft Excel program. .5 lecture.

**COURSE CONTENT:**

1. Opening, closing, and navigating a workbook
2. Creating and modifying labels, values and formulas
3. Moving and copying data, formulas and use ranges

4. Entering and using basic functions
5. Formatting text and numbers
6. Print preview and page setup options
7. Creating, modifying, and printing charts
8. Web features

**LEARNING OUTCOMES:**

1. Open, close, and navigate in a workbook.
2. Enter and use labels and values.
3. Enter, modify, and work with formulas: SUM, MIN, MAX, AVERAGE, and COUNT.
4. Format text, rows, columns, and numbers.
5. Use print features.
6. Create, modify, and print charts.
7. Save worksheets as Web page, add hyperlinks, and email workbooks.

0.500 Credit hours  
 0.500 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**CSA 108I - Workshop: Microsoft PowerPoint Basics****COURSE DESCRIPTION:**

CSA 108I. Workshop: Microsoft PowerPoint Basics (.5). Introduction to Microsoft PowerPoint and creating, organizing and delivering and effective presentation. .5 lecture.

**COURSE CONTENT:**

1. Exploring the PowerPoint environment
2. Help menu options
3. Creating, saving, and rearranging slides
4. Formatting and proofing slides
5. Drawing tool, clipart in slides
6. Tables and charts in slides
7. Adding slide timings and speaker notes
8. Running, printing, and saving presentation for Web delivery.

**LEARNING OUTCOMES:**

1. Open, close, and navigate in a slide presentation.
2. Use Help menu.
3. Create, edit, and modify a slideshow.
4. Use slides from other presentations.
5. Use text formatting, setting tabs, spell checking, and autocorrect options in text slides.
6. Add clipart, tables, and charts to slides.
7. Use Slide Master to add timings and transitions.
8. Run, print, and save a presentation for Web delivery.

0.500 Credit hours  
 0.500 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**CSA 108P - Workshop: Using Your Digital Camera****COURSE DESCRIPTION:**

CSA 108P. Workshop: Using Your Digital Camera (.5). Introduction to use of a digital camera, including methods of transferring photos, media storage options, printing and sharing photos. .5 lecture.

**COURSE CONTENT:**

1. Advantages and disadvantages of digital cameras
2. Features to consider when purchasing a digital camera
3. Optional camera accessories
4. Digital storage options
5. Methods of transferring photos
6. E-mailing photos
7. Printing photos
8. Photo sharing websites
9. Basic camera operations

**LEARNING OUTCOMES:**

1. Select a digital camera for budget and photographic needs. (1-4)
2. Describe and use the basic features of a digital camera. (2-5,9)
3. Transfer pictures from a digital camera to other media. (4-7)
4. Post pictures on a photo-sharing website. (4,5,8)


0.500 Credit hours  
 0.500 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**CSA 110 - Introduction to Computer Information Systems**

## COURSE DESCRIPTION:

CSA 110. Introduction to Computer Information Systems (3).  CIS 1120. Business information systems from a business intelligence perspective. Includes the uses of application software with emphasis on database and spreadsheet packages for efficient and effective problem solving. Three lecture.

## COURSE CONTENT:

1. The Internet, the World Wide Web and e-commerce
2. Components of the system unit including input, output, and storage
3. Operating systems, utility programs, and disk and file management
4. Communications, networks and their topology
5. Database management (Microsoft Access) and spreadsheets (Microsoft Excel)
6. Computers and society, security (e.g., malware and firewalls), privacy, and ethics
7. Information systems in business
8. Enterprise computing
9. Computer careers and certification

## LEARNING OUTCOMES:

1. Define the basic components of a computer system. (2)
2. Identify the basic components of the Internet and the World Wide Web. (1)
3. Describe the functions of an operating system and utility programs. (3)
4. Identify components necessary for communications and networking. (4)
5. Describe the basic functions and uses of databases and spreadsheets. (5)
6. Design, create and enter data into Excel spreadsheets and Access databases. (5)
7. Evaluate the issues related to computer security risks, information privacy, and ethics. (6,7)
8. Identify the phases and the activities in the system development cycle. (7,8)
9. Describe career opportunities and certification requirements in the computer industry. (9)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

## Course Attributes:

Digital Lit (DL), SUN# CIS 1120

**CSA 111 - Keyboarding**

## COURSE DESCRIPTION:

CSA 111. Keyboarding (1). Presentation of the keyboard including the 10-key pad by touch. Development of correct techniques for a variety of applications including word processing, computer programming, data entry, and computer interaction. One lecture.

## COURSE CONTENT:

1. Alphabetic keyboarding
2. Numeric keyboarding
3. Skill development

## LEARNING OUTCOMES:

1. Employ keyboarding techniques and posture. (1, 3)
2. Use touch system techniques when operating alphabetic keys. (1, 3)
3. Use touch system when operating the 10-key numerical pad. (2)
4. Produce copy at 25 words per minute with no more than one error per minute. (1, 3)

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**CSA 112 - Keyboarding Skill Building**

## COURSE DESCRIPTION:

CSA 112. Keyboarding Skill Building (1). Improving keyboarding speed and accuracy. Emphasis on techniques and strategies for job-related keyboarding proficiency. Prerequisite: CSA 111. One lecture.

## COURSE CONTENT:

1. Diagnostic testing
2. Keyboarding skill building techniques
3. Speed drills
4. Accuracy drills
5. Timed writings

## LEARNING OUTCOMES:

1. Show a minimum of 15% improvement in key stroking rate and accuracy. (1-5)

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**CSA 113 - Document Formatting****COURSE DESCRIPTION:**

CSA 113. Document Formatting (3). Basic formatting skills for document processing. Includes basic business documents, correspondence, reports, tables, and employment documents. Prerequisite: CSA 111. Two lecture. Three lab.

**COURSE CONTENT:**

1. E-mail basics
2. Business correspondence
3. Simple reports
4. Table basics
5. Employment documents
6. Building straight copy skill
7. Proofreading and editing skills
8. Numeric keying

**LEARNING OUTCOMES:**

1. Key the alphabet and numbers by touch using fingering and body placement techniques. (6)
2. Apply basic formatting (margins, tabs, alignment), proofreading, and editing techniques. (2, 7)
3. Produce error-free correspondence including reports and employment documents. (2, 3, 5)
4. Format and produce open, block and ruled tables. (4)
5. Create, send and receive e-mail documents (1)
6. Use the 10-key. (8)
7. Key straight copy at a minimum of 45 wpm for 3 minutes with accuracy of not more than 3 errors. (6)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**CSA 114 - Document Production****COURSE DESCRIPTION:**

CSA 114. Document Production (2). Creation and production of professional-looking business documents using advanced formatting elements. Reports, tables, electronic forms, correspondence, tables, medical/legal office applications, and office forms are the focus. Prerequisite: CSA 113. One lecture. Three lab.

**COURSE CONTENT:**

1. Advanced formatting of documents
2. Mail merge
3. Enhancing professional documents with graphics and charts
4. Office and e-forms
5. Tables with advanced features
6. Employment documents
7. Medical and legal office document formatting
8. Straight-copy keyboarding skills

**LEARNING OUTCOMES:**

1. Design, create and produce error-free professional looking documents using advanced formatting elements. (1, 3, 5)
2. Use the merge feature to design and format form letters, including envelopes and labels, and create a data source and directory for recipients. (2)
3. Apply graphic elements to documents using WordArt, clipart, borders and color. (1, 3)
4. Create tables and e-forms with advanced features. (4, 5)
5. Design and produce a variety of reports including proposals, minutes, agendas and itineraries. (1, 3)
6. Use the resume wizards and templates to create employment documents. (6, 7)
7. Produce medical and legal office documents. (7)
8. Key straight copy at a minimum of 50 wpm for five minutes with fewer than five errors. (8)

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**CSA 115 - Ten Key Mastery On the Computer****COURSE DESCRIPTION:**

CSA 115. Ten-Key Mastery on the Computer (1). Touch system of numeric keys on ten-key pads with speed and accuracy using industry standards for data entry. Three lab.

**COURSE CONTENT:**

1. Keystroking
  - a. Home row (Guide Keys)
  - b. Drill configurations
  - c. Mathematical function keys
2. Skill development
  - a. Speed
  - b. Accuracy

**LEARNING OUTCOMES:**

1. Use keypad techniques and correct hand placement. (1a, b, c)
2. Perform touch mathematical calculations using industry data standards. (1c, 2a, b)
3. Key a series of figures at 8,000 kph (keystrokes per hour) with 98% accuracy. (2a, b).

1.000 Credit hours  
0.000 Lecture hours

3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lab](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 118 - Practical Creative Thinking and Problem Solving

#### COURSE DESCRIPTION:

CSA 118. Practical Creative Thinking and Problem Solving (3). Fundamentals of the problem-solving process. Includes techniques to identify and define the core problem or issue, and to generate, implement and evaluate solutions. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Critical thinking concepts
2. Creativity
3. Information gathering
4. Problem solving techniques
5. Problem definition
6. General solutions
7. Estimation
8. Solution determination strategies
9. Evaluating solutions
10. Troubleshooting

#### LEARNING OUTCOMES:

1. Describe the elements and aspects of the critical thinking process. (1) (CT 2)
2. Apply methods for successful problem-solving. (4,5) (CT 4)
3. Establish a creative team environment. (1-3) (CT 4)
4. Identify and define the core issue or problem. (4) (CT 1,2)
5. Apply problem analysis techniques. (3)
6. Use brainstorming, free association, vertical thinking, lateral thinking and futuring to generate ideas. (1-3) (CT 3)
7. Apply decision analysis to everyday problems. (3-5,7) (CT 3)
8. Use resource allocation, Gantt charts and critical path management to plan and organize solutions. (6-8) (CT 3)
9. Develop a checklist to evaluate the chosen solution. (9) (CT 4)
10. Implement troubleshooting guidelines and worksheets to find the cause of a problem. (3,4,9,10) (CT 2)
11. Use reasonability testing. (7) (CT 2)

3.000 Credit hours

3.000 Lecture hours

0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

#### Course Attributes:

Critical Thinking (AGEC)

### CSA 124 - Creating Dynamic Forms Using Adobe LiveCycle Designer

#### COURSE DESCRIPTION:

CSA 124. Creating Dynamic Forms Using Adobe LiveCycle Designer (2). Practical application of Adobe LiveCycle Designer and Acrobat. Emphasis on use of Designer to create attractive forms that are interactive and dynamic for distribution as .pdf documents and/or use in web pages. Two lecture.

#### COURSE CONTENT:

1. Form types
2. Creation of forms
3. Form design
4. Interactive and dynamic forms
5. Styles, components, templates and masters
6. Scripting
7. Multimedia in forms
8. Data transfer, submission and security
9. Distribution

#### LEARNING OUTCOMES:

1. Illustrate the different types of electronic forms and their uses. (1)
2. Use LiveCycle Designer to create forms. (2, 4)
3. Implement design principles when creating forms. (3)
4. Evaluate form styles, components, templates and masters. (5)
5. Create interactive forms. (2, 4)
6. Create forms with data and user input. (2, 4, 6, 8)
7. Write script to control form interactions. (6)
8. Use external files in a form; connect to XML schema. (7, 8)
9. Use data submission and security measures (8, 9)
10. Utilize Adobe Acrobat and LiveCycle together (1, 2, 4, 7- 9)

2.000 Credit hours

2.000 Lecture hours

0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 126 - Microsoft Office

**COURSE DESCRIPTION:**

CSA 126. Microsoft Office (3). Introductory concepts and techniques of Microsoft Office including Word, Excel, Access, and PowerPoint. Three lecture.

**COURSE CONTENT:**

1. Windows concepts and skills
2. Microsoft Word for Windows
3. Microsoft Excel for Windows
4. Microsoft Access for Windows
5. Microsoft PowerPoint for Windows
6. Integration of Microsoft Office applications

**LEARNING OUTCOMES:**

1. Use file management and other basic Windows skills. (1)
2. Produce and edit word processing documents. (2)
3. Produce and edit spreadsheets and charts. (3)
4. Create a database, enter and manipulate data, create queries and reports. (4)
5. Produce and edit presentation graphics documents. (5)
6. Produce a document that integrates the use of two or more Office applications. (6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, [Lecture](#), Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**Course Attributes:**

Digital Lit (DL), Info Literacy (IL)

**[CSA 127 - Advanced Microsoft Office](#)****COURSE DESCRIPTION:**

CSA 127. Advanced Microsoft Office (3). Advanced concepts of Microsoft Office (Word, Excel, Access, and PowerPoint). Prerequisite: CSA 126. Two lecture. Three lab.

**COURSE CONTENT:**

1. Microsoft Word Documents with Tables, Charts, and Watermarks
2. Form Letters, Mailing Labels, Envelopes, and Directories using the Merge and Outlook Contact Lists
3. Professional Newsletters
4. Excel Financial Functions, Data Tables, Amortization Schedules, and Hyperlinks
5. Excel Worksheet Databases
6. Templates and Multiple Excel Worksheets and Workbooks
7. Custom Access Reports and Forms
8. Access Forms with OLE Fields, Hyperlinks, and Sub-forms
9. Access Application System
10. Enhancement of PowerPoint Slide Shows
11. PowerPoint Visual Elements and Presentation Formats

**LEARNING OUTCOMES:**

1. Create Microsoft Word Documents that use text watermarks and downloaded clip art from the Web.
2. Create charts from a Word table and modify charts using Microsoft Graph.
3. Change the direction and alignment of text in table cells.
4. Generate and selectively sort form letters, labels, and envelopes using the Mail Merge Wizard and Mail Merge Toolbar.
5. Create professional newsletters using WordArt, graphic lines (horizontal and vertical), symbols, floating graphics, columns, drop caps, text boxes, borders, and text animation.
6. Create Excel worksheets for preparation of financial data including amortization schedules, ROI calculations, and present and future value determination.
7. Create Excel worksheet databases using standard database functions.
8. Create Excel templates such as purchase orders and invoices.
9. Produce Custom Access Database reports and forms using the Microsoft Toolbox.
10. Design Access forms that include sub-forms.
11. Convert an Microsoft Access database to an application system using the switchboard manager.
12. Create PowerPoint presentations using visuals, tables, and organization charts.
13. Modify a presentation template by changing the color scheme.
14. Add a bitmap graphic to a background.
15. Add hyperlinks to slides and run a slide show with hyperlinks.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**[CSA 132 - Photoshop Elements for the Home Photographer](#)****COURSE DESCRIPTION:**

CSA 132. Adobe Photoshop Elements for the Home Photographer (3). Digital imaging for the home photographer using Adobe Photoshop Elements. Use of digital cameras, scanning software and equipment. Two lecture. Three lab.

**COURSE CONTENT:**

1. Selection techniques
2. Layers, modes
3. Special effects
4. Painting and editing tools
5. Photo retouching and image correction
6. Importing images from scanners or digital cameras
7. Construct projects from home photographs

**LEARNING OUTCOMES:**



1. Select shapes and colors using selection tools.
2. Apply modes and filters to layers.
3. Modify images by applying special effects.
4. Transform images by using painting and editing tools.
5. Modify digital images to fix problems.
6. Import digital images obtained from scanning photographs or digital cameras.
7. Construct projects from home photographs.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 133 - Microsoft Publisher

#### COURSE DESCRIPTION:

CSA 133. Microsoft Publisher (2). Design and production of professional quality documents that incorporate text, graphics and illustrations. Emphasis on newsletters, brochures, flyers, logos, catalogs and forms. Two lecture.

#### COURSE CONTENT:

1. Publications
2. Templates and wizards
3. Styles and formatting
4. Graphics, drawn objects, border art, WordArt, text boxes and tables
5. E-Commerce web pages
6. Merged publications with data
7. Graphic design concepts
8. Printing processes

#### LEARNING OUTCOMES:

1. Create an advertising flyer. (1-2)
2. Edit, revise and print publications. (1,8)
3. Prepare trifold brochure using wizards and templates with graphics, draw objects, border art, WordArt and tables. (3)
4. Design personal and office publications (newsletter, letterhead, business card, envelope and web page) using templates and information sets. (1-4, 7)
5. Design and develop business forms and tables. (1-4,7)
6. Create a catalog with merged data. (1,2,6)
7. Create e-commerce web pages. (5)
8. Incorporate graphic design concepts to create publications. (1,7)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 134 - Microsoft Word Desktop Publishing

#### COURSE DESCRIPTION:

CSA 134. Microsoft Word Desktop Publishing (2). Desktop Publishing using advanced Microsoft Word feature to plan, define, and incorporate desktop publishing concepts and the design and creation of business and personal documents. Prerequisite: CSA 140 . One lecture. Three lab.

#### COURSE CONTENT:

1. Understanding the desktop publishing process
2. Planning and creating letterheads, envelopes, business cards, resumes, and certificates
3. Planning and creating promotional documents such as flyers, brochures and gift certificates
4. Planning and creating web pages
5. Planning and creating publications such as newsletters, reports, and manuals

#### LEARNING OUTCOMES:

1. Produce internal business documents such as memos, agendas, press releases, and fax cover sheets with a variety of typefaces, type styles, type size, and special symbols.
2. Produce business letterheads, envelopes, and business cards using a variety of templates, fonts, and ruled lines.
3. Create resumes, calendars, personal address labels, and certificates.
4. Produce promotional documents such as flyers, brochures and announcements using Word's Tables and Borders toolbar, Picture toolbar, Drawing toolbar, Picture Editor, Word Art, and AutoShapes.
5. Create specialty promotional documents, such as gift certificates, postcards, name tags, business greeting cards, and invitations.
6. Create a Web home page with hyperlinks using Microsoft Word and apply basic desktop publishing concepts to the layout and design of the Web page.
7. Create newsletters using Word features such as columns and styles and design elements, such as masterheads, sidebars, pull quotes, kickers, jump lines, and color.
8. Prepare reports, term papers, manuals, and forms containing elements such as a cover page, table of contents, title page, and indexes.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 138 - Microsoft Excel

**COURSE DESCRIPTION:**

CSA 138. Microsoft Excel (2). Practical application on the basic functions of Microsoft Office Excel. Emphasis on creating worksheets for data input and analysis. Two lecture.

**COURSE CONTENT:**

1. Data entry and analysis
2. Formulas and functions
3. Ranges
4. Headers and footers
5. Hyperlinks
6. Charts and graphs
7. Filters
8. Pivot tables
9. Web pages
10. Macros
11. Links and embeds between applications
12. Data
13. Cells
14. Worksheets

**LEARNING OUTCOMES:**

1. Create worksheets containing data and formulas. (1-2)
2. Create worksheets with advanced features. (3-11)
3. Format and analyze data. (11-14)
4. Format, modify, and organize worksheets. (12-14)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**CSA 139 - Microsoft Access****COURSE DESCRIPTION:**

CSA 139. Microsoft Access (2). Practical application of Microsoft Access. Emphasis on relational databases and query design to summarize and analyze information. Two lecture.

**COURSE CONTENT:**

1. Relational Databases
2. Queries
3. Forms
4. Reports
5. Fields and Records
6. Table Properties
7. Field Properties
8. Data Sorts and Filters
9. Data Analysis
10. Report Printing
11. Import and Export of Data

**LEARNING OUTCOMES:**

1. Create relational databases. (1, 5-7)
2. Create queries to manage and analyze data. (2, 8-9)
3. Create data entry forms. (3)
4. Create reports to detail selected information. (4, 8-10)
5. Import and Export data. (11)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**CSA 140 - Microsoft Word****COURSE DESCRIPTION:**

CSA 140. Microsoft Word (2). Practical application of Microsoft Office Word. Practical application of Microsoft Office Word. Emphasis on creating and formatting content, working with visual content, and organizing documents. Two lecture.

**COURSE CONTENT:**

1. Text
2. Graphics and Watermarks
3. Headers and Footers
4. Merged Documents
5. Tables and Charts
6. Footnotes and Endnotes
7. Tables of Content and Figures
8. Citations
9. Outlines
10. Templates
11. Forms
12. Web Pages
13. Links and Embeds Between Applications
14. Text and Paragraph Formatting
15. Page Setup
16. Columns

## 17. Styles

## LEARNING OUTCOMES:

1. Create office documents using basic and advanced formatting features. (1-17)
2. Create templates. (10)
3. Create merged documents. (4)
4. Create forms. (11)
5. Create web pages. (12)
6. Create linked or embedded documents. (13)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**CSA 141 - Advanced Microsoft Word**

## COURSE DESCRIPTION:

CSA 141. Advanced Microsoft Word (1). Advanced theory and practical application of Microsoft Word software. Emphasis on planning, designing, and formatting formal business, web page and personal documents. Prerequisite: CSA 140. Three lab.

## COURSE CONTENT:

1. Merging form letters, mailing labels, envelopes and directories
2. Creating Newsletters
  - a. Designing a nameplate
  - b. Creating a pull-quote
  - c. Using colors and page borders
  - d. Enhancing a document for online viewing
  - e. Collaborating with others on a document
3. Designing, creating and printing an online form
4. Working with macros and visual basic
  - a. Using a macro to automate a task
  - b. Editing a recorded macro
  - c. Creating a macro from scratch using Visual Basic
5. Working with master documents, an index and creating a table of contents

## LEARNING OUTCOMES:

1. Explain the merge process.
2. Insert and format an AutoShape using the drawing canvas.
3. Create and edit a data source.
4. Use a template for the main document in a mail merge.
5. Create an outline numbered list.
6. Apply a paragraph style.
7. Sort data records.
8. Address and print mailing labels and envelopes.
9. Format a WordArt drawing object.
10. Insert and balance columns.
11. Animate text.
12. Use lines, shading, patterns and borders to enhance documents.
13. Design and create an online form.
14. Insert a table, check box, text, and drop-down form field into the form.
15. Protect, fill out and print a form.
16. Save data on a form in a text file.
17. Apply a 3-D effect to a drawing object.
18. Record and execute a macro.
19. View and edit a macro's Visual Basic code.
20. Add code statements to a macro's Visual Basic code.
21. Insert, modify, review and delete comments while working with a master document
22. Create a table of contents, an index and a table of figures.

1.000 Credit hours  
 0.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**CSA 142 - Microsoft PowerPoint**

## COURSE DESCRIPTION:

CSA 142. Microsoft PowerPoint (2). Practical application of Microsoft PowerPoint. Emphasis on creating and formatting slide presentations, working with multimedia, and slide show delivery options. Two lecture.

## COURSE CONTENT:

1. Text
2. Graphics
3. Tables and charts
4. Multimedia
5. Slide formatting
6. Animation schemes
7. Templates
8. Slide masters
9. Custom slide shows
10. Timings
11. Speaker notes

## 12. Print options

## LEARNING OUTCOMES:

1. Create slide presentations that include text, graphics, and advanced features. (1-4)
2. Format slides and slide objects. (5)
3. Create slide transitions and animations schemes. (5,6)
4. Create presentations from templates. (7)
5. Format presentations using slide masters. (8)
6. Deliver slide shows for a range of audiences. (9-11)
7. Print presentation slides, outlines and handouts. (12)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 144 - Creating Web Pages Using Dreamweaver

## COURSE DESCRIPTION:

CSA 144. Creating Web Pages Using Dreamweaver (3). Create website using Dreamweaver software. Emphasis on creating, publishing to the web and maintaining website. This is cross-listed with WEB 144. Three lecture.

## COURSE CONTENT:

1. Basic web page elements
2. HTML coding elements
3. Links and URLs
4. Tables
5. Forms
6. Style sheets
7. Website publishing
8. Site management
9. Typography
10. Layout tools and concepts
11. Rollover images
12. Templates and libraries
13. Automation
14. Spry

## LEARNING OUTCOMES:

1. Critique web elements on existing web sites. (1,2)
2. Use tables to present data. (4)
3. Create a website with logical file organization and navigation. (8)
4. Use semantic tags. (2)
5. Import images into a web page. (1)
6. Create text, image, image map, email and file links. (3)
7. Layout a web site using tables, absolute positioned elements, and templates or libraries. (4,5,9,10,12)
8. Use automation tools to alter multiple pages of a site. (13)
9. Apply external style sheets with class and tag selectors. (6)
10. Create forms with validation. (5,14)
11. Create image rollovers and disjoint image rollovers. (11)
12. Publish a web site. (7,8)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 149 - Second Life Virtual World

## COURSE DESCRIPTION:

CSA 149. Second Life Virtual World (3). Introduction to the use of the virtual 3D world of Second Life. Basic skills, inventory organization, basic building, personalization of the avatar, overall navigation and communication of the virtual environment known as Second Life. Three lecture.

## COURSE CONTENT:

1. Second Life environment
2. Virtual field trips
3. Virtual objects
4. Customization (avatar, clothing, objects, inventory)
5. Chat functions, instant messaging and voice chat

## LEARNING OUTCOMES:

1. Identify Second Life terminology. (1-5)
2. Utilize Second Life file storage. (1,3,4)
3. Create prims. (1,3)
4. Design digital clothing and textures. (1-3)
5. Illustrate correct navigation within the virtual environment. (1,2,5)
6. Reproduce communication using chat functions, instant messaging and voice chat. (5)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 150 - HTML5 & CSS: Concepts and Techniques

**COURSE DESCRIPTION:**

CSA 150. HTML: HTML5 & CSS: Concepts and Techniques (3). A complete look at developing Web pages using CSS.HTML language and creating web pages for course work, professional purposes, and personal use. Cross-listed with WEB 150. Three lecture.

**COURSE CONTENT:**

1. Introduction to HTML
2. Overview of the Internet
3. Web Browsers
4. Web Editors
5. HTML tags
6. Bulleted lists
7. Background color
8. Images
9. Printing the HTML file
10. E-mail links
11. Links to other pages
12. Links within a page
13. Wrapping text around images
14. Creating tables
15. Creating image maps and web forms
16. Using Advanced Cascading Style Sheets (inline, embedded and external)
17. Adding multimedia content to web pages
18. Browser "safe" color palette
19. Publishing web pages to a web server
20. Integrating JavaScript andHTML5

**LEARNING OUTCOMES:**

1. Explain how HTML is used in web page creation. (1,2)
2. Identify all HTML tags and their usage. (5-8)
3. Compose web pages for upload. (3,4,10,11)
4. Create and prepare multiple web pages. (5-14)
5. Identify differences with HTML5. (20)
6. Use image map with links to other pages. (15)
7. Use embedded, inline and external CSS styles. (16)
8. Use various multimedia inclusions in web pages. (17,18)
9. Use JavaScript to enhance web pages. (20)
10. Utilize web server to store web pages. (19)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 151 - Buying and Selling on Ebay

**COURSE DESCRIPTION:**

CSA 151. Buying and Selling on Ebay (.5). How to buy and sell on Ebay. This course is cross-listed with WEB 151. .5 lecture.

**COURSE CONTENT:**

1. Opening a buyer's account
2. Bidding on items
3. Buying safely
4. Creating a seller's account
5. Listing an item
6. Pricing strategies

**LEARNING OUTCOMES:**

1. Create a buyer's account. (1)
2. Bid on an item. (2)
3. Identify security issues when buying and selling on eBay. (3)
4. Create a seller's account. (4)
5. List an item. (5)
6. Set a selling price. (6)

0.500 Credit hours  
0.500 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 161 - Introduction to Computer Science

**COURSE DESCRIPTION:**

CSA 161. Introduction to Computer Science (2). Introduction to modern computer science including programming languages, structured and object oriented design and logic tools. Two lecture.

**COURSE CONTENT:**

1. 3D graphic animation.
2. Programming languages.
3. Microsoft's programming environment.
4. Computer Science concepts:
  - a. Classes and Objects
  - b. Methods
  - c. Class characteristics and properties
  - d. Creating instances (Objects) of Classes
  - e. Variables
  - f. Conditional Branching
  - g. Loops
  - h. Event driven programming

**LEARNING OUTCOMES:**

1. Compose 3D graphic animation programs (1,2,4)
2. Incorporate objects, behavior and properties into programs (1,2,3,4)
3. Explain the concept of Object Oriented Programming (1,2,3,4)
4. Identify error handling techniques and problem solving (2)
5. Compose error free programs (1,2,3,4)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**Course Attributes:**

Critical Thinking (CT)

**CSA 164 - C# Programming Fundamentals****COURSE DESCRIPTION:**

CSA 164. C# Programming Fundamentals (3) (Spring). Introduction to C# language. Includes Visual Studio, form applications, debugging programs, object oriented programming, and database programming. Prerequisite: CSA 161. Three lecture.

**COURSE CONTENT:**

1. Introduction to Visual Studio
  - a. Using the interface
  - b. Accessing command help
  - c. Finding all the tools
2. Windows Form Applications
  - a. Structure of a windows form application
  - b. Application commands commonly used
  - c. Working with numbers and strings
  - d. Handling exceptions (Oops it crashed)
3. The art of Debugging programs
  - a. Setting breakpoints
  - b. Walking through the code
  - c. Watching the variables change
4. Object Oriented Programming Concepts
  - a. Creating and using classes
  - b. Working with indexers, delegates, events and operators
  - c. How to use inheritance
  - d. Using interfaces and generics
  - e. Organizing and Documenting
5. Database Programming
  - a. Introduction to database programming
  - b. Use database sources
  - c. Use ADO.NET to write data access code
  - d. Use database sources with business objects
6. Other C# developer skills
  - a. Working with files and streams
  - b. Working with XML
  - c. Enhancing the user interface
  - d. Deploying an application

**LEARNING OUTCOMES:**

1. Use the Visual Studio environment (1)
2. Explain how to find help on different C# topics (2,6)
3. Identify key command with the C# language (1,2)
4. Produce simple form applications (2,4,6)
5. Explain and use several debugging procedures (1,2,3,4,5)
6. Explain Object Oriented programming (4)
7. Use data structure creation using generics (2,4,5)
8. Explain how to connect a C# program to a database (5)
9. Deploy an application (6)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**Course Attributes:**

Quantitative Lit (QL)

### CSA 167 - PHP and MySQL Programming

#### COURSE DESCRIPTION:

CSA 167. PHP and MySQL Programming (3) (Fall). Principles and techniques of developing small to medium scale database applications, and creating web databases that are accessed by Web pages. This course is cross-listed with WE. Two lecture. Three lab.

#### COURSE CONTENT:

1. Basic Vocabulary
2. Loops
3. Arrays
4. Strings
5. Regular Expressions
6. Time and Date Functions
7. Integer and Float Functions
8. Database Basics
9. Querying
10. Connecting to a MySQL Database
11. Formatting Results
12. User-Driven Queries
13. Writing to Web Databases
14. Validation
15. Keeping State
16. Session Management
17. Protecting Data

#### LEARNING OUTCOMES:

1. Identify PHP language syntax (1)
2. Compose web pages for upload (10,13)
3. Incorporate PHP code into HTML (2,3,4,5)
4. Explain how MySQL is used as a web database (10)
5. Identify HTML tags (1,6,7,8,9)
6. Create and prepare a MySQL database (12,11,14,15,16,17)
7. Identify, analyze and synthesize design principles (1, 2,3,4,5,6,7,8,9)
8. Use PHP functions appropriately in effective web page design (2,3,4,5)
9. Explain the relationship between query strategies (10)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

Course Attributes:  
Scientific (SL)

### CSA 170 - PC Architecture

#### COURSE DESCRIPTION:

CSA 170. PC Architecture (3) (Spring). Introduction to hardware components of a microcomputer. Emphasis on equipment comparisons, hardware requirements, and operating systems. Two lecture. Three lab.

#### COURSE CONTENT:

1. Microcomputer bus design
2. A history of CPU development
3. Input-output ports
4. Memory
5. Operating systems
6. Hard disk capacity requirements
7. Special multimedia hardware requirements
8. Networking requirements of the PC
9. Requirements studies
10. Cost effectiveness analysis

#### LEARNING OUTCOMES:

1. Describe the different types of bus design.
2. Identify the types of memory chips.
3. Describe the organization and structure of the operating system.
4. Describe the minimum hardware requirements for an operating system.
5. Select an optimal multimedia system.
6. Evaluate the hardware requirements for networking a PC.
7. Perform a requirements study and select a cost effective computer system.

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### CSA 172 - Microsoft Windows

#### COURSE DESCRIPTION:

CSA 172. Microsoft Windows (2). Personal computer operations using the Microsoft Windows operating environment. Customizing, optimizing and maintenance of desktops, folders, and documents. One lecture. Two lab.

#### COURSE CONTENT:

1. Introduction to personal computers and operating systems
2. Window components
3. The Start button
4. My Computer and Help
5. File, document and folder naming conventions
6. Creating documents
7. Modifying and editing documents
8. Printing documents and using the Managing the Print queue and spool
9. Using the taskbar
10. Working with multiple windows
11. Cutting, copying and pasting
12. Object moving, copying and shortcuts
13. Sorting and finding documents
14. Using the Recycle Bin
15. Using system tools such as defrag and scandisk
16. Explorer Window
17. System shut down

## LEARNING OUTCOMES:

1. Identify fundamental personal computing concepts and terminology.
2. Identify components of the Windows screen; select items with the mouse pointer; access Windows features by using the Start button; and work with windows by using buttons and dragging techniques.
3. Observe the contents of a disk by using the My Computer icon; and access a disk quickly by creating a desktop shortcut.
4. Work with multiple programs by using the taskbar to switch between windows.
5. Share data between applications using the Edit Copy and Edit Paste commands.
6. Display the contents of a disk by using the Windows Explorer; create a folder by using a shortcut menu; copy and move documents and folders by dragging them; and sort and locate documents.
7. Prepare a disk for use with the Format command; copy and move groups of documents; delete and restore documents by using the Recycle Bin; and exit Windows.
8. Create a custom user interface by changing properties of the taskbar, the desktop, and other components.
9. Create subfolders and modify file attributes.
10. Manipulate the print queue; set up a printer to print.

2.000 Credit hours  
 1.000 Lecture hours  
 2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**CSA 177 - Surfing the Internet**

## COURSE DESCRIPTION:

CSA 177. Surfing the Internet (2). Basic to intermediate techniques of using the full features of the Internet and its resources. Emphasis on accessing the information of the rapidly expanding and ever changing "Information Superhighway." This course is cross-listed with WEB 177. Preparedness recommendation: Basic windows skills and general computer literacy. One lecture. Three lab.

## COURSE CONTENT:

1. History of the Internet and its evolution
2. Discussion of the TCP/IP Internet protocol
3. Email (Eudora); etiquette and proper verbiage on the Net
4. Listservs, usergroups
5. Surfing the World Wide Web and use of links
6. URLs (Uniform Resource Locators)
7. Using Telnet to connect to remote sites
8. Accessing files from remote public FTP sites
9. Archie searches for FTP file access
10. FTP downloads and uploads
11. Usenet newsgroup access; reading and posting messages
12. Access to public Gopher servers
13. Internet chat (mIRC); download client software, configure and install on local machine
14. Discussion of the legal, ethical, moral considerations of the Communication Decency Act (CDA)
15. Setup of an Internet account, the local providers, and considerations of remote on-line services
16. Basic HTML coding

## LEARNING OUTCOMES:

1. Configure, send and receive email.
2. Use several World Wide Web browsers (www) such as Netscape and Internet Explorer to traverse the Web.
3. Use World Wide Web search engines such as Yahoo, Lycos, Infoseek, Alta Vista to perform subject/keyword searches on the web, including composing search queries.
4. Download files from public FTP sites on the Internet, including the unzipping of compressed files and use of FTP software.
5. Use PKUNZIP, WinZip or other decompression software.
6. Identify the legal and ethical issues of dealing with accessibility and information and information on the Net.
7. Discuss the history of the Internet, the role of government, and future considerations.
8. Use mIRC chat to converse with others.
9. Use Windows 95 software applications to accomplish Internet tasks.

2.000 Credit hours  
 1.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**CSA 179 - Survey of Operating Systems**



**COURSE DESCRIPTION:**

CSA 179. Operating Systems (3) (Spring). A survey of the operating systems used today with the purpose of preparing technicians to install and maintain operating systems. Three lecture.

**COURSE CONTENT:**

1. Operating system theory
2. Comparison of operating systems: Unix, Windows NT, 98, 95
3. Disks, tapes, CD, DVD, and other media
4. File systems and file system organization
5. The Unix file system
6. Initial installation, setup, and modification of operating systems
7. Upgrading to a newer version
8. Printers, plotters, and other output devices
9. Scanners, mice, and other input devices
10. Modems and other communications devices
11. Networking and Internet connectivity
12. Resource sharing over a network
13. Standard operating and maintenance procedures

**LEARNING OUTCOMES:**

1. Differentiate between hardware and software errors.
2. Determine if the operating system needs to be installed and perform the installation.
3. Distinguish between the different operating system filing structures.
4. Describe how operating systems affect input and output devices.
5. Describe how operating systems affect communications and networking.
6. Differentiate between application problems and operating system problems.
7. Install or reinstall application software.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**CSA 201 - Software Maintenance and Troubleshooting****COURSE DESCRIPTION:**

CSA 201. Software Maintenance and Troubleshooting (3) (Fall). Develop and deploy solutions to software issues, fix performance problems in the Operating System, and engage in perfective maintenance on software. Modify the software system or components to correct faults, improve performance or other attributes to adapt to changing software environments. Two lecture. Three lab.

**COURSE CONTENT:**

1. Microsoft Windows Operating Systems review
2. Troubleshooting startup issues
3. File and folder management
4. System tools
5. Administrative tools
6. Scandisk, defrag, disk cleanup, tmp files, and general file housekeeping
7. Managing performance
8. Disk management
9. Updates, service packs and security

**LEARNING OUTCOMES:**

1. Differentiate between software errors on different Operating Systems. (1,2,5)
2. Determine if the operating system needs to be reinstalled and perform the installation as needed. (1,2,6,8)
3. Repair malfunctions using Task Manager. (3-7)
4. Share resources and file/folders. (3,7)
5. Use Scandisk and error checking to fix problems. (6,8)
6. Differentiate between application problems and Operating System problems. (1,2,4)
7. Install or reinstall application software, updates and virus protection. (9)
8. Manage processes and power settings. (7,9)
9. Remove old files from drives. (6)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**Course Attributes:**

Diversity (DA)

**CSA 238 - Advanced Excel for Windows****COURSE DESCRIPTION:**

CSA 238. Advanced Excel for Windows (1). Advanced theory and application of the Microsoft Excel spreadsheet software application. Prerequisite: CSA 138. Three lab.

**COURSE CONTENT:**

1. Importing and exporting data
2. Managing workbooks
3. Formatting numbers
4. Working with ranges
5. Customizing Excel
6. Auditing worksheets
7. Summarizing data

8. Analyzing data
9. Workgroup collaboration

## LEARNING OUTCOMES:

1. Import data to Excel.
2. Export data from Excel.
3. Publish worksheets and workbooks to the Web.
4. Create, edit and apply templates.
5. Create workspaces.
6. Use Data Consolidation.
7. Create and apply custom number formats.
8. Use conditional formats.
9. Use named ranges in formulas.
10. Use Lookup and Reference functions.
11. Customize toolbars and menus.
12. Create, edit, and run macros.
13. Audit formulas.
14. Locate and resolve errors.
15. Identify dependencies in formulas.
16. Use subtotals with lists and ranges.
17. Define and apply filters.
18. Add groups and outline criteria to ranges.
19. Use data validation.
20. Retrieve external data and create queries.
21. Create Extensible Markup Language queries.
22. Create PivotTables, PivotCharts, and Reports.
23. Forecast values with what-if analysis.
24. Create and display scenarios.
25. Modify passwords, protections, and properties.
26. Create a shared workbook.
27. Track, accept, and reject changes to workbooks.
28. Merge workbooks.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**CSA 266 - Advanced Web Enhancement - ASP.NET 4**

## COURSE DESCRIPTION:

CSA 266. Advanced Web Enhancement ASP.NET 4 (3) (Fall). Advanced Web Enhancement using ASP.NET 4 as used in Microsoft Visual Web Developer 2010 Express. Building an ASP.NET web site using both user and server controls. Includes both LINQ and a look at communicating with databases. This course is cross-listed with WEB 266. Prerequisite: CSA 161. Three lecture.

## COURSE CONTENT:

1. Introduction to ASP.NET 4
2. Building an ASP.NET web site
3. Designing web pages
4. Server controls
5. User controls
6. Introduction to databases
7. LINQ and the ADO.NET Entity Framework
8. Security in an ASP.NET 4 web site
9. Personalizing web sites
10. Deploying web sites

## LEARNING OUTCOMES:

1. Compose web pages using Microsoft Visual Web Developer 2010 Express. (1-4,8,9)
2. Use both user and server controls. (4,5)
3. Incorporate LINQ and C# code behind fields. (7)
4. Incorporate security controls into the login feature of a web site. (8)
5. Identify and analyze how connections to databases can be made. (6)
6. Deploy web pages. (10)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

## Course Attributes:

Civic Engagement (CE)

**CSA 281 - Systems Analysis and Design**

## COURSE DESCRIPTION:

CSA 281. Systems Analysis and Design (3) (Fall). Advanced analysis of users' needs, available equipment, manpower and financial feasibility. Emphasis on procedures and program analysis in design and implementation of the total system. Individual and team approach to problem solving. Prerequisite: CSA 110 and CSA 161. Three lecture.

## COURSE CONTENT:

1. Preliminary investigation of existing system
2. Detailed investigation of existing system
3. Output design techniques

4. Input design techniques
5. File design techniques
6. Processing design techniques
7. Control design techniques
8. Presentation and approval techniques
9. System scheduling techniques
10. Program specification techniques
11. Program testing and documentation techniques
12. Trends

**LEARNING OUTCOMES:**

1. Analyze existing information systems.
2. Design information systems.
3. Formulate feasibility studies.
4. Generate system/program specifications.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**Course Attributes:**  
 Written Comm (WC)

**CSA 282 - Microcomputer Database**

**COURSE DESCRIPTION:**

CSA 282. Microcomputer Databases (3) (Spring). Concepts, design, implementation, evaluation, and maintenance techniques of databases. Includes fundamentals of data model, data structure and data management. Two lecture. Three lab.

**COURSE CONTENT:**

1. Database concepts
2. Data models
3. Data definition
4. Manipulation of the database
5. Normalization of relations (tables)
6. Relational database design
7. Building a table
8. Building a query
9. Building and customizing a form
10. Building and customizing a report
11. Use of macros
12. Building of an application

**LEARNING OUTCOMES:**

1. Analyze, define, and design a relational database.
2. Construct an application using a relational database program complete with menus, reports, forms, and queries.
3. Update the database.

3.000 Credit hours  
 2.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**CSA 294 - CSA Project**

1.000 TO 6.000 Credit hours  
 1.000 TO 6.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**Course Attributes:**  
 Oral Communication (OC)

**CSA 296 - Internship: Computer Systems and Applications**

**COURSE DESCRIPTION:**

CSA 296. Internship: Computer Systems and Applications (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements

3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

### **CSA 299 - Independent Study Computer Systems and Applications**

**COURSE DESCRIPTION:**

CSA 299. Independent Study Computer Systems and Applications (1-6). Supervised special project in this field of study. Approval of supervising Division Assistant/Associate Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

### **CUL 110 - Culinary Foundations**

**COURSE DESCRIPTION:**

CUL 110. Culinary Foundations (3). Introduction to the culinary world. Includes safe working habits; recognizing commonly used food ingredients by sight, smell and taste; proper care of tools and equipment; cooking methods; kitchen organization and terminology. Two lecture. Three lab.

**COURSE CONTENT:**

1. The professional kitchen
2. Developmental knife skills
3. Cooking methods
4. Product identification
5. Culinary terminology
6. Ethics

**LEARNING OUTCOMES:**

1. Assemble a safe and sanitary work place and storage area. (1)
2. Identify and use standard professional cooking equipment. (1)
3. Describe proper sanitation and personal hygiene in the work place. (1)
4. Execute basic classical knife cuts. (2)
5. Describe, sharpen, and maintain professional tools. (2)
6. Execute cooking methods. (3)
7. Explain the need for variety on menus along with seasonal applications. (3)
8. Identify food items in a professional setting. (4)

9. Articulate classical food and culinary terminology. (5)
10. Explain truth in menu labeling. (6)
11. Identify issues regarding humane treatment of food animals. (6)
12. Define various eating regimens. (6)
13. Determine professional responsibilities of employees and employers. (6)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Culinary Arts Department

#### **CUL 111 - ServSafe Certification, Food Sanitation and Safety**

##### **COURSE DESCRIPTION:**

CUL 111. ServSafe Certification, Food Sanitation and Safety (3). Safe food handling including: personal hygiene, sanitary work stations, proper use of cutting boards, correct temperatures for preparation, cooking, holding, cooling and storage of food. Preparation for ServSafe Food Handler's Certificate. Three lecture.

##### **COURSE CONTENT:**

1. Personal hygiene
2. Purchasing and receiving
3. Safe food storage
4. Safe food preparation and practices
5. Proper cooking procedures
6. Types of food contamination
7. ServSafe Food Handler's Certificate study and examination

##### **LEARNING OUTCOMES:**

1. Describe and practice personal hygiene in a food service environment. (1)
2. Select certified food vendors. (2)
4. Assess food temperatures during shipping, receiving and storage. (2)
5. Label stored food products to comply with local, state and federal regulations. (3)
6. Handle food safely, including the use of proper cutting boards, before and during preparation to prevent contamination. (4)
7. Explain how to maintain a safe, organized and sanitary work station. (4)
8. Describe how to handle food properly at safe temperatures during the preparation process. (4)
9. Identify safe cooking, storage and holding temperatures. (5)
10. Identify principle food borne pathogens and how they affect people. (5)
11. Identify principle types of food contamination and how to avoid unsafe situations. (6)
12. Explain how to distinguish between possible contaminated food products. (6)
13. Outline ServSafe Food Handler's Certificate requirements. (7)

##### **REQUIRED ASSESSMENT MEASURES:**

1. ServSafe exam
- 3.000 Credit hours
- 3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lecture

Career & Technical Education Division  
Culinary Arts Department

#### **DAN 130 - Ballet**

##### **COURSE DESCRIPTION:**

DAN 130. Ballet (1). The elements of classical ballet technique. Emphasis on movement quality and artistic expression. Two lab.

##### **COURSE CONTENT:**

1. Fundamental positions of body, arms and feet
2. Classical terminology
3. Kinesthetic awareness
4. Exercises at the barre, in center and across the floor
5. Physical strength, flexibility, muscular coordination
6. Musicality
7. Intention of Movement
8. History of ballet

##### **LEARNING OUTCOMES:**

1. Perform fundamental ballet positions.
2. Communicate, in the language, and with the terminology, of dance
3. Perform exercises at the barre, in center and across the floor that require kinesthetic awareness, balance, flexibility and strength.
4. Move and perform in relation to music.
5. Perform movements with grace and clarity.
6. Discuss the foundations and history of Ballet.

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Performing Arts Department

#### **DAN 131 - Modern Dance**

**COURSE DESCRIPTION:**

DAN 131. Modern Dance (1). The elements of modern dance technique. Emphasis on movement quality and artistic expression. Two lab.

**COURSE CONTENT:**

1. Fundamental positions and relationship of breath work of body, arms and feet
2. Modern dance terminology
3. Kinesthetic awareness
4. Locomotor and non-locomotor movement phrases and floor patterns
5. Physical strength, flexibility, muscular coordination
6. Musicality
7. Intention of movement
8. Improvisation
9. Choreography
10. History of Modern Dance

**LEARNING OUTCOMES:**

1. Perform movements that model proper alignment.
2. Communicate and critique in the language, and with the terminology, of dance.
3. Perform movement exercises that require kinesthetic awareness.
4. Move and perform in relation to music, or not.
5. Perform movements with clarity.
6. Improvise and choreograph movement phrases.
7. Discuss the foundations and history of Modern Dance.

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Performing Arts Department

**DAN 132 - Jazz Dance****COURSE DESCRIPTION:**

DAN 132. Jazz Dance (1). The fundamentals of jazz dance techniques. Two lab.

**COURSE CONTENT:**

1. Cultural and stylistic foundations of jazz dance
2. Dance terminology
3. Kinesthetic awareness
4. Locomotor and non-locomotor movement phrases and floor patterns
5. Physical strength and flexibility
6. Muscular coordination
7. Musicality
8. Intention of movement
9. Choreography

**LEARNING OUTCOMES:**

1. Identify and discuss cultural and stylistic influences of jazz dance.
2. Communicate and critique, in the language, and with the terminology, of dance.
3. Perform movements that model proper alignment.
4. Perform movement exercises that require kinesthetic awareness, balance, flexibility and strength
5. Move and perform in relation to music.
6. Perform movements with clarity.
7. Choreograph original work of movement piece.

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Performing Arts Department

**DAN 134 - Ballroom Dance: Fox Trot, Waltz and Tango****COURSE DESCRIPTION:**

PHE 170. Fox Trot, Waltz and Tango (1). Basic and beginning moves for the Fox Trot, Waltz and Tango. Includes movement, music and rhythm. Two lab.

**COURSE CONTENT:**

1. Basic and beginning moves for Fox Trot, Waltz and Tango
2. Dance frame and partner relationship
3. Principles of leading and following
4. Music identification
5. Rhythm and timing
6. Dance floor awareness

**LEARNING OUTCOMES:**

1. Dance the basic and beginning moves for Fox Trot, Waltz, and Tango. (1)
2. Identify and discuss the line of direction for particular dances. (1,6)
3. Lead and follow in all dances. (2,3)
4. Identify and dance to a variety of music. (4)
5. Identify beats of music: slow, quick, syncopated. (4,5)
6. Identify different aspects of dance floor in relation to line of direction. (6)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab

Sciences, Health & Public Safe Division  
Performing Arts Department

#### **DAN 136 - Ballroom Dance: Rumba, Cha Cha, and Swing**

**COURSE DESCRIPTION:**

PHE 171. Rumba, Cha Cha, and Swing (1). Basic and beginning moves for the Rumba, Cha Cha, and Swing. Includes movement, music and rhythm. Two lab.

**COURSE CONTENT:**

1. Basic and beginning moves fo Rumba, Cha Cha and Swing
2. Dance frame and partner relationship
3. Principles of leading and following
4. Music identification
5. Rhythm and timing
6. Dance floor awareness

**LEARNING OUTCOMES:**

1. Dance the basic and beginning moves for Rumba, Cha Cha, and Swing. (1)
2. Lead and follow in all dances. (2,3)
3. Identify and dance to a variety of music. (4,5)
4. Identify beats of music: slow, quick, syncopated. (4)
5. Adjust style to fit dance floor space. (6)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab

Sciences, Health & Public Safe Division  
Performing Arts Department

#### **DAN 140 - Dance Choreography**

**COURSE DESCRIPTION:**

DAN 140. Dance Choreography (1). Introduction to various choreography and dance themes. Includes kinesthetic awareness, floor exercises, dance movements, and music integration. Two lab.

**COURSE CONTENT:**

1. Fundamental techniques of jazz, hip-hop, and Broadway dance
2. Dance exercises to promote kinesthetic awareness, musicality and clarity of movement
3. Floor exercises to develop strength, flexibility and muscle coordination
4. Choreography
5. Dance Terminology

**LEARNING OUTCOMES:**

1. Perform movement exercises that require kinesthetic awareness, balance, flexibility and strength. (1, 2, 3)
2. Move and perform in relation to music. (2)
3. Execute movements with grace and clarity. (2)
4. Create simple choreography. (4)
5. Critique using the language and terminology of dance. (5)

**REQUIRED ASSESSMENT:**

1. Critique

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Performing Arts Department

#### **DAN 198 - Dance Topics:**

**COURSE DESCRIPTION:**

DAN 198. Dance Topics: (1). Exploration of partner dance styles. One lecture. [Repeatable for a total of 2 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Basic rhythm and timing patterns in partner dancing
2. Fundamentals of music for partner dancing
3. Leading and following fundamentals for partner dancing
4. Frame and partner relationships for partner dancing
5. Footwork and steps for the basic patterns in partner dancing
6. Footwork and steps for beginning partner dancing moves
7. Footwork and steps for intermediate partner dancing moves

**LEARNING OUTCOMES:**

1. Discuss the basic rhythm and timing of partner dancing music and dance (1,2)
2. Discuss and apply the fundamentals for leading/following in partner dancing (3,4)
3. Dance the basic patterns in time to the dance music (4,5)
4. Lead/follow selected beginning partner dancing moves (6)
5. Lead/follow selected partner dancing intermediate moves (7)

1.000 Credit hours  
1.000 Lecture hours

0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Performing Arts Department

#### DAN 233 - Intermediate Ballroom Dance

##### COURSE DESCRIPTION:

DAN 233. Intermediate Ballroom Dance (1). Intermediate ballroom dance including: American Style Waltz, Foxtrot, Tango, Swing, Rumba and Cha-cha. Prerequisite: DAN 134 and DAN 136. Two lab.

##### COURSE CONTENT:

1. American Style Waltz, Foxtrot, Tango, Swing, Rumba and Cha-cha
2. Intermediate level dance patterns
3. Types of music and dance
4. Timing
5. Lead and Follow
6. Dance floor awareness and navigation
7. Style and Technique

##### LEARNING OUTCOMES:

1. Identify different types of music and dance (1,3)
2. Lead or follow for each dance (1,5)
3. Perform intermediate level patterns for each dance. (1,2)
4. Apply dance floor awareness, continuity of patterns, and navigation as appropriate to each dance. (1,3,6)
5. Apply style and technique for individual dances (1,7)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
Performing Arts Department

#### ECE 120 - Contemporary Issues in Child Care

##### COURSE DESCRIPTION:

ECE 120. Contemporary Issues in Child Care (1). Exploration of the cultural, economic, historical, political and social issues in contemporary child care programs. Emphasis on critically examining current trends and their effects upon members of society. One lecture. br>

##### COURSE CONTENT:

1. Brain research
2. Attachments and bonding
3. Program quality
4. Compensation and affordability
5. School readiness and assessment
6. Accreditation
7. Culture and bilingualism

##### LEARNING OUTCOMES:

1. Apply findings in current brain research. (1)
2. Describe attachment and bonding and their importance. (2)
3. List components of quality in programs for young children. (3)
4. Discuss issues of compensation and affordability and how these issues affect children in programs. (4)
5. Defend a position on school readiness and assessment of preschool children. (5)
6. Make application for the accreditation process and conduct a self study. (6)
7. Identify issues of bilingualism and cultural diversity and their applications to young children. (7)

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

#### ECE 190 - Child Development Associate (CDA) Portfolio Preparation

##### COURSE DESCRIPTION:

ECE 190. Child Development Associate (CDA) Portfolio Preparation (3) (Spring). Preparation for application to the Council of Professional Recognition to receive the Child Development Associate (CDA). Development of a professional resource file that includes evidence of competencies achieved through the Early Childhood Education Basic Core certificate. Prerequisite: ECE 200 and ECE 230 and ECE 240 and ECE 260 (all may be taken concurrently). Three lecture.

##### COURSE CONTENT:

1. Professional resource file
2. Parent questionnaires
3. CDA competencies

##### LEARNING OUTCOMES:

1. Create and present a professional resource file. (1)
2. Develop, distribute and collect parent questionnaires. (2)
3. Compose and defend the six CDA competencies: establish safe, healthy learning environment; advance physical and intellectual competence; support social and emotional development; establish positive family relationships; ensure a well-run, purposeful program; maintain professionalism. (3)

3.000 Credit hours  
3.000 Lecture hours



0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

#### **ECE 195 - Headstart Mandates and Performance Standards**

##### COURSE DESCRIPTION:

ECE 195. Head Start Mandates and Performance Standards (1) (Fall). Head Start mandates and performance standards, for program administration and classroom implementation. Emphasizes strategies for working with children (infants, toddlers and preschoolers), legal issues, health and safety standards, nutrition and working with families. One lecture.

##### COURSE CONTENT:

1. Anti-bias, creative curriculum
2. Behavior in the classroom
3. Budgetary issues
4. Career development
5. Child and family support
6. Domestic violence
7. Family style meal service
8. Guidance of young children
9. Head Start Governance
10. Health and safety in classrooms and in-home
11. How to communicate with young children
12. In-home services
13. Legal issues
14. Menus and nutrition
15. Parent involvement
16. Social growth
17. Special needs
18. Staff retention
19. Stress management
20. Teen parent issues
21. Time management

##### LEARNING OUTCOMES:

1. Identify and model positive guidance techniques with young children.
2. Employ good nutritional practices.
3. Identify young children with special needs.
4. Apply techniques of stress management.
5. Analyze legal issues.
6. Involve parents in programs.
7. Model techniques and mandates of time management.
8. Discuss budgetary issues.
9. Communicate well with young children.
10. Develop and integrate anti-bias and creative curriculum for children.
11. Define teen parenting issues.
12. Document domestic violence.
13. Support children and their families.
14. Interpret the social growth of children and families.

1.000 Credit hours

1.000 Lecture hours

0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

#### **ECE 200 - Introduction to Early Childhood Education**

##### COURSE DESCRIPTION:

ECE 200. Introduction to Early Childhood Education (3). Introduction to the field of Early Childhood Education including history, philosophy, and the application of child development techniques. Includes techniques for observing and recording behaviors, communication and guidance skills, developmentally appropriate practices and the role of the teacher in early childhood settings. Observation and participation hours in an early childhood setting required. Three lecture.

##### COURSE CONTENT:

1. History and philosophies of early childhood education
2. Theories of child development
3. Techniques for observation and implementation of developmentally appropriate activities
4. Professionalism and ethics
5. Developmentally appropriate practices in teaching, learning and designing environments
6. Observing and recording behaviors
7. Guidance of young children

##### LEARNING OUTCOMES:

1. Identify major milestones and philosophies in the history of early childhood education. (1)
2. Explain how child guidance techniques relate to contemporary child development models. (2,7)
3. Apply theories of development and guidance in observing and planning specific activities for young children. (2,3,5,7)
4. Discuss issues of professionalism and advocacy in Early Childhood Education. (4)
5. Illustrate developmentally appropriate practice through teaching, learning activities and environment preparation. (4-6)

3.000 Credit hours

3.000 Lecture hours

0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

### **ECE 201 - Introduction to the Child Care Profession**

#### **COURSE DESCRIPTION:**

ECE 201. Introduction to the Child Care Profession (3). Introduction to the child care profession, focusing on child development and appropriate learning environments for children from birth through age five. Includes child care licensing and developmentally appropriate curriculum in early childhood settings. Three lecture.

#### **COURSE CONTENT:**

1. Child development
2. Developmentally appropriate activities
3. Discipline and guidance
4. Child development techniques
5. Health and safety in early care and education settings

#### **LEARNING OUTCOMES:**

1. Describe milestones of physical, social, cognitive and language development in children from birth through age five. (1,2)
2. Plan and implement developmentally appropriate activities for children from birth through age five.(2,4)
3. Explain and incorporate positive child guidance and discipline techniques in early childhood settings. (3,4)
4. Create a plan for caring for young children. (1,2,3,4,5)
5. Prepare a healthy and safe environment for young children; with special consideration for nutrition, licensing requirements and personal safety. (5)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

### **ECE 202 - Early Childhood Curriculum**

#### **COURSE DESCRIPTION:**

ECE 202. Early Childhood Curriculum (3). Introduction to methods and materials to assist young children in the learning process. Emphasis on art, music and movement, math, science, social studies, dramatic play, technology, sensory activities and transitions, all within the context of creativity. Locating, planning, implementing and evaluating developmentally appropriate learning activities using a variety of methods and materials. Three lecture.

#### **COURSE CONTENT:**

1. Learning process methods
2. Lesson unit and theme planning
3. Arizona Early Learning Standards
4. Developmentally appropriate practices
5. Early childhood content areas
6. Learning environments and materials
7. Classroom management strategies

#### **LEARNING OUTCOMES:**

1. Identify creative and integrated learning opportunities suitable for young children. (1)
2. Evaluate various early childhood curricula and lessons. (2-6)
3. Create and implement lesson plans in early childhood content areas using developmentally appropriate activities. (1-6)
4. Devise a classroom management plan utilizing environmental preparation. (6,7)
5. Describe child development theories associated with different curricula.
6. Implement age-appropriate lessons.
7. Describe child-oriented learning environments.
8. Plan a unit theme, research it and plan lessons for that theme.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

#### **Course Attributes:**

Digital Lit (DL)

### **ECE 210 - Infant and Toddler Development**

#### **COURSE DESCRIPTION:**

ECE 210. Infant and Toddler Development (3). Exploration and application of theories of child development with children, birth through 3 years. Focus is on a relationship-based approach to promote a nurturing and stimulating environment for children in the areas of cognitive, language, social-emotional, and motor development. Prerequisite: Reading Proficiency. Three lecture.

#### **COURSE CONTENT:**

1. Relationship-based model
2. Brain and prenatal development, birth and the newborn
3. Attachment, temperament, and caregiver style
4. Emotional and social development
5. Cognitive and language development
6. Sensory and motor development
7. Relationship-based curriculum

#### **LEARNING OUTCOMES:**

1. Describe relationship-based model with respect to infant and toddler development. (1) (BS 1)
2. Summarize brain and prenatal development, birth and the newborn. (2) (BS 1)
3. Evaluate and apply various theories of infant and toddler development. (3-6) (BS 1,3,4)
4. Analyze the interplay of physical, cognitive, emotional and social development. (3-6) (BS 3,4)

5. Identify the probable effects of parents, family, peers, caregivers, and community on infant and toddler development. (1-6) (BS 3)
6. Explore the power of observational research of infant and toddler developmental functioning in the context of early childhood programs. (1-7) (BS 2,3)
7. Design relationship-based activities to promote infant and toddler development. (1,7) (BS 3)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

**Course Attributes:**

Behavioral Science (AGEC), Written Comm (WC)

#### **ECE 216 - Playing to Learn**

**COURSE DESCRIPTION:**

ECE 216. Playing to Learn (3). Development of play in children birth through age eight. Includes methods to enhance learning experiences through play, role of play in a child's development, and developmentally appropriate play activities. Three lecture.

**COURSE CONTENT:**

1. Definition, and types of play
2. Literacy learning through music and other domains
3. Assessing play
4. Environment's impact
5. Impact on children's development
6. Support of play by teachers and parents
7. Educating the public about the role of play

**LEARNING OUTCOMES:**

1. Identify various kinds of play. (1)
2. Describe the role of play in a child's social, emotional, physical, intellectual and language development. (2,5)
3. Design developmentally appropriate play activities for various ages and stages of young children. (3)
4. Articulate the advantages of play in early childhood classrooms. (4)
5. Identify strategies for integrating play into early childhood classrooms. (6)
6. Cite research and major positions on the role and benefits of play. (2,4,5,7)
7. Experiment with musical instruments and concepts to enhance learning. (2)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

**Course Attributes:**

Creative Thinking (CR)

#### **ECE 220 - School Age Children**

**COURSE DESCRIPTION:**

ECE 220. School Age Children (3) (Spring). Development of children ages 6-12 who may be in child care or groups. Interests, attitudes, abilities, behavior and guidance of children with an emphasis on types of programs, literacy development and tutoring techniques for this age group. Observation and participation hours required. Three lecture.

**COURSE CONTENT:**

1. Theories of child development in children ages 6-12
2. Observation of, and participation in school age programs
3. Physical environments, routines and activities
4. Legislation and advocacy
5. Licensing requirements
6. Literacy development and tutoring techniques
7. Guidance techniques for school age children

**LEARNING OUTCOMES:**

1. Observe and describe developmental milestones of children ages 6 to 12. (1,2)
2. Identify legislation and licensing requirements governing school age programs. (4,5)
3. Design and implement physical environments, routines and activities. (3)
4. Apply techniques for tutoring school age children. (6)
5. Define milestones of literacy development for children ages 6-12. (6)
6. Identify and apply guidance techniques for school age children. (7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

#### **ECE 222 - Introduction to the Exceptional Learner**

**COURSE DESCRIPTION:**

ECE 222. Introduction to the Exceptional Learner (3). Introduction to educating children with special needs or abilities including students with physical, mental, or emotional disabilities and students who are gifted or talented. Emphasis on current educational practices and related educational theories, including identification, causes, and characteristics of exceptional learners. Overview of history, assessment, intervention, curriculum implications, and research issues in special education. Observation and participation hours in a special education

setting required. This course is cross-listed with EDU 222. Three lecture.

**COURSE CONTENT:**

1. Historical background and current legal considerations in the instruction of exceptional children.
2. Common psychological and behavioral characteristics of the various exceptionality categories.
3. Diagnosis and assessment of exceptional children.
4. Educational considerations of learning exceptionalities.
5. Family involvement in treatment and identification of social support system. Discuss society's historical identification and treatment of exceptional children and youth.
6. Individual Family Service Plan (IFSP) and individualized Education Program (IEP)

**LEARNING OUTCOMES:**

1. Historical background and current legal considerations in the instruction of exceptional children. (1)
2. Research and discuss major laws and court cases regarding exceptional children. (1)
3. Describe common characteristics of exceptionality categories. (2)
4. Identify factors in diagnosing and assessing students with disabilities. (3)
5. Discuss qualities and techniques for working with exceptional students. (4)
6. Design and communicate a family systems approach that incorporates parents, social service agencies, and professionals. (5)
7. Discuss the components and processes of the IFSP and IEP. (6)

**REQUIRED ASSESSMENT:**

1. Five hours of observation in a special education practicum.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

**Course Attributes:**  
Diversity (DA)

**ECE 230 - Language and Literacy Experiences**

**COURSE DESCRIPTION:**

ECE 230. Language and Literacy Experiences (3). Language and literacy processes and the way in which literature enriches a child's development. Review of children's literature and methods of enhancing literacy experiences. This course is cross-listed with EDU 230. Three lecture.

**COURSE CONTENT:**

1. Language and literacy processes
2. Bibliographies
3. Reviewing and evaluating children's literature
4. Artistic content
5. Lesson plans utilizing children's literature
6. Story-telling and reading aloud

**LEARNING OUTCOMES:**

1. Describe language development leading to literacy. (1)
2. Define and use common literary genres to develop literacy skills. (1-3, 6)
3. Identify criteria for selecting quality children's literature. (2-4)
4. Plan lessons to promote language and literacy learning. (1,5,6).
5. Identify literature for use in biblio-therapeutic contexts (2,3)
6. Create a bibliography of literature for children. (2)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

**Course Attributes:**  
Oral Communication (OC)

**ECE 234 - Child Development**

**COURSE DESCRIPTION:**

ECE 234. Child Development (3). Children's development from conception through childhood. Includes prenatal, brain, physical, sensory, cognitive, language, emotional, social, and moral development, as well as genetics and cultural influences. This course is cross-listed with PSY 234. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Genetics, prenatal, and birth
2. Physical development through childhood
3. Cognitive development through childhood
4. Language development through childhood
5. Emotional development through childhood
6. Social development through childhood
7. Cultural influences on child development

**LEARNING OUTCOMES:**

1. Summarize research methods applied to various theoretical perspectives of child development. (2-6) (BS 1,2)
2. Describe major developmental themes (e.g. nature-nurture, stability and change, early-late experiences, and continuity - discontinuity) as applied to child development theories. (2-6) (BS 1)
3. Evaluate various theories of child development. (2-6) (BS 1,3,4)
4. Delineate genetic and prenatal influences on child development. (1) (BS 3)
5. Analyze the interplay of physical, cognitive, emotional and social development. (2-6) (BS 4)
6. Identify the probable effects of parents, family, peers, teachers, and community on child development. (2-6) (BS 4)

7. Conduct research on topics related to child development. (1-7) (BS 2)
8. Discuss the cultural influences on child development. (7) (BS 4)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1,500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Early Childhood Education Department

**Course Attributes:**

Behavioral Science (AGEC)

**ECE 240 - Family and Community Partnerships****COURSE DESCRIPTION:**

ECE 240. Family and Community Partnerships (3). School and family relationships with a focus on communication, ethics, professionalism and problem-solving. Impact of the community, its resources and referral systems. Emphasis on families, diversity, multicultural issues and parent involvement. Three lecture.

**COURSE CONTENT:**

1. Communication and listening skills
2. Diversity in parenting and family structures
3. Family and school relationships in multicultural settings
4. Teacher roles
5. Parent-teacher conferences
6. Professionalism and ethics
7. Community resources

**LEARNING OUTCOMES:**

1. Apply techniques of active listening and communicating. (1)
2. Define teacher and parent roles in communication. (1-6)
3. Identify familial differences and parenting styles. (2,3)
4. Describe issues of professionalism and ethics in the early childhood field. (4,6)
5. Identify resources and referral systems in the community. (7)
6. Conduct parent/teacher conferences. (5)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Early Childhood Education Department

**Course Attributes:**

Civic Engagement (CE)

**ECE 250 - Leadership and Management in Early Childhood Programs****COURSE DESCRIPTION:**

ECE 250. Leadership and Management in Early Childhood Programs (3). Overview of responsibilities and tasks involved in managing a quality early childhood program. Includes administrative duties related to licensing, enrollment, funding, policies, facility, equipment, parent relationships and staffing. Emphasis on effective leadership, evaluation and planning, shared vision and a professional climate of collaboration. Prerequisite: ECE 200 and ECE 202 and ECE/PSY 234. Three lecture.

**COURSE CONTENT:**

1. Administrative and leadership roles and styles
2. Program structure and policies
3. Licensing regulations, certification requirements and accreditation options
4. Funding issues, operating budget and other financial responsibilities
5. Facility, equipment and materials, and room design
6. Supervisory practices, coaching and professional development
7. Maintaining a positive organizational climate
8. Working with families and community

**LEARNING OUTCOMES:**

1. Identify the administrative and leadership roles of an ECE program director. (1,8)
2. Explain how different leadership styles affect an organization. (1,6,7)
3. Discuss the relationship between a program's goals and its structure and policies. (2)
4. Compare the licensing, certification and accreditation requirements for early childhood programs. (3).
5. Design an early care and education program including: philosophy, curriculum, policies, staffing, budget and physical environments. (2,4,5)
6. Identify methods for effective staff supervision and staff development. (6,7)
7. Discuss strategies for cultivating a positive organizational climate. (7)
8. Recommend policies for promoting parent relationships and involvement. (8)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Early Childhood Education Department

**Course Attributes:**

Quantitative Lit (QL)

### ECE 260 - Guidance of Young Children

**COURSE DESCRIPTION:**

ECE 260. Guidance of Young Children (3). Relationship-based proactive strategies to promote pro-social development of young children, aged birth through 8 years. Exploration of theoretical foundations related to child development and implementation of methods to foster self-control, an organized classroom environment, development of pro-social skills, and to address persistent and challenging behaviors. Three lecture.

**COURSE CONTENT:**

1. Proactive guidance strategies and models for young children
2. Theoretical foundations of child social-emotional development
3. Behavior management strategies
4. Relationship-based parenting

**LEARNING OUTCOMES:**

1. Describe the impact of social environment on child development. (1,4)
2. Identify issues of individual differences and diversity in child development, with implications for child behavior and guidance. (2)
3. Compare and contrast major theories of child guidance. (1,2)
4. Analyze effective proactive guidance practices and strategies. (1,3,4)
5. Devise guidance plans for specific problems/issues of child development. (1,3)
6. Develop a personal theory of guidance based on positive guidance principles and the development of young children. (1,4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** [Lecture](#)

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

**Course Attributes:**

Critical Thinking (CT)

### ECE 270 - Health, Safety and Nutrition

**COURSE DESCRIPTION:**

ECE 270. Health, Safety and Nutrition (3). Nutrition education, menu planning, childhood diseases and illness, and sanitation and safety in group settings. Protecting the health and safety of young children and promoting the development of lifelong health habits. Communication with health professionals and parents on health, safety, and nutrition issues. Three lecture.

**COURSE CONTENT:**

1. Lifelong health and nutrition habits
2. Lesson planning
3. Signs of child abuse
4. Health and safety issues of early childhood programs
5. Disease control
6. Menu planning
7. Health resources for children and staff

**LEARNING OUTOMES:**

1. Identify the components of a safe and healthy environment. (1,4)
2. Identify and discuss the symptoms of an ill child and procedures for dealing with illness and accidents. (4,5)
3. Implement activities and teaching techniques that promote good health habits and wellness attitudes. (1,2,4)
4. Identify and describe available health resources. (7)
5. Identify characteristics of young children that cause them to be at risk for accidents. (4)
6. List indicators of possible child abuse. (3)
7. Define basic nutrition principles and plan menus for young children. (1,6)
8. Develop a strategies for incorporating health, safety and nutrition education into the curriculum. (2,4,6,7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** [Additional Activity](#), [Lecture](#)

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

**Course Attributes:**

Info Literacy (IL)

### ECE 290 - Practicum: Directed Field Experience Birth-Preschool

**COURSE DESCRIPTION:**

ECE 290. Practicum: Directed Field Experience Birth-Preschool (3). Supervised experience in the education, guidance, and care of young children. Begins with opportunity to observe appropriate curriculum, then to plan and implement age-appropriate activities under careful supervision. Application required. Students must show evidence of successful completion of first aid, CPR and proof of fingerprint clearance application process when applying for placement in ECE 290. Prerequisite: ECE 200 and ECE 202 and ECE 222 and ECE/EDU 230 and ECE/PSY 234 and ECE 260 and ECE270. One lecture. Six lab.

**COURSE CONTENT:**

1. Dependability and team work
2. ECE theories, skills and techniques
3. Developmentally appropriate programs and practices
4. Classroom management strategies
5. Guidance of young children
6. Professionalism
7. Critical analysis and self-evaluation

**LEARNING OUTCOMES:**

1. Develop and implement basic lesson plans. (2,3)
2. Devise a classroom management plan that utilizes a variety of developmentally appropriate strategies. (2-5)
3. Utilize interpersonal skills and professionalism as part of a teaching team. (1,6,7)
4. Apply developmentally appropriate guidance skills with young children. (2,5)
5. Develop a plan for improvement based on constructive criticism and self-evaluation. (6,7)

3.000 Credit hours  
1.000 Lecture hours  
6.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, [Lecture](#), Lecture/Lab

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

Course Attributes:

Scientific (SL)

#### [ECE 291 - Advanced Practicum: Supervised Field Experience Birth-Preschool](#)

##### COURSE DESCRIPTION:

ECE 291. Advanced Practicum: Supervised Field Experience Birth-Preschool (4). Supervised student-teaching in a birth-preschool setting. Includes application of knowledge and skills in planning and implementing curriculum under the supervision of a classroom teacher and college supervisor. Must complete application process prior to registration. Prerequisite: ECE 290. One lecture. Nine lab.

##### COURSE CONTENT:

1. Dependability and team work
2. ECE theories, skills and techniques
3. Developmentally appropriate programs and practices
4. Classroom management strategies
5. Guidance of young children
6. Professionalism
7. Critical analysis and self-evaluation

##### LEARNING OUTCOMES:

1. Design, implement, and evaluate lesson plans. (2,3)
2. Implement and evaluate a classroom management plan that utilizes a variety of developmentally appropriate strategies. (4)
3. Utilize interpersonal skills and professionalism as part of a teaching team. (1,6,7)
4. Apply developmentally appropriate guidance skills with young children. (5)
5. Develop a plan for improvement based on constructive criticism and self-evaluation. (6,7)

4.000 Credit hours  
1.000 Lecture hours  
9.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, [Lecture](#), Lecture/Lab

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

#### [ECE 295 - Special Topics: Early Childhood Education](#)

##### COURSE DESCRIPTION:

ECE 295. Special Topics: Early Childhood Education (1) (Spring). Introduction to special topics in Early Childhood Education. One lecture. [Repeatable for a total of 2 credit hours towards degree/certificate requirements.]

##### COURSE CONTENT:

1. Developmental Issues
2. Curriculum Enhancements
3. Cultural Sensitivity
4. Classroom Techniques

##### LEARNING OUTCOMES:

1. Identify developmental issues and apply techniques in the classroom. (1,4)
2. Create lesson plans using curriculum enhancements. (2)
3. Create a culturally sensitive classroom environment. (3)

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Early Childhood Education Department

#### [ECE 296 - Internship: Early Childhood Education](#)

##### COURSE DESCRIPTION:

ECE 296. Internship: Early Childhood Education (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

##### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues

6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
 Early Childhood Education Department

**ECE 299 - Independent Study Early Childhood Education****COURSE DESCRIPTION:**

ECE 299. Independent Study Early Childhood Education (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
 Early Childhood Education Department

**EDU 110 - Introduction to Substitute Teaching****COURSE DESCRIPTION:**

EDU 110. Introduction to Substitute Teaching (1). Role of the substitute teacher in public and private schools from kindergarten through high school. Emphasis on teaching techniques, classroom management, educational issues, policies, procedures. One lecture.

**COURSE CONTENT:**

1. Classroom management techniques
2. Lesson plans format
3. Introduction to teaching techniques
4. Introduction to learning styles
5. Policies regarding legal issues, including but not limited to, sexual harassment, school liability, ADA requirements
6. Procedures employed in situations such as but not limited to, hiring, handling emergencies, student/parent complaints

**LEARNING OUTCOMES:**

1. Use lesson plans prepared in various formats.
2. Select classroom activities to implement lesson plans and address a variety of learning styles.
3. Apply basic classroom management techniques.
4. Describe typical policies and procedures for dealing with a variety of issues and situations.
5. Identify learning styles.

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture



Visual/Performing/LiberalOBS Division  
Education Department

### EDU 120 - Spanish for Educators

#### COURSE DESCRIPTION:

EDU 120. Spanish for Educators (3). Conversational Spanish for the student who needs a practical speaking and writing knowledge of common terminology used in the school setting. This course is cross-listed with SPA 120. Three lecture.

#### COURSE CONTENT:

1. Formulaic expressions (e.g., Of course!)
2. Courtesy expressions (e.g., Thank you, good evening)
3. Basic classroom commands
4. Question formation and interrogative words
5. Basic biographical information (e.g., name, age, origin, profession, phone number, address)
6. Telling time
7. Description of classroom activities
8. Narrations of daily routines
9. Descriptions of objects, places, and people
10. Spanish phonetic and stress systems
11. Spanish spelling system
12. Accent marks in Spanish
13. Geography of the Spanish-speaking world
14. Traditions and holidays of the Spanish-speaking world

#### LEARNING OUTCOMES:

##### Speaking:

1. Utilize frequently used expressions and learned vocabulary to describe objects, and persons in the classroom.
2. Formulate questions to satisfy basic needs (e.g., Where is your textbook?).
3. Express basic needs (e.g., We are going to the library and you will need your book.).
4. Express basic biographical information on oneself and others (e.g., name, age, origin, profession, phone number, address)
5. Use and respond to formulaic expressions (e.g., Of course!) and courtesy expressions (e.g., Thank you, good morning).
6. Use and respond to basic commands (e.g. Don't bother your neighbor).
7. Respond and contribute to very simple face-to-face conversations with limited spontaneity using frequently used expressions and learned vocabulary.
8. Apply the Spanish phonetic system.
9. Stress words appropriately in Spanish.

##### Writing:

1. Compose short narratives describing classroom procedures and expectations in the classroom.
2. Incorporate formulaic expressions (e.g., Of course!) and courtesy expressions (e.g., Thank you, good evening).
3. Compose sentences narrating the daily activities and routines of students in the classroom.
4. Apply the Spanish spelling system and the use of accent marks in Spanish.

##### Listening:

1. Aurally comprehend frequently used words and phrases and learned vocabulary in narratives from a native speaker.
2. Aurally comprehend formulaic expressions (e.g., Of course!) and courtesy expressions (e.g., Thank you, good morning) from a native speaker.
3. Aurally comprehend narrations of the daily activities and routines of students in the classroom.

##### Culture:

1. Identify components of the Spanish-speaking culture: physical (e.g., personal space, customs), non-verbal (e.g., gestures), geographical (e.g., maps), and the traditions and holidays.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Education Department

### EDU 150A - Syllabus Creation and Writing

#### COURSE DESCRIPTION:

EDU 150A. Syllabus Creation and Writing (.25). Syllabus development and writing. Use of web-based resources and college templates, checklists, and required institutional elements to create a course syllabus. Develop and write a comprehensive student work guide or assignment schedule in various formats. .25 lecture.

#### COURSE CONTENT:

1. Syllabi and syllabi formats
2. College Web Syllabus Template, Syllabus Checklist, and components
3. Institutional Policies and Instructional Procedures
4. College curriculum-based course outlines

#### LEARNING OUTCOMES:

1. Create a course syllabus/syllabi. (1-4)
2. Create course assignment worksheets. (1-4)

0.250 Credit hours  
0.250 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Education Department

### EDU 150B - Teaching and Learning Styles

**COURSE DESCRIPTION:**

EDU 150B. Teaching and Learning Styles (.25). Instructional design to enhance classroom experiences for all students. Identify student learning styles and present information to improve student learning. Includes class diversity, creating a managed, supportive learning community in the classroom, and integrating technology in instruction. .25 lecture.

**COURSE CONTENT:**

1. Instructional techniques and learning styles
2. Learning styles and pedagogy
3. Time management, classroom management
4. Active Learning-centered activities and lesson plans
5. Technology in the classroom

**LEARNING OUTCOMES:**

1. Identify the major characteristics, learning concepts, and assessment strategies for the adult learner. (1,2)
2. Identify and develop strategies to respond to typical problems, concerns, and issues involved in teaching adult learners. (1,2)
3. Use time management and class management skills to establish a productive learning environment. (3)
4. Design learning activities and assessments for students with different learning styles. (4,5)
5. Identify how or when technology will enhance the learning environment. (5)

0.250 Credit hours  
 0.250 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Education Department

### **EDU 150C - Student Learning and Outcomes Assessment**

**COURSE DESCRIPTION:**

EDU 150C. Technology and eLearning (.25). Learning concepts, outcomes and assessment. Rubrics and techniques to assess student learning. .25 lecture.

**COURSE CONTENT:**

1. Learning outcomes
2. Learning activities
3. Outcomes assessment

**LEARNING OUTCOMES:**

1. Plan, develop, and write measurable learning outcomes. (1) (2) (3)
2. Plan learning activities. (2)
3. Create assessment tools, including rubrics, to document that learning has occurred. (1-3)

0.250 Credit hours  
 0.250 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Education Department

### **EDU 150D - Legal Issues**

**COURSE DESCRIPTION:**

EDU 150D. Legal Issues (.25). Legal issues and their impact on students, instruction, and the college as a whole. Includes copyright, harassment and ethics, Family Educational Rights Privacy Act (FERPA - Privacy), and Americans with Disabilities Act (ADA). .25 lecture.

**COURSE CONTENT:**

1. Copyright
2. Harassment and Ethics issues
3. Federal Education Rights and Privacy Act (FERPA) Information and Compliance
4. Americans with Disabilities (ADA) Act

**LEARNING OUTCOMES:**

1. Articulate the legal and ethical implications of copyright laws and impact on faculty and institutional liabilities. (1)
2. Identify and explain all forms of harassment (sexual, violence, intimidation) and the implications for the classroom and the institution. (2)
3. Identify and explain Federal Education Rights and Privacy Act (FERPA) and college requirements for student records, student privacy, grading and sharing student information. (3)
4. Explain college requirements for compliance with the Americans with Disabilities Act (ADA) and considerations for students with special needs. (4)

0.250 Credit hours  
 0.250 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Education Department

### **EDU 200 - Introduction to Education**

**COURSE DESCRIPTION:**

EDU 200. Introduction to Education (3). Overview of education profession and U.S. educational system; historical development and foundations of education and educational institutions. Includes theories of teaching, the student as learner, current issues and trends in education, the school and community, and roles and responsibilities of the teacher. Includes a field and observation practicum. Prerequisite: ENG 101 or ENG 103. Three lecture.

**COURSE CONTENT:**

1. Personal abilities, characteristics, and motives in teaching
2. Learning theories and applications to teaching
3. Diversity in the classroom
4. Effective teaching methods and strategies

5. Current issues in education
6. Research strategies and resources in education
7. Technology and instruction
8. Philosophical foundations of American education
9. Ethical and legal issues facing teachers
10. Critical thinking, reflective writing, and oral presentation

**LEARNING OUTCOMES:**

1. Evaluate personal potential and options to select teaching as a career. (1)
2. Apply methods of teaching styles as they relate to student learning styles and design and present appropriate classroom activities intended to achieve specific learning outcomes. (2,4,10)
3. Define and propose methods for addressing diversity in the classroom. (3)
4. Analyze classroom observation journals and apply to own teaching. (4)
5. Research and discuss major issues and trends in education. (5)
6. Assess the function of technology in education and ways of integrating technology into the curriculum. (7)
7. Develop a personal philosophy of education and relate it to a future career in education. (2,6,8,10)
8. Explain the historical development of education. (8)
9. Define areas of legal and ethical concerns to teachers. (9)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Education Department

### [EDU 210 - Cultural Diversity in Education](#)

**COURSE DESCRIPTION:**

EDU 210. Cultural Diversity in Education (3) (Spring). Prepares potential teachers to examine how race, ethnicity, and cultural differences influence students' experiences in school. Assists teachers in implementing a multicultural approach to teaching by fostering critical thinking and identifying effective teaching styles and practices for a diverse student population. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Critical thinking concepts
2. Historical and contemporary multicultural relationships in American society and in education
3. Origins of cultures encountered in the classroom
4. Languages and cultural resources encountered in the schools and community
5. Cultural and racial biases that impact teaching and the application of critical thinking skills when assessing these issues
6. Institutional changes needed in schools/society for equal educational opportunities for students
7. Internet as a source for research and learning about the latest pedagogy in multicultural education

**LEARNING OUTCOMES:**

1. Describe the elements of the critical thinking process. (1) (CT 1)
2. Identify and explain historically how changing demographics (race, ethnicity, and gender) influence public schools and inform perspectives. (2, 4-6; ERG 2)
3. Define and articulate the concept of multicultural education and its implementation in the public school classroom and create effective solutions to problems related to multicultural education. (1-6; ERG 1) (CT 1,4)
4. Describe the contributions of ethnic/cultural groups represented in the schools and community and communicate those contributions through writing, reading, speaking, viewing and/or listening activities. (1-3; ERG 2) (CT 2)
5. Articulate how gender, class, and religious differences cut across boundaries of race and ethnicity and apply critical thinking skills when assessing related issues while recognizing that closure is not always reached. (1, 3, 5; ERG 1, 4) (CT 3,4)
6. Apply critical thinking skills when assessing cultural influences on communication styles, attitudes, values, expectations and perceptions within the community and educational setting, and create effective solutions to such issues. (1, 4; ERG 4) (CT 3, 4)
7. Differentiate issues of culture, ethnicity/race, and/or gender and describe how the concepts of equity and equal educational opportunity have evolved into educational policy. (3, 6; ERG 1, 2, 5) (CT 1)
8. Design lesson plans using the latest research in multicultural education and apply best practices, including critical thinking, for fostering cultural diversity in the classroom. (1, 7; ERG 6) (CT 1)
9. Construct pertinent questions based on current issues in multicultural education and articulate informed choices related to multicultural education based on refined critical thinking skills. (1) (CT 1-4)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Education Department

**Course Attributes:**

Critical Thinking (AGEC), Critical Thinking (CT), Diversity (DA), Ethnic, Race & Gender

### [EDU 222 - Introduction to the Exceptional Learner](#)

**COURSE DESCRIPTION:**

EDU 222. Introduction to the Exceptional Learner (3). Introduction to educating children with special needs or abilities including students with physical, mental, or emotional disabilities and students who are gifted or talented. Emphasis on current educational practices and related educational theories, including identification, causes, and characteristics of exceptional learners. Overview of history, assessment, intervention, curriculum implications, and research issues in special education. Observation and participation hours in a special education setting required. This course is cross-listed with ECE 222. Three lecture.

**COURSE CONTENT:**

1. Historical background and current legal considerations in the instruction of exceptional children
2. Common psychological and behavioral characteristics of the various exceptionality categories
3. Diagnosis and assessment of exceptional children
4. Educational considerations of learning exceptionalities
5. Family involvement in treatment and identification of social support system. Discuss society's historical identification and treatment of exceptional children and youth
6. Individual Family Service Plan (IFSP) and Individualized Education Program (IEP)

**LEARNING OUTCOMES:**

1. Discuss society's historical identification and treatment of exceptional children and youth. (1)
2. Research and discuss major laws and court cases regarding exceptional children. (1)
3. Describe common characteristics of exceptionality categories. (2)
4. Identify factors in diagnosing and assessing of students with disabilities. (3)
5. Discuss qualities and techniques for working with exceptional students. (4)
6. Design and communicate a family systems approach that incorporates parents, social service agencies, and professionals. (5)
7. Discuss the components and processes of the IFSP and IEP. (6)

**REQUIRED ASSESSMENT:**

1. Five hours of observation in a special education practicum.
- 3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Education Department

**EDU 230 - Language and Literacy Experiences****COURSE DESCRIPTION:**

EDU 230. Language and Literacy Experiences (3). Language and literacy processes and the way in which literature enriches a child's development. Review of children's literature and methods of enhancing literacy experiences. This course is cross-listed with ECE 230. Three lecture.

**COURSE CONTENT:**

1. Language and literacy processes
2. Bibliographies
3. Reviewing and evaluating children's literature
4. Artistic content
5. Lesson plans utilizing children's literature
6. Storytelling and reading aloud

**LEARNING OUTCOMES:**

1. Describe language development leading to literacy. (1)
2. Define and use the common literary genres to develop literacy skills. (1-3,6)
3. Identify criteria for selecting quality children's literature. (2-4)
4. Plan developmentally appropriate lessons to promote language and literacy learning (1,5,6)
5. Identify literature for use in biblio-therapeutic contexts. (2,3)
6. Create a bibliography of literature for children. (2)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Education Department

**EDU 239 - SEI Provisional Endorsement****COURSE DESCRIPTION:**

EDU 239. Structured English Immersion Provisional Endorsement (3). Prepares certified teachers and administrators who were trained in states other than Arizona or were certified after August 2006 to meet the academic needs of English Language Learner populations and qualifies them for the Provisional SEI Endorsement as required by the Arizona Department of Education. Three lecture.

**COURSE CONTENT:**

1. ELL Proficiency Standards correlated to the K-12 AZ Academic Standards adopted by the AZ Board of Education.
2. Assessment tools
3. SEI law, history, principles, terminology.
4. Role of culture in learning and comprehension
5. SEI theory, methods, and strategies in the core curriculum.
6. Implementation and integration of SEI.

**LEARNING OUTCOMES:**

1. Analyze the content and use of the Arizona English Language Learner Assessment (AZELLA) in guiding instruction. (1,2)
2. Identify and classify the characteristics of the five stages of language acquisition. (3)
3. Analyze program options for English Language Learners. (1)
4. Identify the legal, historical and educational reasons for SEI. (3)
5. Discuss the relevance of state mandated achievement tests for ELL's (2)
6. Identify methods of assessment. (2)
7. List language acquisition theoretical principals. (3)
8. Identify factors that effect second language acquisition. (3,4)
9. Use basic SEI terminology. (3)
10. Describe the difference between effective and sheltered instruction. (5)
11. Identify considerations for students with learning disabilities. (5)
12. Describe the role of culture in learning. (4)
13. Describe affective issues related to English Language Learners and the importance of using grouping strategies. (5)
14. Identify and use multiple strategies to improve student achievement. (5,6)
15. Examine the format and alignment of ELL proficiency standards to the AZ Language Arts Academic Standards. (1,6)
16. Use ELL Proficiency Standards to plan, deliver and evaluate instruction. (2,6)
17. Identify and use the integration of ELL Proficiencies Standards in all content areas. (6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Education Department

#### EDU 240 - Provisional Structured English Immersion Endorsement

##### COURSE DESCRIPTION:

EDU 240. Provisional Structured English Immersion Endorsement (1). Provide classroom teachers, principals, supervisors, and superintendents with the Provisional SEI endorsement as defined by the Arizona Department of Education. Emphasis on meeting the academic needs of English Language Learner populations. One lecture.

##### COURSE CONTENT:

1. ELL Proficiency Standards correlated to the K-12 AZ Academic Standards adopted by the AZ Board of Education.
2. SEI law, history, principles, terminology and the role of culture in learning and comprehension.
3. Measuring initial English language proficiency and ongoing student academic progress.
4. SEI theory, methods, and strategies in the core curriculum.

##### LEARNING OUTCOMES:

1. Identify and classify the characteristics of the five stages of language acquisition.
2. Identify the legal, historical, and educational reasons and soundness of Structured English Immersion.
3. Compare the format of the Correlation and Alignment of the ELL Proficiency Standards to the k-12 AZ Academic Standards in Reading, Writing, and the ELL Standards for Listening and Speaking.
4. Analyze the content and purpose of the Arizona English Language Learner Assessment (AZELLA), and apply the results to guide ELL instruction.
5. Identify and implement various strategies to improve student achievement in the Core Curriculum areas. Presentation of SEI Lesson Plan, multiple choice quiz on SEI theory, strategies, methods and vocabulary.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Education Department

#### EDU 241 - Structured English Immersion

##### COURSE DESCRIPTION:

EDU 241. Full Structured English Immersion Endorsement (3). Structured English Immersion (SEI) theory, methods, and strategies as defined by the Arizona Department of Education. Along with EDU240 meets requirements for the SEI Full Endorsement. Three lecture.

##### COURSE CONTENT:

1. Law, history, principles, terminology, and the role of culture in learning and comprehension
2. Introduction of Basic Interpersonal Communication Skills (BICS) and cognitive Academic Language Proficiency (CALP) as it relates to student achievement and success
3. English Learners Language (ELL) Proficiency Standards. Format and alignment of the ELL Proficiency Standards. Format and alignment of the ELL Proficiency Standards to the Arizona Language Arts (Listening, Speaking, Reading & Writing) Academic Standards
4. Structured English Immersion (SEI) theory, methods and strategies (differentiated instruction and reciprocal teaching)
5. Formal and informal assessment
6. Analysis of data to differentiate instruction using "snapshots" of longitudinal data
7. Coordination of parent, home and school resources

##### LEARNING OUTCOMES:

1. Review of characteristics of the five stages of language acquisition and list theoretical principles. (1)
2. Explain the legal, historical, and educational reasons and soundness of Structured English Immersion (SEI). (1)
3. Explore the differences between BICS and CALP and discover methods for developing higher CALP. (2)
4. Review basic SEI terminology and introduce appropriate new vocabulary. (1) (3)
5. Apply the format and the alignment of the English Language Learners (ELL) Proficiency Standards to the K-12 Arizona Academic Standards in Reading & Writing, and the ELL Standards for Listening & Speaking and use the standards to plan, deliver and evaluate instruction. (3)
6. Identify and implement various strategies to improve student achievement in the core curriculum areas. (4)
7. Analyze disaggregated test data to plan differentiated lessons and analyze test data to interpret and produce "snapshots" of longitudinal data and track student status and progress on the English Language Learners (ELL) proficiency standards using the Sanford English Language Proficiency (SELP). (4) (6)
8. Integrate diagnostic, formative, and summative assessments for English Language Learners (ELL) and create multiple methods of assessment. (5)
9. Use assessment results for placement and accommodation for special education and gifted students. (6)
10. Use standardized testing and language proficiency as methods for monitoring student progress. (5)
11. Describe theory, methods and strategies in Differentiated Instruction and Reciprocal Teaching. (4) (6)
12. Identify the socio-cultural influences on English Language Learners (ELL), including language shift, identity issues, and the role of culture in learning and discuss the role of bilingualism and home language use. (1)
13. Identify parental and community resources for aiding English acquisition and create ways to cultivate home and school partnerships. (7)
14. Explore SEI theory, methods, strategies and techniques to integrate current curricular materials in English Language Development (ELD) instruction. (4)
15. Analyze and apply vocabulary development approaches in the content areas, plan lessons based on prior knowledge, and adapt and sequence current curricular materials. (7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Education Department

#### EDU 250 - The Community College

##### COURSE DESCRIPTION:

EDU 250. The Community College (3). Overview of the community college in the United States including its development, mission and role. Comparison of the community college system in Arizona with selected community college systems of other states. Three lecture.

##### COURSE CONTENT:

1. Brief history of the development of higher education in the United States, as it led to the community college movement
2. History of the community college movement, 1901 to the present
3. Internal structures of community colleges:
  - a. Governance
  - b. Administration
  - c. Finances

- d. Faculty
- e. Staff
- 4. Demographics:
  - a. Students
  - b. Faculty
  - c. Administration
- 5. Instruction and curriculum:
  - a. Instructional methodologies
  - b. Innovations in teaching
  - c. Student learning styles
  - d. Use of new technologies
- 6. Types of programs:
  - a. Transfer
  - b. Occupational/vocational
  - c. General interest
  - d. Non-credit
  - e. Developmental education
- 7. Student services and student life:
  - a. Recruitment and admissions
  - b. Skills assessment
  - c. Counseling and Advising
  - d. Registration
  - e. Residence life/housing
  - f. Financial aid
  - g. Student activities
  - h. Job placement
- 8. Perpetuating the college and its image:
  - a. Advancement/public relations
  - b. The Foundation
  - c. Marketing
  - d. Interface with the community
  - e. Fund raising
- 9. Current issues (possible examples):
  - a. Academic quality
  - b. Financial stability
  - c. Relationships with other institutions/transfer issues
  - d. Governance

#### LEARNING OUTCOMES:

1. Express the current accepted philosophy of the community college as well as justify their own interpretations of the philosophy.
2. Describe the structure of the organization of the Arizona Community College System related to:
  - a. Management
  - b. Finances
  - c. Instruction
  - d. Support services
3. Identify and discuss the purpose of the academic programs and student services as they relate to the college mission.
4. Identify and discuss the characteristics of the community college student clientele including demographics of age, economic status, ethnicity and level of preparation for college.
5. Develop pertinent issues for logical discussion within the class.
6. Develop a base of information upon which the student can continue study of the community college.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Education Department

#### **EDU 255 - Fundamentals of Educational Technology**

#### COURSE DESCRIPTION:

EDU 255. Fundamentals of Educational Technology (3). Designed for educators in diverse settings (e.g. public and private sectors, pre-K to grade 12, and higher education). Emphasis on systematic processes for designing, developing, evaluating and implementing technology effectively into instruction and the impact emerging technologies have on the educational environment. Aligned with International Society for Technology in Education, National Educational Technology Standards for Teachers (NETS-T). Three lecture.

#### COURSE CONTENT:

1. Instructional design
2. Theoretical concepts in educational technology
3. Photo sharing
4. Video sharing
5. Podcasting
6. Blogs
7. Wikis
8. E-portfolios
9. Collaborative editing
10. Social networking
11. Web conferencing

#### LEARNING OUTCOMES:

1. Facilitate student learning and creativity. (2-11)
2. Design and develop digital-age learning experiences and assessment. (2-11)
3. Model digital-age work and learning. (2-11)
4. Model and promote digital citizenship and responsibility. (3-10)
5. Document professional growth and leadership involvement. (8-11)
6. Discuss instructional design theories and applications. (1,2)
7. Identify issues that shape technology's current and future role in restructuring education. (2)
8. Identify learning activities that seamlessly integrate on-line learning environments into instruction. (3-11)
9. Utilize digital media to communicate and work collaboratively. (3-11)
10. Select and use appropriate applications. (2)
11. Design and develop effective learning communities supported by technology. (1,8,9)
12. Implement instructional strategies for applying technology to maximize learning of diverse students. (1,2,8,9)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Education Department

#### **EDU 296 - Internship: Education**

##### COURSE DESCRIPTION:

EDU 296. Internship: Education (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

##### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

##### LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

##### REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
 Education Department

#### **EDU 299 - Independent Study Education**

##### COURSE DESCRIPTION:

EDU 299. Independent Study Education (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

##### COURSE CONTENT:

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

##### LEARNING OUTCOMES:

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
 Education Department

#### **EGR 102 - Introduction to Engineering**

**COURSE DESCRIPTION:**

EGR 102. Introduction to Engineering (3). Introduction to the field of engineering. Emphasizes the integration of teamwork, problem solving, and verbal communication skills into a design project. Prerequisite: MAT 187. Reading Proficiency. Two lecture. Two lab.

**COURSE CONTENT:**

1. Engineering as a career and profession
2. Ethics
3. Analysis and problem solving
4. Design processes
5. Project management and teamwork skills

**LEARNING OUTCOMES:**

1. Describe the engineering profession. (1)
2. Describe engineering ethics, including professional practice and licensure. (1,2)
3. Use technical communication skills when presenting the results of group projects. (3)
4. Explain engineering analysis and design processes. (3-4)
5. Analyze data collected during laboratory procedures from a variety of engineering disciplines. (3,5)
6. Design a simple engineering device, write a design report, and present the design. (4,5)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Engineering Department

**Course Attributes:**

Digital Lit (DL)

**ELT 110 - Electricity and Electronics****COURSE DESCRIPTION:**

ELT 110. Electricity and Electronics (3). Basic concepts and properties of electricity, its general applications and related terminology. Introduction to reading electrical blueprints and wiring diagrams, and defines additional electronics concepts and components. Includes semiconductors, power supplies, amplifiers, rectifiers, and oscillators. One lecture. Four lab.

**COURSE CONTENT:**

1. Basic electrical theory
2. Blueprints, electrical schematics, and symbols reading
3. Electronic components
4. Semiconductors and their applications
5. Characteristics and applications of power supplies

**LEARNING OUTCOMES:**

1. Define the basic properties of electricity. (1)
2. Contrast alternating and direct current. (1)
3. Apply circuit theory to electrical models. (1)
4. Predict the results of changes made to circuits. (1)
5. Perform simple troubleshooting for circuits. (1)
6. Define voltage, amperage, and resistance. (1)
7. Discuss industrial applications of electrical systems. (1)
8. Interpret structural characteristics of a building plan. (2)
9. Determine dimensions. (2)
10. Identify symbols for electrical circuit/system components. (2)
11. Estimate materials needs. (2)
12. Explain the function of various electronics components, including amplifiers, oscillators, and rectifiers. (3)
13. Identify schematic symbols for electrical circuit/system components. (3)
14. Apply electronics to accomplish an assigned task. (3)
15. Define conductivity. (4)
16. Determine relative conductivity of various materials. (4)
17. Define characteristics of semiconductors. (4)
18. Explain electrical generation. (5)
19. Explain methods and technologies for storing electricity. (5)
20. Explain the operation of transformers. (5)
21. Identify the voltage/current requirements for various industrial applications. (5)
22. Define solid state. (6)
23. Discuss applications of solid state. (6)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Electronics Technology Department

**ELT 111 - DC Electrical Systems****COURSE DESCRIPTION:**

ELT 111. DC Electrical Systems (3) (Fall). Utilize the principles of direct current (DC) electricity and electronic test equipment to analyze, troubleshoot and repair DC electrical circuits. Two lecture. Two lab.

**COURSE CONTENT:**

1. Characteristics of direct-current electricity
2. Laws of direct current circuits
3. Electrical measuring instruments and safety
4. DC power sources
5. Series, parallel and series-parallel circuits
6. Magnetism and electromagnetism



## 7. Electrical soldering skills

## LEARNING OUTCOMES:

1. Identify the basic principles of direct current electricity: voltage, current, resistance and power. (1)
2. Define Ohm's and Watt's Laws and use them to solve for resistance, current, voltage and power in DC circuits. (2)
3. Use test equipment and electrical safe practices to measure voltage, current and resistance. (3)
4. Identify different types of DC power sources and describe their operation and maintenance. (4)
5. Analyze and troubleshoot series, parallel and series-parallel DC circuits. (5)
6. Define magnetism and electromagnetism and its uses including the principles of generating direct current and DC motor operation. (6)
7. Describe and utilize soldering skills to install and remove electrical components including safe practices for ESD (electro-static discharge) sensitive parts. (7)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Oral Communication (OC)

[ELT 112 - AC Electrical Systems](#)

## COURSE DESCRIPTION:

ELT 112. AC Electrical Systems (3) (Fall). Utilize the principles of alternating current (AC) electricity and electronic test equipment to analyze, troubleshoot and repair AC electrical circuits. Prerequisite: ELT 111 (may be taken concurrently). Two lecture. Two lab.

## COURSE CONTENT:

1. Characteristics and laws of alternating-current
2. Transformer theory and operation
3. AC test equipment and safety
4. Capacitive and inductive circuits
5. Series and parallel RLC and resonant circuits
6. Single and polyphase motors

## LEARNING OUTCOMES:

1. Identify the principles of alternating current: voltage, current, frequency, phase angle and power. (1)
2. Describe transformer action and operation including turns ratio, phase and power. (2)
3. Use test equipment and electrical safe practices to measure voltage, frequency and phase angle in AC circuits. (2)
4. Utilize and analyze capacitors and inductors in AC circuits. (4)
5. Analyze and troubleshoot series, parallel and series-parallel RLC and resonant circuits. (5)
6. Describe, analyze and troubleshoot single and polyphase AC motors. (6)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Quantitative Lit (QL)

[ELT 115 - Conduits and Raceways](#)

## COURSE DESCRIPTION:

ELT 115. Conduits and Raceways (1) (Spring). Layout, bending and assembly of conduit systems. .5 lecture. One lab.

## COURSE CONTENT:

1. Conduit and raceway function
2. Conduit systems layout and assembly

## LEARNING OUTCOMES:

1. List various types and materials of conduit. (1)
2. Explain the applications of the various types of conduit. (1)
3. Take precise measurements. (2)
4. Design safe, attractive conduit runs. (2)
5. Make clean precise cuts in the conduit. (2)
6. Make precise bends. (2)
7. Use connectors, hangers, and boxes according to relevant codes. (2)

1.000 Credit hours  
0.500 Lecture hours  
1.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Creative Thinking (CR)

[ELT 126 - Solid State Devices](#)

**COURSE DESCRIPTION:**

ELT 126. Solid State Devices (3) (Spring). Characteristics and operation of solid state devices including diodes, thyristors, bipolar and field effect transistors. Includes power supplies, diode circuits, transistor biasing and operation, triacs, and silicon-controlled rectifiers. Prerequisite: ELT 111 and ELT 112. Two lecture. Two lab.

**COURSE CONTENT:**

1. Semiconductor theory and operation
2. Diode power supplies and circuits
3. Bipolar transistor biasing, operation, amplifiers and circuits
4. Field effect transistor biasing, operation, amplifiers and circuits.
5. Thyristor biasing, operation and circuits

**LEARNING OUTCOMES:**

1. Explain semiconductor doping and discuss forward and reverse biasing of doped semiconductors. (1)
2. Describe diode construction, biasing and operation. (2)
3. Identify, analyze, and troubleshoot diode power supplies and specialty diode circuits. (2)
4. Identify, analyze and troubleshoot bipolar transistor circuits. (3)
5. Identify, analyze and troubleshoot field effect transistor circuits. (4)
6. Identify, analyze and troubleshoot thyristor circuits. (5)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Critical Thinking (CT)

**ELT 130 - Introduction to Robotics****COURSE DESCRIPTION:**

ELT 130. Introduction to Robotics (3). Fundamental concepts of robotics including how robots move, sense, and perceive the world around them. Hands-on operation and programming of robots. Two lecture. Two lab.

**COURSE CONTENT:**

1. Robotic terms and definitions
2. Robotic design
3. Robot programming
4. Work cell design

**LEARNING OUTCOMES:**

1. Describe the interdisciplinary field and concepts comprising robotics, including sensing and movement. (1)
2. Identify and describe the parts of a robot including number of axes. (1,2)
3. Utilize a computer language to program a robot. (3)
4. Describe widely used robotic programming structures in a variety of settings such as assignment, looping, conditional statements, and the use of variables. (3)
5. Create a robotic based work cell capable of performing a simple repetitive task. (4)
6. Identify and evaluate patterns of logic and reasoning, including faulty patterns. (4)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Civic Engagement (CE), Diversity (DA), Info Literacy (IL)

**ELT 140 - Robot Vision****COURSE DESCRIPTION:**

ELT 140. Robot Vision (3) (Spring). Basic tasks and procedures required for an operator, technician, engineer or programmer to set up, teach, test, and modify GE FANUC iRVision applications on an R-30iA Robot Controller. Prerequisite: ELT 130. Two lecture. Two lab.

**COURSE CONTENT:**

1. Vision system considerations and concepts
2. Vision configuration (software and hardware)
3. Error proofing
4. User frame application and calibration
5. Camera setup and calibration
6. Single and multi-view processes

**LEARNING OUTCOMES:**

1. Describe vision system considerations and concepts. (1)
2. Set up vision configurations in both hardware and software. (2)
3. Set up communication between robot and teaching computer. (2)
4. Describe and utilize the settings for error proofing. (3)
5. Teach and run an error proofing process. (3)
6. Configure and calibrate an application user frame. (4)
7. Configure and calibrate the camera. (5)
8. Configure and run a single and multi-view view process. (6)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Electronics Technology Department

### ELT 161 - Microprocessors and Programmable Controllers

**COURSE DESCRIPTION:**

ELT 161. Microprocessors & Programmable Controllers (3) (Spring). Microprocessor, microcontroller, and programmable logic controller (PLC) architecture and programming. Topics include memory, instruction sets, addressing modes, interfacing, ladder logic, and troubleshooting. Prerequisite: ELT 183. Two lecture. Two lab.

**COURSE CONTENT:**

1. Architecture, instruction sets and interfacing of microprocessors and microcontrollers
2. Programming in assembly language
3. PLC architecture and memory organization
4. PLC instruction set and programming
5. Relay and ladder logic testing and troubleshooting

**LEARNING OUTCOMES:**

1. Identify and describe the architecture, and explain the basic operation, of microprocessors and microcontrollers. (1)
2. Explain the assembly language instructions of selected microprocessors and microcontrollers. (2)
3. Build, analyze and troubleshoot microprocessor and microcontroller circuits. (2)
4. Identify and explain the function of each block within PLC architecture and describe memory of a PLC. (3)
5. Describe the PLC instruction set addressing modes and write and debug programs for a PLC. (4)
6. Identify, explain and draw ladder logic symbols and diagrams and utilize these to troubleshoot a PLC system. (5)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Info Literacy (IL)

### ELT 171 - Process Control Instrumentation

**COURSE DESCRIPTION:**

ELT 171. Process Control Instrumentation (3) (Fall). Instrumentation associated with industrial process control, including measurements of pressure, force, weight, motion, flow, level, and temperature; analytical measurement and procedures for safety, calibration and testing. Prerequisite: ELT 126. Two lecture. Two lab.

**COURSE CONTENT:**

1. Process control
2. Foundations of measurement
3. Instrumentation to perform measurements of pressure, force, weight, motion, flow, level, and temperature
4. Analytical measurement to maximize system efficiency
5. Calibration and testing procedures

**LEARNING OUTCOMES:**

1. Describe the fundamental operation of a process control loop including ON/OFF and PID control. (1)
2. Describe how sensors are used to make field measurements and how these interface with a controller. (2)
3. Describe, analyze and troubleshoot sensors and their transmitters including: temperature, flow, level, force, motion, weight and pressure. (3)
4. Describe, analyze and troubleshoot instrumentation sensors and their transmitters to include: pH, salinity and conductivity. (4)
5. Calibrate, tune and troubleshoot a process control loop. (5)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Scientific (SL)

### ELT 183 - Digital Circuits

**COURSE DESCRIPTION:**

ELT 183. Digital Circuits (3) (Fall). Introduction to logic circuits used in computers and other digital equipment. Includes number systems, logic gates, combinatorial logic, simplification techniques, encoders, decoders, flip-flops, counters, registers, memory, and digital-to-analog and analog-to-digital converters. Two lecture. Two lab.

**COURSE CONTENT:**

1. Number systems, operations and codes
2. Logic gates and combinatorial logic
3. Boolean algebra and logic simplification techniques
4. Flip-flops and related devices
5. Counters and registers
6. Memory and storage
7. Digital-to-analog and analog-to-digital converters

**LEARNING OUTCOMES:**

1. Identify, and convert numbers between, the various digital number systems including binary, octal and hexadecimal. (1)
2. Identify and convert digital codes such as ASCII, gray code, and floating point numbers. (1)
3. Identify and describe the operation of basic logic gates and combine them to form combinatorial logic circuits. (2)
4. Analyze and troubleshoot logic gates and combinatorial logic circuits. (2)

5. Simplify complex logic circuits using Boolean algebra and other techniques such as sum-of-products and Karnaugh mapping. (3)
6. Identify, describe the operation of, analyze and troubleshoot various flip-flop circuits. (4)
7. Identify, describe the operation of, analyze and troubleshoot digital counters and registers. (5)
8. Identify, describe, analyze and troubleshoot digital memory and storage techniques including data selectors, encoders and decoders. (6)
9. Identify, describe, analyze and troubleshoot digital-to-analog and analog-to-digital converters. (7)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Civic Engagement (CE), Oral Communication (OC)

### [ELT 221 - Communication Systems and Circuits](#)

**COURSE DESCRIPTION:**

ELT 221. Communication Systems and Circuits (3) (Fall). Introduction to the theory and principles of modern electronic communication systems. Topics include: amplitude modulation (AM) transmission and reception, frequency modulation (FM) transmission and reception, single sideband (SSB) communication techniques and digital communication. Prerequisite: ELT 126 and ELT 161. Two lecture. Two lab.

**COURSE CONTENT:**

1. Communication systems
2. Signal analysis
3. Amplitude modulation (AM) transmitters and receivers
4. Single sideband (SSB) systems
5. Frequency modulation (FM) transmitters and receivers
6. Transmission lines, antennas and wave propagation
7. Data communications

**LEARNING OUTCOMES:**

1. Describe a basic communication system. (1)
2. Describe the methods used to analyze communications signals including time, frequency and spectrum analysis. (2)
3. Describe, analyze and troubleshoot AM circuits and systems. (3)
4. Describe, analyze and troubleshoot SSB circuits and systems. (4)
5. Describe, analyze and troubleshoot FM circuits and systems. (5)
6. Describe, analyze and troubleshoot transmission lines and antenna systems. (6)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Digital Lit (DL)

### [ELT 258 - Electronic Troubleshooting](#)

**COURSE DESCRIPTION:**

ELT 258. Electronic Troubleshooting (2) (Spring). Problem solving techniques and methodology using foundational concepts of DC, AC, solid state devices and digital circuits. Emphasis on troubleshooting utilizing analog and digital test equipment to identify faults in a variety of non-functional circuits and equipment. Prerequisite: ELT 126 and ELT 183. Four lab.

**COURSE CONTENT:**

1. Troubleshooting methodology
2. Power supplies
3. Specialty diode circuits
4. Bipolar and field effect transistor circuits
5. Bipolar and field effect transistor amplifier circuits
6. Thyristor circuits
7. Digital logic circuits
8. Control circuits

**LEARNING OUTCOMES:**

1. Describe and utilize the six-step troubleshooting method. (1)
2. Troubleshoot diode power supply circuits including half-wave, full-wave, and bridge rectifiers with and without filtering and regulation. (2)
3. Troubleshoot specialty diode circuits including limiters, clampers and wave-shaping circuits. (3)
4. Troubleshoot bipolar and field effect transistor circuits with a concentration on biasing and Q point. (4)
5. Troubleshoot bipolar and field effect transistor amplifier circuits including class A, AB, B, and C. (5)
6. Troubleshoot thyristor circuits including variable speed motor controls. (6)
7. Troubleshoot digital logic circuits including logic gates, flip-flops, registers, counters, decoders, encoders and digital-to-analog and analog-to-digital converters. (7)
8. Troubleshoot control circuits including process and motor control. (8)

2.000 Credit hours  
0.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Written Comm (WC)

### ELT 272 - Motors and Motor Control

**COURSE DESCRIPTION:**

ELT 272. Motors and Motor Control (3) (Spring). Characteristics, performance and control of rotating electrical machinery, transformers and associated equipment. Prerequisite: ELT 111 and ELT 112. Two lecture. Two lab.

**COURSE CONTENT:**

1. Motor control electronics
2. Motor control drawings and schematics
3. Motor transformers and distribution
4. Motor control devices
5. DC motors
6. AC motors
7. Relays, contactors and motor starters
8. Adjustable speed drives

**LEARNING OUTCOMES:**

1. Describe, analyze and troubleshoot motor control electronics including: diodes, transistors, opto-isolators, and thyristors. (1)
2. Describe, interpret and analyze motor diagrams and schematics including: symbols, single line and block diagrams, and motor terminal connections and nameplate terminology. (2)
3. Describe, interpret and analyze power distribution systems and transformer connections. (3)
4. Describe, analyze and troubleshoot motor control devices to include switches, sensors and actuators. (4)
5. Describe, analyze and troubleshoot DC motors. (5)
6. Describe, analyze and troubleshoot AC motors including single and polyphase. (6)
7. Describe, analyze and troubleshoot relays, magnetic contactors, and motor starters. (7)
8. Describe, analyze and troubleshoot adjustable speed drives. (8)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Electronics Technology Department

### ELT 295 - Apprenticeship: Electrical Instrumentation

**COURSE DESCRIPTION:**

ELT 295. Apprenticeship: Electrical Instrumentation (3). Supervised field experience. [Repeatable for a total of 12 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Job description and organization requirements
2. Technical skill development
3. Workplace skills and professional ethics
4. Workplace safety

**LEARNING OUTCOMES:**

1. Repair and maintain required equipment. (2,4)
2. Adhere to all safety procedures. (1,3,4)
3. Incorporate proper company protocols in the workplace. (1)
4. Apply appropriate workplace behaviors and professional ethics. (3)
5. Use critical thinking, problem solving, ethical awareness and effective writing skills. (1,2,3)
6. Interpret written and oral instructions. (1,2)
7. Initiate and complete assigned responsibilities. (1)
8. Use specialized equipment, software and tools required. (1,2)

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Apprenticeship

Career & Technical Education Division  
Electronics Technology Department

**Course Attributes:**

Diversity (DA)

### ELT 296 - Internship: Electrical Technician

**COURSE DESCRIPTION:**

ELT 296. Internship: Electrical Technician (3) (Fall). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.

4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Career & Technical Education Division  
 Electronics Technology Department

**EMA 101 - Principles of Emergency Management****COURSE DESCRIPTION:**

EMA 101. Principles of Emergency Management (3). Theories, principles and approaches to emergency management. Identification of the functions and evolution of the emergency management field including mitigation, preparedness, response and recovery. Evaluation of past disasters, the threat of terrorism, international disaster management, and their impact on policy formation. Three lecture.

**COURSE CONTENT:**

1. Historical context of emergency management
2. Natural and technological hazards and risk assessment
3. Mitigation
4. Response
5. Recovery
6. Preparedness
7. Public Information Officer (PIO) and communication
8. International disaster management
9. Terrorist threats
10. Future of emergency management
11. Case studies of past disasters

**LEARNING OUTCOMES:**

1. Discuss theories, principles and approaches to emergency management. (1,8,9,11)
2. Identify the importance of a PIO for both internal and external communication. (1,4, 7,8,10)
3. Analyze past disasters and terrorism and their impact on emergency management. (9-11)
4. Identify the importance of policy formation from past events, new threats, and international disasters. (1,8-11)
5. Define and discuss mitigation, response, recovery, preparedness, and communication within the emergency management realm. (1,3-7,10,11)
6. Identify the natural and technological hazards within emergency management. (1,2,10,11)
7. Describe the importance of risk assessment. (2,3,6,8-11)
8. Explain the future of emergency management and the importance of its sustainability. (1,10,11)

3.000 Credit hours  
 3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
 Emergency Medical Services Department

**Course Attributes:**

Digital Lit (DL), Oral Communication (OC)

**EMA 102 - Emergency Plannig****COURSE DESCRIPTION:**

EMA 102. Emergency Planning (3). Purpose and scope of emergency planning including an overview of the plan in practice, specialized planning, reconstruction planning, emergency management training, and regulatory requirements. Three lecture.

**COURSE CONTENT:**

1. Aims, purpose and scope of emergency planning
2. Making and using maps
3. Analytical techniques
4. The emergency response plan and its activation
5. The emergency plan in practice
6. Specialized planning
7. Reconstruction planning
8. Training
9. Regulatory requirements

**LEARNING OUTCOMES:**

1. Identifying short-and long-term planning requirements. (1,5-7,9)
2. Discuss choices of methodology. (3,8)
3. Utilize cartographic techniques. (2,3)
4. Identify the importance of modeling, risk analysis, loss estimation, resource analysis, general and organizational systems analysis, field exercises, and the use of information technology. (1,2,5,6,8)
5. Explain the process of planning, dissemination, testing and revision of the plan and integration of plans in theory and practice. (4,5,8)

6. Identify management styles, alert procedures, warnings, and evacuation. (1,2,4,5)
7. Explain the need for search and rescue, communications, transportation, engineering, shelter, emergency food programs, and the care of vulnerable and secure groups. (1,3-5,9)
8. Describe the planning and need for integration of various elements of emergencies including: medical and psychiatric needs, veterinary plans, plans for schools, crowds, industries and tourism, as well as the special requirements of libraries and archives, mass media, fine art and architecture. (1,2,5,6,8,9)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**  
Info Literacy (IL)

#### **EMA 110 - Public Administration and Emergency Management**

##### COURSE DESCRIPTION:

EMA 110. Public Administration and Emergency Management (3). Public administration and its role with emergency management agencies. Management of public and non-governmental organizations involved in dealing with hazards and disasters. Emphasis on working within the networks of public, private, and nonprofit and volunteer organizations. Three lecture.

##### COURSE CONTENT:

1. Disaster assistance
2. Volunteer management
3. Applying for public assistance
4. Special considerations
5. Project management
6. Preparedness
7. Role of government agencies
8. Role of public, private, and nongovernmental organizations
9. Declarations and designated disaster areas
10. State administrative plan and management of disasters

##### LEARNING OUTCOMES:

1. Discuss the evolution of disaster policy and the practice of emergency management in the U.S. (1,9,10)
2. Identify the roles of public, private, and other nongovernmental organizations in emergency management, the development of emergency management standards, and the professionalization of the field. (2-4,7-10)
3. Describe the major issues in the management of governmental and nongovernmental organizations involved in emergency management. (4,5,7,10)
4. Describe the major issues in managing volunteers during disasters. (1,2,4)
5. Explain the design and implementation of disaster preparedness and hazard mitigation policies and programs. (1,4-6,9,10)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Emergency Medical Services Department

#### **EMA 130 - Leadership Models for Emergency Management**

##### COURSE DESCRIPTION:

EMA 130. Leadership Models for Emergency Management (3). Organizational performance and organizational vision. Various forms of leadership including situational leadership, self leadership, partnering, organizational leadership, and servant leadership. The importance of empowerment, essential skills for partnering, strategies for the management of change, and higher level customer service. Three lecture.

##### COURSE CONTENT:

1. Organization performance
2. Organizational vision
3. Higher level customer service
4. Empowerment
5. Situational leadership II
6. Self leadership
7. Partnering
8. Situational team leadership
9. Organizational leadership
10. Management of change
11. Servant leadership
12. Leadership point of view

##### LEARNING OUTCOMES:

1. Explain the SCORES model. (1-3, 10)
2. Identify the importance of, and compose, an organizational vision. (1-3,9,10)
3. Illustrate the importance of serving customers at a higher level. (3,7,10,11)
4. Identify empowerment and its importance, and how to empower people. (2,4,6,9,11)
5. Describe situational leadership II, self leadership, partnering, situational team leadership, organizational leadership, and servant leadership and their applications. (5-9, 11)
6. Explain the essential skills needed in partnering for performance. (1,2,7,12)
7. Articulate the strategies for managing change including the Eight Change Leadership Strategies. (1,2,4,10)
8. Define the elements of a leadership point-of-view including core values, life purpose, beliefs, and expectations. (2, 10-12)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**  
Oral Communication (OC)

### EMA 140 - Disaster Response and Recovery

**COURSE DESCRIPTION:**

EMA 140. Disaster Response and Recovery (3). Exploration of past and present disasters and emergency responses, and the importance of a sustainability framework for natural and technological hazards. Analysis of loss, costs and other impacts dealt with through preparedness, response, and recovery efforts. Three lecture.

**COURSE CONTENT:**

1. Sustainability framework for natural and technological hazards
2. Cases of sustainable hazards mitigation
3. Losses, costs, and impacts
4. Interactive structure of hazard
5. Adoption and implementation of mitigation
6. Sustainable hazards mitigation and the tools needed
7. Preparedness, response, and recovery
8. Innovative paths and directions

**LEARNING OUTCOMES:**

1. Discuss the origins and development of current approaches to disaster response and how to move beyond existing approaches. (2,3,5,8)
2. Identify the principles, and describe scenarios, of sustainable hazards mitigation. (1,3-7)
3. Discuss death, injury, dollar losses, and other impacts and analyze these hazard losses by state. (2,3,5,8)
4. Articulate issues in loss and impact measurements along with future losses and data needs. (2,3,5,8)
5. Identify the hazardousness of the nation and analyze the systems. (1, 3-7)
6. Explain the influences of the adoption and implementation of mitigation. (2,3,5,8)
7. Identify the tools needed for sustainable hazards mitigation. (6-8)
8. Assess various aspects of preparedness, response, and recovery. (4,6,7)
9. Describe innovative paths and new directions of disaster response and recovery and illustrate how to get to the sustainable response and recovery of the future. (1,5,6,8)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

### EMA 210 - Disaster Mitigation and Business Continuity

**COURSE DESCRIPTION:**

EMA 210. Disaster Mitigation and Business Continuity (3). Foresight and management to reduce losses due to disasters and catastrophic events. Bridging the gap between field response, research, planning, and management as well as disaster survival and avoidance by containing an event. Emphasis on the establishment and maintenance of a successful business continuity program. Three lecture.

**COURSE CONTENT:**

1. Case studies
2. Emergency management principles
3. Crisis management
4. Senior management
5. Communications
6. Recovery
7. Government and the private sector
8. Rules, regulations, and standards
9. Future of emergency management
10. Bridging the gap in disaster mitigation and business continuity

**LEARNING OUTCOMES:**

1. Analyze case studies. (1)
2. Identify project initiation and risk assessment measures. (2-4)
3. Analyze business impact and continuity strategies along with emergency response team-training measures, supplies, and equipment needs. (2,3,6,9)
4. Identify the need for a crisis management team. (2-4,7,8)
5. Describe basic concepts for the senior manager. (3-5,8-10)
6. Identify the steps of communicating and supporting a disaster avoidance program. (3-5,7)
7. Ascertain the anatomy of crisis and the countermeasures needed in today's business world. (3,7,8)
8. Discuss the requirements for recovery and the processes necessary to fulfill recovery efforts. (2,3,6,9)
9. Articulate various rules of engagement for government and the private sector. (7,8)
10. Identify rules, regulations, and standards applicable to disaster mitigation. (3,4,7,8)
11. Evaluate measures for bridging the gap in disaster mitigation and business continuity. (3,7-10)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**  
Scientific (SL)

### EMA 220 - Ethical Leadership for the Emergency Manager

**COURSE DESCRIPTION:**

EMA 220. Ethical Leadership for the Emergency Manager (3). Ethical leadership concepts and issues. Various core and emerging leadership behaviors. Analysis of current leadership issues and integration. Three lecture.

**COURSE CONTENT:**

1. Current issues in leadership ethics
2. Models and theories of leadership
3. Supportive, directive, and participative leadership behaviors



4. Reward and punishment behaviors
5. Boundary spanning
6. Skills, traits, and sources for building social exchanges
7. Perspectives on ethical leadership
8. Diversity in leadership
9. Integration of leadership styles

## LEARNING OUTCOMES:

1. Discuss current issues in leadership ethics. (1)
2. Relate behaviors and processes of leadership. (2,3)
3. Analyze contingency models of leadership. (3)
4. Summarize leader reward and punishment behaviors. (4)
5. Explain boundary spanning and team leadership. (5)
6. Discuss social exchanges and fairness. (6)
7. Explain and analyze ethics within leadership. (7)
8. State the importance of ethics and diversity in leadership. (7,8)
9. Defend the importance of integration. (9)

3.000 Credit hours  
3.000 Lecture hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**EMA 225 - Leadership Development for the Emergency Manager**

## COURSE DESCRIPTION:

EMA 225. Leadership Development for the Emergency Manager (3). Leadership methodologies including traits, skills, techniques, and situational approaches. Includes the analysis of various leadership theories and styles of leadership. Three lecture.

## COURSE CONTENT:

1. Traits, skills, techniques, and situational approaches to leadership
2. Definitions
3. Contingency, path-goal, and leader-member exchange theories
4. Transformational, authentic, and team leadership
5. Psychodynamic approach to leadership
6. Gender and leadership styles
7. Women in leadership
8. Cultural concepts
9. Leadership development for organizational change

## LEARNING OUTCOMES:

1. Articulate various approaches to leadership. (1,2,5)
2. Analyze leadership theories. (1,2,5)
3. Identify various forms of leadership. (2,4,6)
4. Cite case studies of women as leaders and discuss gender influences on leadership. (6,7)
5. Identify cultural influences on leadership. (6,8)
6. Describe leadership development necessary for organizational change. (9)

3.000 Credit hours  
3.000 Lecture hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

## Course Attributes:

Written Comm (WC)

**EMA 230 - Emergency Management for Local Government**

## COURSE DESCRIPTION:

EMA 230. Emergency Management for Local Government. (3). Context, functions and phases, and major issues of emergency management for local government. Overview of the origins and evolution of emergency management, collaborative emergency management, phases of emergency management, health sector planning and response, new technology, budgeting, and the future direction in emergency management. Three lecture.

## COURSE CONTENT:

1. Local emergency management post 9/11
2. Origins and evolution
3. Organization
4. The role of emergency management
5. Coordination, managing, and financing
6. Collaborative emergency management
7. Preparedness, mitigation, response, and recovery
8. Role of health and public health sector
9. Legal issues
10. Social vulnerability
11. New information technologies
12. Local, state, and federal funding
13. Emergency management myths/lessons, profession, and the future

## LEARNING OUTCOMES:

1. Summarize modern emergency management. (1,2)
2. Associate administrative functions and business continuity. (3,4)
3. Define intergovernmental context/collaborative emergency management. (5,6)
4. Describe phases of emergency management and the health sector in emergency management. (7,8)
5. Identify tort law, immunities, evolving standards and other legal issues. (9)
6. Diagnose social vulnerabilities and utilize the tools and strategies to build an approach. (10)

7. Illustrate the barriers, tools, applications and challenges of new information technologies. (11)
8. Explain the importance of budgeting. (12)
9. Analyze the future direction of emergency management including its professions. (13)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**  
Critical Thinking (CT)

#### EMA 240 - Terrorism and Homeland Security for the Emergency Manager

##### COURSE DESCRIPTION:

EMA 240. Terrorism and Homeland Security for the Emergency Manager (3). Terrorism, typologies of terrorism, and the criminology, political, and religious underpinnings. Analysis of the organization and financing of terrorism along with terrorism and the media, and terrorism tactics and force multipliers. History of terrorism along with terrorism today, Analysis of Homeland Security including law enforcement bureaucracy, civil liberties, and terrorism prevention. Three lecture.

##### COURSE CONTENT:

1. Introduction to terrorism
2. History
3. Development
4. Terrorism underpinnings
5. International umbrella groups and terror networks
6. Domestic terrorism
7. Homeland Security and terrorism prevention
8. Law enforcement bureaucracy
9. Civil liberties

##### LEARNING OUTCOMES:

1. Define types of terrorism. (1,2,5)
2. Identify the criminological, political, and religious underpinnings of terrorism. (1-4)
3. Analyze the organizational structure and financing of terrorism. (5,6)
4. Identify the role that media plays in regard to terrorism (1,3,6)
5. Discuss the history of modern terrorism and its influence on terrorism today. (2,3,6,7)
6. Identify terrorism tactics and force multipliers. (6,7)
7. Evaluate the structure of domestic terrorism. (6,7)
8. Articulate the structure of Homeland Security, intelligence systems and networks for terrorism prevention. (7)
9. Assess the infrastructure, challenges, and partnerships that make up law enforcement bureaucracy. (7,8)
10. Analyze the relationship of Homeland Security, terrorism prevention, civil liberties, and personal constitutional rights. (8,9)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**  
Quantitative Lit (QL)

#### EMA 245 - Law and Legal Issues for Emergency Management

##### COURSE DESCRIPTION:

EMA 245. Law and Legal Issues for Emergency Management (3). Aims, purpose and scope of legal issues within, emergency management including administrative agencies, civil liability, contract and labor issues, and employee rights. Three lecture.

##### COURSE CONTENT:

1. Types and sources of laws
2. Courts and court systems
3. Administrative agencies
4. Criminal law and procedures
5. Civil liabilities and immunity
6. Negligence
7. Contract law and employee issues
8. Labor law and collective bargaining
9. Employee rights and discrimination
10. Sexual harassment and other forms of employment discrimination
11. Fair labor, Family Medical Leave, residency, and drug testing

##### LEARNING OUTCOMES:

1. Outline the legal structure applicable to emergency management. (1,2)
2. Summarize the emergency management administrative agencies. (3)
3. Describe the role of criminal justice in emergency management. (4)
4. Analyze civil liabilities and negligence issues. (5,6)
5. List contract and labor law issues. (7,8)
6. Articulate employee rights in emergency management. (9)
7. Describe and recognize harassment and discrimination in emergency management. (9,10)
8. Explain employee labor laws and acts in emergency management. (11)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**  
Diversity (DA)

### EMA 250 - Organizational Development and Change

**COURSE DESCRIPTION:**

EMA 250. Organizational Development and Change (3). Aims, purposes and the scope of development and change within an organization including management of the past and present, organizational culture, structure, design, behaviors, communication methods and teamwork. Analysis of theory and practice, processes and systems, and leadership development. Three lecture.

**COURSE CONTENT:**

1. Management past and present
2. Environment and organizational culture
3. Ethics and social responsibilities
4. Global dimensions
5. Information and decision making
6. Planning processes and techniques
7. Strategy and strategic management
8. Structure, design, innovation, and organizational change
9. Human resource management
10. Individual behavior, leading and leadership development
11. Motivation theory and practice, teams and teamwork
12. Communication and collaboration
13. Control processes and systems
14. Operations and services management

**LEARNING OUTCOMES:**

1. Compare management from past to present. (1)
2. Analyze ethics, social responsibilities, and environment within organizational culture and its effects on global dimensions. (2-4)
3. Summarize the importance of planning. (5-7)
4. Articulate the purpose of re-organizing and the role of human resource management within the process. (8,9)
5. Explain the role that leading plays in behavior, motivation, teamwork, and communication. (10-12)
6. Identify control processes and systems and how they may effect operations and services management. (13,14)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**  
Creative Thinking (CR)

### EMS 120 - Basic First Aid, CPR and AED

**COURSE DESCRIPTION:**

EMS 120. Basic First Aid, CPR and AED (.5). First Aid for victims of all ages. Includes basic recognition and care of medical and trauma patients. Awareness of environmental emergencies including bites, stings, and exposure to hot and cold. Cardiopulmonary resuscitation (CPR) and Automated External defibrillator (AED) use. Meets the requirements of Heartsaver First Aid by the American Heart Association. .5 lecture. (A-F grading only.)

**COURSE CONTENT:**

1. Scene safety for the responder, patient and others
2. General principles of patient assessment and providing first aid
3. Basic wound care
4. Basic CPR/AED for the lay rescuer.
5. Environmental emergencies including: bites, stings, heat and cold.

**LEARNING OUTCOMES:**

1. Manage scene safety including personal protective equipment in the workplace. (1,2)
2. Manage unresponsive adult or child. (4)
3. Apply steps of wound care including, but not limited to: bleeding control management and splinting swollen/deformed extremities. (3)
4. Perform CPR on an adult and use an Automated External Defibrillator (AED) to defibrillate an adult if needed. (4)
5. Show steps of care for the patient suffering from environmental emergencies. (5)

**REQUIRED ASSESSMENT:**

1. Hands-on practical manikin testing and a written test required at the completion of the course. A score of 84% or better required to become certified.

0.500 Credit hours  
0.500 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

### EMS 123 - Cardiopulmonary Resuscitation for the Health Care Provider

**COURSE DESCRIPTION:**

EMS 123. Cardiopulmonary Resuscitation for the Health Care Provider (.5). CPR for victims of all ages. Includes ventilation with a barrier device, a bag-valve-mask device and oxygen, and use of an automated external defibrillator (AED). Meets the requirements of Healthcare Provider CPR & AED by the American Heart Association. .5 lecture. (S/U grading only.)

**COURSE CONTENT:**

1. Scene and personal safety in the workplace.
2. Need for cardiopulmonary resuscitation.
3. Airway obstruction of the unconscious/conscious adult, child, and infant.

4. Respiratory and cardiac arrest in adults, children, and infants
5. Two-person CPR in adults, children and infants.
6. Automated external defibrillation in adults, children and infants.

## LEARNING OUTCOMES:

1. Manage scene safety including personal protective equipment in the workplace. (1,2)
2. Manage an obstructed airway in an unconscious/conscious adult, child and infant. (3)
3. Manage respiratory and cardiac arrest in adults, children and infants. (4)
4. Manage cardiac arrest using two-person CPR. (5)
5. Use an automated external defibrillator (AED) to defibrillate patients as needed. (6)

## REQUIRED ASSESSMENT:

1. Hands-on practical manikin testing and a written test required at the completion of the course. A score of 84% or better required to become certified.

0.500 Credit hours  
 0.500 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
 Emergency Medical Services Department

**EMS 126 - Wilderness First Responder**

## COURSE DESCRIPTION:

EMS 126. Wilderness First Responder (3). Principles and skills to make critical medical and evacuation decisions and take appropriate action in remote locations where advanced medical assistance is more than one hour away. Prerequisite: EMS 123. Three lecture.

## COURSE CONTENT:

1. Legal aspects of rendering aid
2. Scene safety and universal precautions
3. Primary and secondary patient assessment
4. Wilderness guidelines for CPR
5. Wilderness medical first aid
  - a. shock and bleeding
  - b. chest trauma
  - c. head and face trauma
  - d. spinal injuries
  - e. fractures
  - f. wound management
  - g. burns
  - h. cardiac and respiratory emergencies
  - i. scuba injuries
  - j. venomous bites and stings
  - k. drowning
  - l. lightning
  - m. toxicological emergencies
6. Medical kit
7. Patient packaging
8. Rescue and evacuation
9. Documentation

## LEARNING OUTCOMES:

1. Identify legal issues and laws related to pre-hospital emergency care and action.
2. Assess scene safety and use universal precautions.
3. Perform primary and secondary patient assessments in the wilderness setting.
4. Perform CPR in the wilderness setting.
5. Render medical first aid in the wilderness setting.
6. Create an emergency medical kit for wilderness response.
7. Prepare a patient for evacuation.
8. Plan and perform a rescue and evacuation.
9. Document patient information, vital signs, assessment, plan, and patient monitoring.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
 Emergency Medical Services Department

**EMS 130 - Emergency Medical Responder**

## COURSE DESCRIPTION:

EMS 130. Emergency Medical Responder (2). Knowledge and skills for assisting ill or injured in home, industry or highway emergencies. Fundamentals of life support and emergency medical care while awaiting arrival of advanced emergency medical personnel. Certificate of completion. Prerequisite: EMS 123 or proof of a current (1 year or less) "C" class CPR certification through the American Heart Association or the American Red Cross. One lecture. Two lab.

## COURSE CONTENT:

1. The emergency medical services system
2. The human body
3. Patient evaluation
4. Breathing--the airway and pulmonary emergencies
5. Circulation--cardiopulmonary emergencies
6. Blood and airborne pathogens
7. Bleeding and shock
8. Review of the primary survey
9. Injuries--soft tissues and internal organs
10. Injuries--the extremities

11. Splinting
12. Injuries--skull, spine and chest
13. Medical emergencies
14. Burns, smoke, heat and cold
15. Childbirth
16. Special patients
17. Gaining access to patients
18. Moving clients/patients
19. Triage and special situations
20. Swimming and diving accidents

**LEARNING OUTCOMES:**

1. Demonstrate knowledge necessary to interface effectively with other EMS system components.
2. Relate knowledge of the human body to illness, injuries and medical emergencies.
3. State first responder roles applying to client/patient examination.
4. List diagnostic signs and symptoms associated with medical emergencies.
5. Demonstrate proficiency in application of basic fundamentals of life support and basic emergency medical care.
6. Describe approaches to care for clients/patients with special problems.

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Emergency Medical Services Department

**EMS 132 - Emergency Medical Technician**

**COURSE DESCRIPTION:**

EMS 132. Emergency Medical Technician (10). Principles and techniques of emergency medical care as performed by the EMT Basic in accordance with national and state curriculum. Preparation for the National Registry of EMT Certification Examination. Requirements: TB skin test or chest x-ray within 6 months and photo id. Must demonstrate reading proficiency at the 10th grade level (minimum Compass reading score of 77) and be 17.5 years of age at the start of class. Nine lecture. Three lab. (A-F grading only.)

**COURSE CONTENT:**

1. Cardiopulmonary resuscitation (CPR)
2. EMS history and systems
3. EMS safety and wellness
4. Medical, legal and ethical issues
5. Communication and documentation
6. Basic anatomy, physiology, pathophysiology, patient assessment and triage
7. Lifespan development
8. Airway management, respiration and ventilation
9. Medical emergencies including respiratory, cardiac, stroke, diabetic, anaphylaxis, poisons, diseases, environmental and behavioral, emergency childbirth and associated management principles
10. Bleeding, shock and associated management principles
11. Soft tissue injuries, burns, fractures, head, chest and abdominal injuries, nervous system injuries and associated management principles
12. Special patient populations
13. EMS operations
14. Intravenous monitoring
15. Blood glucose monitoring
16. Epinephrine auto-injector

**LEARNING OUTCOMES:**

1. Perform one and two person cardiopulmonary resuscitation (CPR) for the adult, child and infant patient according to the latest American Heart Association, Basic Life Support for Healthcare Provider standards. (1, 5, 7, 8)
2. Manage scene safety including personal protective equipment in the workplace. (2, 12, 13)
3. Determine priorities of care. (1, 2, 4, 5, 7-11)
4. Define the role, scope of practice, legal and ethical responsibilities of an EMT. (2-4)
5. Assess, manage, and stabilize patients of all ages suffering airway obstructions, respiratory arrest and cardiac arrest with the use of CPR, automated external defibrillator, ventilatory assistance and oxygen. (1, 6-9, 12, 16)
6. Assess, manage, and stabilize patients of all ages with medical emergencies and emergency childbirth. (1, 6-10, 12, 14-16)
7. Assess, manage, and stabilize patients of all ages suffering bleeding, shock, soft tissue injuries, burns, fractures, nervous system injuries, head, chest and abdominal injuries. (1, 6-12, 14, 15)
8. Prepare the patient for transport to an appropriate medical facility with a minimum of aggravation to the patient's illness or injury. (3, 5, 7-14)
9. Prepare a comprehensive patient care report for each patient assessed in the hospital clinical setting. (4, 5)

10.000 Credit hours  
9.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Emergency Medical Services Department

**EMS 140 - Pre-Hospital Trauma Life Support**

**COURSE DESCRIPTION:**

EMS 140. Pre-Hospital Trauma Life Support (1). Management of traumatically injured individuals including sequence of assessment and techniques of resuscitation, stabilization and transport. Organized approach to trauma care for EMTs and nurses who evaluate and stabilize the trauma victim. Stresses conditions which cannot be stabilized in pre-hospital environment and require immediate transport. Prerequisite: EMS 131. One lecture.

**COURSE CONTENT:**

1. Assessment of the trauma patient
2. Airway management
3. Shock evaluation
4. Head/Spinal trauma
5. Extremity trauma
6. Infectious disease precautions

## 7. Basic trauma care

## LEARNING OUTCOMES:

1. Conduct an injury assessment in the pre-hospital setting. (1)
2. Maintain the airway patency and adequate ventilatory status of the injured patient. (2,7)
3. Recognize and treat the signs and symptoms of hypovolemic shock in the injured patient. (1,3,7)
4. Identify those patients suffering head/spinal injuries that require spinal motion restriction. (1,4,7)
5. Manage a suspected lower extremity injury using an appropriate immobilization device. (1,5,7)
6. Discuss the most common blood borne viral illnesses to which EMS providers are likely to be exposed in the provision of trauma patient care. (6)
7. Select and employ the appropriate trauma treatments for the pre-hospital injured patient. (1-7)

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**EMS 211 - Emergency Medical Technician Refresher**

## COURSE DESCRIPTION:

EMS 211. Emergency Medical Technician Refresher (2). New techniques and review of principles in client care, basic life support and transportation of sick and injured. Meets Arizona Department of Health Services refresher training requirements. Two lecture. A-F grading only.

## COURSE CONTENT:

1. Basic cardiac life support
2. Medical emergencies
3. Emergency childbirth and physical assessment
4. Trauma management
5. Psychological intervention
6. State certification and medical/legal requirements
7. Cardiac rhythms and automatic external defibrillator use
8. Intravenous monitoring, setting up lines

## LEARNING OUTCOMES:

1. Apply updated knowledge and skills pertinent to the field of emergency medical services. (1-5)
2. Describe changes in state certification or medical/legal requirements. (6)
3. Treat cardiac emergencies using an automatic external defibrillator. (7)
4. Monitor intravenous fluids drips, set up IV bags and line, recognize problems and treat minor trouble with IV lines. (8)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**EMS 220 - Interpretation and Management of Cardiac Dysrhythmias**

## COURSE DESCRIPTION:

EMS 220. Interpretation and Management of Cardiac Dysrhythmias (3). Concepts of anatomy and physiology of cardiac tissues and electrical conduction. ECG patterns, diseases and cardiac response to medications. Preparation for Advanced Cardiac Life Support (ACLS) certification course. Prerequisite: A current EMT, IEMT, or Paramedic certificate, or RN with current license, or EMS 131 or EMS 233 or NSG 131. Must have proof of current healthcare provider CPR certification through the American Heart Association or EMS 123. Three lecture.

## COURSE CONTENT:

1. Anatomy and physiology of the cardiovascular system
2. Electrical and mechanical pathways of cardiac conduction
3. Principles of electrocardiograms
4. Interpretation of normal rhythms and selected abnormal dysrhythmias
5. Cardiac emergencies
6. Airway adjuncts
7. Electrical therapy
8. Cardiovascular pharmacology
9. Intravenous techniques
10. Principles of cardiac arrest management

## LEARNING OUTCOMES:

1. Describe the anatomy and physiology of the cardiovascular system.
2. Describe electrical and mechanical pathways of cardiac conduction.
3. Set up an ECG and apply troubleshooting strategies.
4. Identify selected normal rhythms and abnormal dysrhythmias.
5. Describe principles for management of cardiac emergencies.
6. Describe indications, technique, and possible complications of airway adjuncts used in resuscitation situations.
7. Describe and perform the procedure for applying electrical therapy when indicated in resuscitation situations.
8. Identify the mechanism of action, indications, dosage, and precautions of selected drugs used in cardiac emergencies.
9. Describe the indications for IV therapy.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**EMS 230 - Pre-Hospital Pharmacology****COURSE DESCRIPTION:**

EMS 230. Pre-Hospital Pharmacology (3) (Spring). Concepts of pre-hospital pharmacology including administration of medications and fluids. Treatment for shock states, cardiac, respiratory, altered levels of consciousness, pain management and obstetric emergencies. Prerequisite: EMS 131 or current EMT, I-EMT, Paramedic certification or RN with current license. Three lecture.

**COURSE CONTENT:**

1. Infectious disease awareness
2. Pharmacokinetics and pharmacodynamics
3. Drug dosage and administration
4. Electrolyte fluids and IV therapy
5. Human physiology
6. Medication used in cardiac, respiratory, endocrine, pain management, behavioral, and obstetrical emergencies

**LEARNING OUTCOMES:**

1. Utilize standard body substance isolation precautions. (1)
2. Define drug absorption. (2)
3. List the mechanism of action for pre-hospital medications. (2)
4. Select appropriate dosages and delivery routes based on patient presentation. (3)
5. Describe the process of venous cannulation and fluid resuscitation. (4)
6. Compare sympathetic and parasympathetic actions of pre-hospital medications. (5)
7. Schematize pre-hospital medication according to indications, contraindications and patient presentation. (6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**EMS 240 - Paramedic Anatomy and Physiology****COURSE DESCRIPTION:**

EMS 240. Paramedic Anatomy and Physiology (4). Human anatomy and physiology. An overview of the body's organs and tissue function. Prerequisite: Program Admission. Four lecture.

**COURSE CONTENT:**

1. Structure and organization of the body and anatomical terms
2. Homeostatic control mechanisms
3. Body chemistry concepts
4. Cellular structure and function
5. Structure and function of the following body systems: integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, reproductive
6. Hearing, sight, and smell
7. Blood types and composition
8. Metabolic regulation
9. Pregnancy and fetal circulation

**LEARNING OUTCOMES:**

1. Apply appropriate terminology to anatomical and physiological processes. (1)
2. Differentiate body systems and their relation to human physiology and homeostatic control. (1,2)
3. Discuss biochemical concepts including matter, energy, molecules, compounds, and chemical bonds. (3)
4. Define pH and explain the importance of water, electrolytes, carbohydrates, lipids, proteins, hormones and enzymes in body function. (3)
5. Describe the structure and function of human cells and their relation to tissues. (4)
6. Identify and describe anatomy and physiology of body membranes and the integumentary system. (5)
7. Identify and describe anatomy and physiology of the skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems. (5)
8. State the structures and function of the special senses (hearing, sight, smell). (6)
9. Explain the composition of blood and define blood types. (7)
10. Describe the processes of metabolism and temperature control. (8)
11. Identify physiological changes occurring in pregnancy. (9)
12. Identify the structure and function of fetal circulation. (9)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**

Scientific (SL)

**EMS 241 - Paramedic I****COURSE DESCRIPTION:**

EMS 241. Paramedic I (14). Introduction to Paramedicine including overview of rules and regulations, paramedic attributes, dispatch operations, EMS operations, pharmacology, medication administration, airway ventilation, patient assessment and trauma. Prerequisite: EMS 240. Twelve lecture. Six lab.

**COURSE CONTENT:**

1. Roles and responsibilities and the well-being of a paramedic
2. Medical/legal/ethical aspects of paramedicine
3. EMS role in public health
4. Crime scene awareness
5. EMS dispatch, deployment, operations and command
6. Emergency vehicle operations
7. Hazardous materials and tactical response

8. Vehicle rescue and extrication
9. Disaster and domestic preparedness
10. Anatomy, physiology, and life span development
11. Pathophysiological principles
12. Paramedic pharmacology
13. Intravenous access and medication administration
14. Basic and advanced airway management
15. Communication and documentation
16. Assessment: history taking and physical exam
17. Trauma systems and Pre-hospital Trauma Life Support (PHTLS) guidelines
18. Mechanism of injury, pathophysiology and management of trauma patients

**LEARNING OUTCOMES:**

1. Identify the roles, responsibilities, medical, legal and ethical issues that impact EMS providers. (1,2)
2. Defend the importance of personal wellness in EMS providers. (1)
3. Describe primary injury prevention activities and explain ways to prevent fatalities, disabilities and escalating health care costs. (1,3)
4. Identify the various elements of EMS operations. (4-6)
5. Schematize response priorities for HazMat, tactical, disaster, and vehicle rescue incidents. (7-9)
6. Describe anatomy, physiology and life span development. (10)
7. Apply pharmacologic treatments in the management of medical and trauma patients. (12)
8. Use appropriate venous and intraosseous access and medication administration techniques (13)
9. Manage a patient airway using basic, advanced and surgical technique and utilize procedures to oxygenate and ventilate. (14)
10. Record and communicate patient information, verbally and in writing. (15)
11. Formulate a patient treatment plan based upon patient assessments, applying communication techniques, pathophysiological principles, medical history, physical exam and mechanisms of injury. (11,15-18)
12. Relate Pre-hospital Trauma Life Support guidelines to identify mechanisms of injury, assess and manage the trauma patient. (18)

14.000 Credit hours  
 12.000 Lecture hours  
 6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Emergency Medical Services Department

**Course Attributes:**

Creative Thinking (CR), Info Literacy (IL)

**EMS 242 - Paramedicine II****COURSE DESCRIPTION:**

EMS 242. Paramedicine II (13). Introduction to Paramedicine including extensive overview of the National EMS Education Standard's modules in Medical and Special Considerations. Current American Heart Associate guidelines in cardiac and pediatric emergency care. Prerequisite: EMS 241. Ten lecture. Nine lab.

**COURSE CONTENT:**

1. Overview of medical emergencies and treatments involving all body systems, cutaneous, toxicologic, hematologic, psychiatric disorders and infectious disease
2. Standard 4-lead and 12-lead electrocardiogram (ECG) interpretation
3. Current American Heart Association (AHA) protocols for Advanced Cardiac Life Support (ACLS)
4. Current AHA protocols for Pediatric Advanced Life Support (PALS)
5. Gynecological and obstetrical patients
6. Childbirth and neonatal care
7. Chronically ill and special patient populations

**LEARNING OUTCOMES:**

1. Apply principles of anatomy, physiology, pathophysiology and assessment skills in the identification and treatment of medical emergencies. (1)
2. Evaluate and interpret 4- and 12-lead ECG tracings from a variety of patients and formulate appropriate treatment plans. (2)
3. Apply standardized AHA algorithms and current science in the assessment and management of adult and pediatric patients. (2-4)
4. Identify and differentiate between various gynecological and obstetrical emergencies. (5)
5. Prepare for, and choose, appropriate techniques to manage normal and complicated pregnancy and childbirth. (5,6)
6. Determine and provide appropriate post-partum care for mothers and neonates. (6)
7. Recognize and respond to physical and emotional needs of patients with disabilities, chronic, terminal and mental illness. (7)

13.000 Credit hours  
 10.000 Lecture hours  
 9.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Emergency Medical Services Department

**Course Attributes:**

Critical Thinking (CT), Quantitative Lit (QL)

**EMS 244 - Paramedicine III****COURSE DESCRIPTION:**

EMS 244. Paramedicine III (3). Clinical practicum. Extensive hands on application including emergency patient care of sick and injured under direct supervision of an authorized preceptor. Prerequisite: EMS 242. Nine lab.

**COURSE CONTENT:**

1. Hospital Clinicals and Rotations
  - a. Emergency Room
  - b. Obstetrics
  - c. Surgery
  - d. Intensive Care Unit
  - e. Other areas as assigned

**LEARNING OUTCOMES:**

1. Perform the initial, focused, and continuing processes of assessment, medical history, vital signs, communications and documentation. (1,2)



2. Identify medications being administered, indications, contraindications, side effects and dosages to the preceptor. (1)
3. Deliver and document the delivery of medications using oral, rectal, tracheal, intraosseus and parenteral routes. (1)
4. Obtain and record blood samples of patients. (1)
5. Perform insertion and maintenance of nasogastric tubes and any catheters and identify complications in their use. (1)
6. Apply principles of customer service. (1)

3.000 Credit hours  
0.000 Lecture hours  
9.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**  
Civic Engagement (CE), Digital Lit (DL)

#### EMS 245 - Paramedicine IV

##### COURSE DESCRIPTION:

EMS 245. Paramedicine IV (3). Introduction to vehicular practicum. Orientation to the field environment, vehicular scheduling and behaviors required to provide hands on emergency patient care under direct supervision of an authorized preceptor. Prerequisite: EMS 244 (May be taken concurrently). 9 Lab.

##### COURSE CONTENT:

1. Introduction to vehicular practicum
2. Introduction to the Team Lead role in the vehicular environment, including etiquette, task delegation, scene management and debriefing
3. Beginning EMS and preceptor documentation
4. Overview of AZ Department of Health Services (DHS) and Yavapai College required skills

##### LEARNING OUTCOMES:

1. Describe and perform the functions of a Team Lead in a variety of pre-hospital emergency situations. (1,2)
2. Complete required documentation for any patient contact and skills performed in the field. (1-3)
3. Create a user profile and record patient care information into FISDAP. (3)
4. Follow DHS protocols, American Heart Association's Advanced Cardiac Life Support and Pediatric Advanced Life Support algorithms, and specific local medical control guidelines in the administration of pre-hospital emergency medical services. (1,4)

3.000 Credit hours  
0.000 Lecture hours  
9.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lab

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**  
Diversity (DA)

#### EMS 246 - Paramedicine V

COURSE DESCRIPTION: EMS 246. Paramedicine V (6). Vehicular practicum. Extensive hands on application including emergency patient care of the sick and injured under direct supervision of an authorized preceptor while on board an Advanced Life Support ambulance, rescue and/or fire company assignment. Prerequisite: EMS 245 (May be taken concurrently). Eighteen lab.

##### COURSE CONTENT:

1. Vehicular practicum
2. Team Lead role in the vehicular environment
3. Advanced EMS and preceptor documentation
4. Medications, use of intravenous catheters and emergency airway management

##### LEARNING OUTCOMES:

1. Act as Team Lead in a variety of pre-hospital emergency situations. (1,2)
2. Deliver and document the administration of medications using oral, rectal, tracheal, intraosseus and parenteral routes. (1-4)
3. Perform and document insertion and maintenance of intravenous catheters and identify complications in their use. (3,4)
4. Manage airway emergencies and document actions. (3,4)
5. Direct restock of drug boxes and all equipment. (1,2)
6. Triage patients. (1,2)
7. Apply principles of customer service. (1,2)

6.000 Credit hours  
18.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Career & Technical Education Division  
Emergency Medical Services Department

**Course Attributes:**  
Oral Communication (OC), Written Comm (WC)

#### EMS 255 - Paramedic Refresher

##### COURSE DESCRIPTION:

EMS 255. Paramedic Refresher (3). Review of advanced skills applied by certified emergency paramedics. Study of the anatomy, physiology, pathophysiology, and management of medical, obstetrical, pediatric emergencies, neurological injuries and specific chronic diseases related to the central nervous system, behavioral emergencies, respiratory emergencies, and shock. Three lecture. A-F grading only.

##### COURSE CONTENT:

1. Medical and neurological patient assessment

2. Shock
3. Respiratory diseases
4. Pediatric advanced life support
5. Obstetrical emergencies
6. Gynecological emergencies
7. Behavioral emergencies
8. Advanced cardiac life support
9. Medical emergencies
10. Pre-hospital trauma life support
11. Neurological emergencies
12. Pharmacology
13. Invasive skills

**LEARNING OUTCOMES:**

1. Manage pre-hospital patient emergencies. (4, 8-10, 13)
2. Apply invasive skills approved by the Department of Health Services. (13)
3. Assess the patient with a medical emergency. (1-3, 5-9)
4. Assess a patient with neurological impairment. (1, 11)
5. Assess and manage a pediatric patient with a medical or traumatic emergency. (4)
6. Describe the specific indications, contraindications, dosing and possible side effects for drugs approved for paramedic administration by the Department of Health Services. (4, 8, 12, 13)
7. Describe the impact of prescribed drugs on patient care including drug interactions and side effects. (9,12)
8. Explain the pathology of shock and apply patient management strategies for each type of shock. (2)
9. Predict the pathophysiology and management of patients with differing medical and trauma emergencies. (9, 10, 13)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Emergency Medical Services Department

**EMS 296 - Internship: Emergency Medical Services**

**COURSE DESCRIPTION:**

EMS 296. Internship: Emergency Medical Services (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Career & Technical Education Division  
Emergency Medical Services Department

**EMS 299 - Independent Study Emergency Medical Services**

**COURSE DESCRIPTION:**

EMS 299. Independent Study Emergency Medical Services (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills

## 5. Evaluation and improvement of performance

## LEARNING OUTCOMES:

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Career & Technical Education Division  
 Emergency Medical Services Department

### ENG 021 - Vocabulary Development

## COURSE DESCRIPTION:

ENG 021. Vocabulary Development Module (1). Increasing personal vocabulary with emphasis on using dictionary features, word parts, and context clues to understand and learn word meanings. Prerequisite: Satisfactory score on the skills assessment. Three lab.

## COURSE CONTENT:

1. Dictionary features
2. Prefixes, roots, and suffixes
3. Context clues
4. Specialized vocabulary

## LEARNING OUTCOMES:

1. Use the dictionary to identify word spelling, definition, part of speech, etymology, and pronunciation.
2. Apply knowledge of roots, prefixes, and suffixes to discover word meanings.
3. Deduce word meanings from context and match words to context.
4. Define and/or use selected specialized vocabulary.

1.000 Credit hours  
 0.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Foundation Studies Division  
 English Department

### ENG 022 - Spelling Improvement Module

## COURSE DESCRIPTION:

ENG 022. Spelling Improvement Module (1). Overcoming spelling difficulties. Emphasis on general rules and strategies and commonly confused and misspelled words. Prerequisite: Satisfactory score on the skills assessment. Three lab.

## COURSE CONTENT:

1. General rules of spelling and strategies for improving spelling
2. Homonyms and other frequently confused words
3. Commonly misspelled words

## LEARNING OUTCOMES:

1. Apply general rules of spelling and strategies for improving spelling.
2. Discriminate among selected homonyms and frequently confused words.
3. Spell a selection of commonly misspelled words.

1.000 Credit hours  
 0.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Foundation Studies Division  
 English Department

### ENG 023 - Basic Sentence Structure and Grammar Module

## COURSE DESCRIPTION:

ENG 023. Basic Sentence Structure and Grammar Module (1). English grammar and sentence structure. Recognizing sentence grammar that affects communication and constructing sentences. Prerequisite: Satisfactory score on the skills assessment. Three lab.

## COURSE CONTENT:

1. Sentence components: subject and predicate
2. Sentence patterns (verbs and complements)
3. Parts of speech
4. Phrases
5. Clauses
6. Sentence structures: simple, compound, complex, compound-complex
7. Major sentence errors

## LEARNING OUTCOMES:

1. Identify subjects and predicates.

2. Recognize sentence patterns (verbs and complements).
3. Identify parts of speech that affect sentence structure.
4. Locate phrases and clauses in sentences.
5. Identify and/or write simple, compound, complex, and compound-complex sentences.
6. Identify and/or revise major sentence errors.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit  
Schedule Types: Additional Activity, Lab

Foundation Studies Division  
English Department

#### ENG 026 - Punctuation Skills Module

##### COURSE DESCRIPTION:

ENG 026. Punctuation Skills Module (1). Standard use of punctuation. Prerequisite: Satisfactory score on the skills assessment. Three lab.

##### COURSE CONTENT:

1. End punctuation: period, question mark, exclamation point
2. Comma
3. Other punctuation

##### LEARNING OUTCOMES:

1. Apply end punctuation to sentences.
2. Identify misuses and needed use of commas.
3. Identify standard use of selected other punctuation.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit  
Schedule Types: Additional Activity, Lab

Foundation Studies Division  
English Department

#### ENG 032 - ESOL: Beginning English I, II and III

##### COURSE DESCRIPTION:

ENG 032. English for Speakers of Other Languages: Beginning English I, II and III (3). Development of the fundamentals of speaking, writing, listening, and reading of English for speakers of other languages at the novice low/novice mid level. Introduction to the culture of the English speaking world. Three lecture.

##### COURSE CONTENT:

1. Simple introductions
2. Courtesy phrases
3. Greetings
4. Classroom objects
5. Alphabet and sound system
6. Phone numbers and age
7. Numbers 0-100
8. Adjectives
9. Basic clothing and colors
10. Weather phrases and seasons
11. Clock time
12. Times of day
13. Everyday activities and daily routines
14. Days of the week
15. Furniture and parts of the home
16. Jobs and workplaces
17. Basic foods and drinks
18. Needs and preferences; likes and dislikes
19. Sports and sports abilities
20. Basic question formation
21. Near future construction
22. Months, dates, basic holidays
23. Parts of the body
24. Medical conditions and feelings
25. Commands
26. Prepositions of location
27. Giving basic directions
28. Stores, specialty stores, and products sold there
29. Chores
30. Simple past
31. Biographical information
32. Basic leisure and summer activities

##### LEARNING OUTCOMES:

1. Making phone calls/Introduce oneself and others using very simple phrases. (1)
2. Use courtesy phrases and greetings. (2,3)
3. Identify classroom objects. (4)
4. Apply the sound system of English. (5)
5. Spell words using the alphabet. (5)
6. Express phone numbers and age using numbers 0-100. (6,7)
7. Describe basic characteristics of people, places, and things. (8)
8. Describe basic clothing and colors. (9)
9. Discuss the weather and seasons. (10)
10. Tell time. (11)

11. Narrate everyday activities and daily routines. (12, 13, 14)
12. Describe furniture and parts of the home. (15)
13. Discuss jobs and workplaces and workday routines. (16)
14. Express basic foods and drinks. (17)
15. Express needs, preferences, likes, and dislikes. (18)
16. Express sports and sports abilities. (19)
17. Form basic questions. (20)
18. Express future actions and events using the near future construction. (21)
19. Express months, dates, and basic holidays. (22)
20. List parts of the body. (23)
21. Describe medical conditions and feelings. (24)
22. Express commands. (25)
23. Describe locations of objects places, and people using prepositions of location. (26)
24. Give basic directions. (27)
25. Discuss stores, specialty stores, and products sold there. (28)
26. Describe chores. (29)
27. Narrate using the simple past. (30)
28. Express biographical information. (31)
29. Express basic leisure and summer activities. (32)
30. Make phone calls. (33)

**REQUIRED ASSESSMENT:**

1. An impromptu oral interview.
2. A listening exam or demonstration.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
 English Department

**ENG 035 - English as a Second Language: Conversational English and American Culture****COURSE DESCRIPTION:**

ENG 035. English as a Second Language: Conversational English and American Culture (1). Introduction to English pronunciation, grammar and usage. Emphasis on basic conversational skill and understanding American culture. Field trips required. One lecture.

**COURSE CONTENT:**

1. Pronouncing vowel and consonants sounds in English
2. Listening to fast, relaxed English pronunciation
3. Speaking and listening to greetings and leave takings
4. Request information
5. Studying aspects of American culture through field trips

**LEARNING OUTCOMES:**

1. Isolate vowel and consonant sounds in American English.
2. Speak and understand greetings and leave takings in English.
3. Request information such as directions and price.
4. Understand standard expressions in relaxed, fast spoken English.
5. Apply conversation skills in various American culture settings.

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
 English Department

**ENG 042 - ESOL: Intermediate English I, II and III****COURSE DESCRIPTION:**

ENG 042. English for Speakers of Other Languages: Intermediate English I, II and III (3). Development of speaking, writing, listening, and reading proficiency in English at the novice mid/novice high level. Culture of the English-speaking world. Prerequisite: ENG 032 or ENG 032C. Three lecture.

**COURSE CONTENT:**

1. Introductions; nationalities; expressing origins
2. Review of courtesy phrases and greetings
3. Review of clock time
4. Questions and question formation with "do"
5. Review of daily activities using the present tense
6. Numbers and prices
7. Details of clothing and fabrics
8. Colors
9. Likes and preferences
10. Family and kinship terms
11. Exercise routines and health lifestyles
12. Leisure and weekend activities
13. Places in a city or town
14. Review of prepositions of location
15. Detailed physical descriptions of people
16. EXpressing "there is, there are"
17. Narrations in the simple past tense
18. Common health problems
19. Requests and suggestions with "may", "can", "could", "would", and "will"
20. Ordering foods and drinks in a restaurant
21. Geographical terms to describe one's surroundings (e.g., hill, river)

22. Superlatives
23. The environment
24. Making excuses
25. Review of near future construction (e.g. I'm going to work tomorrow.)
26. Review of commands
27. Future plans and personal goals

## LEARNING OUTCOMES:

1. Introduce oneself and others and express nationalities. (1)
2. Greet people and use courtesy phrases. (2)
3. Tell time. (3)
4. Formulate questions and use common questions. (4)
5. Narrate the daily activities of oneself and others. (5)
6. Express numbers and prices. (6)
7. Describe clothing and its colors and fabrics. (7,8)
8. Express likes, dislikes, and preferences. (9)
9. Describe family relationships of oneself and others. (10)
10. Discuss exercise routines and healthy lifestyles. (11)
11. Describe leisure and weekend activities. (12)
12. Identify places in a city or town. (13, 14)
13. Express detailed physical descriptions of people. (15)
14. Express "there is, there are". (16)
15. Narrate using the simple past tense. (17)
16. Express common health problems. (18)
17. Make requests and suggestions with "may", "can", "could", "would", and "will". (19)
18. Order foods and drinks in a restaurant. (20)
19. Use geographical terms to describe one's surroundings (e.g. hill, river) (21)
20. Contrast people, places, and things using the superlative construction. (25, 27)
21. Discuss the environment. (23)
22. Make excuses. (24)
23. Express future events using the near future construction. (25, 27)
24. Express commands. (26)

## REQUIRED ASSESSMENT:

1. An impromptu oral interview.
2. A listening exam or demonstration.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Foundation Studies Division  
 English Department

**ENG 045 - ESOL: Beginning Reading and Writing**

## COURSE DESCRIPTION:

ENG 045. English for Speakers of Other Languages: Beginning Reading and Writing (2). Introduction to basic skills in reading and writing the English language. Two lecture.

## COURSE CONTENT:

1. Word formation - - word attack
  - a. Affixes
  - b. Roots
2. Word order in sentences - - sentence meaning
  - a. Sentence types
  - b. Tense usage, tense sequence
3. Basic sentence structure
4. Notetaking

## LEARNING OUTCOMES:

1. Write a simple sentence using correct word order.
2. Paraphrase information given orally into written form.
3. Define meanings of written words through word roots.
4. Apply word attack skills to new vocabulary.
5. Identify main ideas, details, and sequential development of paragraphs read.

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Foundation Studies Division  
 English Department

**ENG 060 - Writing Fundamentals I**

## COURSE DESCRIPTION:

ENG 060. Writing Fundamentals I (3). Sentence and paragraph construction. Prerequisite: Satisfactory score on the writing skills assessment. Three lecture.

## COURSE CONTENT:

1. Simple sentence
2. Basic coordination, subordination technique
3. Basic sentence variety
4. Topic sentences
5. Prewriting techniques
6. Patterns of paragraph development
7. Transitional words/phrases
8. Organization

9. Supporting information
10. Unity and coherence
11. Grammar fundamentals (fragments, run-ons, modifiers, punctuation)

## LEARNING OUTCOMES:

1. Write sentences (simple, compound, complex, varied). (1-3)
2. Write topic sentences. (4)
3. Use prewriting techniques. (5)
4. Identify and write in selected patterns of development. (6)
5. Use transitional words/phrases. (7)
6. Organize ideas/details/supporting information according to purpose (6,8,9)
7. Write and analyze paragraphs for unity and coherence. (10)
8. Identify and correct common grammatical errors. (11)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Foundation Studies Division  
English Department

**ENG 061 - Writing Fundamentals II**

## COURSE DESCRIPTION:

ENG 061. Writing Fundamentals II (3). Building writing skills, sentences, paragraphs, multi-paragraph writing, introductory research strategies. Prerequisite: ENG 060 or satisfactory score on the writing skills assessment. Three lecture.

## COURSE CONTENT:

1. Topic sentences/controlling ideas
2. Purpose/audience
3. Organization
4. Introductions/conclusions
5. Unity and coherence
6. Thesis statements
7. Topic generation
8. Revision, editing, proofreading
9. Patterns of paragraph and essay development
10. Introductory research strategies and MLA documentation
11. Grammar fundamentals (fragments, run-ons, modifiers, punctuation)

## LEARNING OUTCOMES:

1. Identify and write topic sentences. (1)
2. Identify purpose and audience. (2)
3. Identify common organizational patterns. (3)
4. Write introductions and conclusions. (4)
5. Identify problems with unity and coherence. (5)
6. Identify and write thesis statements. (6)
7. Generate writing topics. (7)
8. Revise, edit and proofread writing. (8)
9. Identify and write in selected patterns of development. (9)
10. Use basic research strategies and MLA documentation. (10)
11. Identify and correct common grammatical errors. (11)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Foundation Studies Division  
English Department

**ENG 063 - Paragraph Construction Module**

## COURSE DESCRIPTION:

ENG 063. Paragraph Construction Module (1). Composing basic expository paragraphs. Prerequisite: Satisfactory score on the skills assessment. Three lab.

## COURSE CONTENT:

1. Topic sentences/controlling ideas
2. Unity
3. Coherence
4. Patterns of paragraph development
5. Supporting information
6. Organization
7. Transitional words and phrases

## LEARNING OUTCOMES:

1. Identify and/or write topic sentences.
2. Analyze paragraphs for unity and coherence.
3. Identify and/or include supporting information in paragraphs according selected patterns of development.
4. Organize information in paragraphs by time, by space, and for emphasis according to selected patterns of development.
5. Use transitional words and phrases in paragraphs.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Foundation Studies Division  
English Department

#### ENG 064 - Writing Skill Building Module

##### COURSE DESCRIPTION:

ENG 064. Writing Skill Building Module (1). Basics of essay writing, including selecting a topic, developing a thesis, organizing paragraphs and ideas, drafting, revising, and editing. Prerequisite: Satisfactory score on the skills assessment. One lecture.

##### COURSE CONTENT:

1. Topic generation
2. Purposes/audience
3. Thesis statement
4. Organization
5. Introductions and conclusions
6. Unity and coherence
7. Revision, editing, and proofreading
8. Resources

##### LEARNING OUTCOMES:

1. Generate essay topics.
2. Identify purpose and audience.
3. Generate thesis statements.
4. Identify common organizational patterns.
5. Identify structure: introduction, body, conclusion.
6. Write introductions and conclusions.
7. Identify problems with unity.
8. Use strategies to achieve coherence.
9. Revise, edit, and proofread writing.
10. Use resources for locating information.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Foundation Studies Division  
English Department

#### ENG 065 - Advanced Writing Module

##### COURSE DESCRIPTION:

ENG 065. Advanced Writing Module (1). Refining writing skills. Emphasis on writing to communicate clearly and correctly. Prerequisite: Satisfactory score on the skills assessment. Three lab.

##### COURSE CONTENT:

1. Writing as communication
2. Organization
3. Unity and coherence
4. Transitions
5. Logic and reasoning
6. Sources, support, and documentation
7. Research strategies
8. Revising, editing, and proofreading

##### LEARNING OUTCOMES:

1. Organize ideas/details according to purpose.
2. Use transitions to increase coherence.
3. Analyze logic in writing.
4. Locate and evaluate sources to provide support.
5. Document sources according to established conventions.
6. Communicate a complex idea through writing.
7. Revise writing with attention to purpose, logical structure, development/support, unity, coherence, and form-related organization.
8. Edit for clarity, consistent tone, and correctness.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Foundation Studies Division  
English Department

#### ENG 070 - Reading Basics Module

##### COURSE DESCRIPTION:

ENG 070. Reading Basics Module (1). Instruction and practice in basic knowledge and skills needed for reading. Prerequisite: Satisfactory score on the skills assessment. One lecture.

##### COURSE CONTENT:

1. Sound-letter correspondence (phonics/sound-symbol correspondence)
2. Words used most often (sight words)
3. Word attack skills: e.g., phonics, syllables, context, spoken vocabulary
4. Reading for meaning (comprehension)

##### LEARNING OUTCOMES:

1. Say aloud sounds of letters and letter groups.
2. Recognize and pronounce words in the list of basic sight words.
3. Use word attack skills to identify and pronounce words.



4. Explain the meaning of selected written material.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

#### **ENG 071 - Reading Skill Building Module**

**COURSE DESCRIPTION:**

ENG 071. Reading Skill Building Module (1). Instruction and practice in building reading skills. Focus on using basic skills to build vocabulary and increase reading rate and comprehension. Prerequisite: Satisfactory score on the skills assessment. One lecture.

**COURSE CONTENT:**

1. Word attack skills
2. Main ideas and supporting details
3. Reading rate
4. Building vocabulary
5. Reading comprehension
6. Responding to reading

**LEARNING OUTCOMES:**

1. Use word attack skills to identify and pronounce words.
2. Identify main ideas and supporting details.
3. Adjust reading rate to material and purpose.
4. Use a variety of strategies to define new vocabulary.
5. Discuss and respond to ideas/meaning in written material.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

#### **ENG 072 - Advanced Reading Module**

**COURSE DESCRIPTION:**

ENG 072. Advanced Reading Module (.5). Instruction and practice in advanced reading skills, including making inferences, predicting outcomes, and reading critically. Prerequisite: Satisfactory score on the skills assessment. .5 lecture.

**COURSE CONTENT:**

1. Making inferences
2. Predicting outcomes from known information (e.g., prior knowledge, purpose for reading, knowledge of author, clues in the text)
3. Reading critically (e.g., author's purpose, bias, expertise; document language, form, context, audience; and comparing personal experience, other sources, etc.)

**LEARNING OUTCOMES:**

1. Recognize and make inferences.
2. Use known information to predict outcomes.
3. Evaluate evidence and reasoning in written material.

0.500 Credit hours  
0.500 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

#### **ENG 078 - Speeding Your Reading Module**

**COURSE DESCRIPTION:**

ENG 078. Speeding Your Reading Module (.5). Instruction and practice in increasing reading rate. Introduction of previewing, skimming, and scanning strategies. Emphasis on increasing reading rate while maintaining good comprehension. Practice in vocabulary and word recognition. Prerequisite: Satisfactory score on the skills assessment. 1.5 lab.

**COURSE CONTENT:**

1. Behaviors and conditions that limit and increase reading rate
2. Techniques for increasing reading rate
3. Previewing, skimming, and scanning strategies

**LEARNING OUTCOMES:**

1. Identify behaviors and conditions that increase reading rate.
2. Identify behaviors and conditions that limit reading rate.
3. Use techniques for increasing reading rate.
4. Describe previewing, skimming, and scanning and identify when to use each.

0.500 Credit hours  
0.000 Lecture hours  
1.500 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Foundation Studies Division  
English Department

### **ENG 082 - Read Faster/Understand More I**

**COURSE DESCRIPTION:**

ENG 082. Read Faster/Understand More I (3). Basic reading skills with emphasis on building vocabulary, using word identification strategies, increasing reading rate, and improving comprehension of meaning. Prerequisite: Satisfactory score on the reading skills assessment. Three lecture.

**COURSE CONTENT:**

1. Building vocabulary
2. Word attack skills
3. Main ideas and supporting details
4. Summarizing
5. Reading rate

**LEARNING OUTCOMES:**

1. Employ various strategies to define vocabulary, including context, word parts, and dictionary use.
2. Use reading, writing, listening, and other strategies to expand vocabulary.
3. Use basic word attack skills to identify and pronounce words.
4. Identify main ideas and major and minor supporting details in readings.
5. Write summaries.
6. Adjust reading rate to material and purpose.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
English Department

### **ENG 083 - Read Faster/Understand More II**

**COURSE DESCRIPTION:**

ENG 083. Read Faster/Understand More II (3). Evaluation, extension, and mastery of intermediate reading skills with primary emphasis on developing vocabulary, reading efficiently, recognizing organizational patterns, identifying main ideas and details, and using critical reading strategies. Prerequisite: ENG 082 or satisfactory score on the reading skills assessment. Three lecture.

**COURSE CONTENT:**

1. Vocabulary development
2. Organizational patterns
3. Main ideas and supporting details
4. Summarizing
5. Reading rate and strategies
6. Critical reading
  - a. Author's purpose
  - b. Tone
  - c. Bias
  - d. Fact and opinion
  - e. Inference and drawing conclusions
  - f. Application and evaluation

**LEARNING OUTCOMES:**

1. Employ various strategies to define vocabulary, including context, word parts, and dictionary use.
2. Use reading, writing, listening, and other strategies to expand vocabulary.
3. Identify organizational patterns in reading.
4. Identify main ideas and major and minor supporting details in readings.
5. Write summaries.
6. Identify reading behaviors that impede reading and suggest strategies for change.
7. Adapt reading rate to material and purpose.
8. Adapt author's purpose, tone, and bias; distinguish between fact and opinion; and draw logical inferences and conclusions.
9. Discuss and write about the connection between readings and issues of personal concern.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
English Department

### **ENG 091 - College Writing Success Skills**

**COURSE DESCRIPTION:**

ENG 091. College Writing Success Skills (3). Academic and personal skills needed to promote success in Introductory Composition or College Composition I. Co-requisite: ENG 100. Three lecture.

**COURSE CONTENT:**

1. Research skills and documentation
2. Conventions of standard written English
3. Time management and organization
4. Personal responsibility and goal setting
5. College environment navigation skills
6. Persuasive reasoning

**LEARNING OUTCOMES:**

1. Locate, evaluate, integrate, and document information. (1)
2. Apply conventions of standard written English. (2)

3. Create and implement a time management and personal organizational system. (3)
4. Define personal responsibility and explain how it affects academic performance. (4)
5. Create academic plans for the semester and year. (4)
5. Identify academic resources and support services important for academic success. (5)
6. Use persuasive reasoning. (6)

3.000 Credit hours  
3.000 Lecture hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Foundation Studies Division  
English Department

### [ENG 100 - Introductory Composition](#)

#### COURSE DESCRIPTION:

ENG 100. Introductory Composition (3). Introduction to basic writing and reading skills required for success in college. Prerequisite: ENG 061 or satisfactory score on the skills assessment. (ENG 083 may be taken concurrently). Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Focus
2. Logic
3. Voice
4. Organization
5. Details
6. Sentence Structure
7. Language
8. Source Documentation
9. Surface Features
10. Reading

#### LEARNING OUTCOMES:

1. Write focus statements. (1)
2. Apply logical development strategies. (2)
3. Select and apply voice. (3)
4. Develop organizational strategies. (1,2,4)
5. Develop and select details. (2,4,5,7)
6. Apply sentence structure strategies. (2,4,5,6,7)
7. Incorporate appropriate and varied vocabulary. (7)
8. Document sources. (8)
9. Apply conventions of standard written English. (9)
10. Identify main idea, organization and supporting argument in essays. (10)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours


Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Foundation Studies Division  
English Department

### [ENG 101 - College Composition I](#)

#### COURSE DESCRIPTION:

ENG 101. College Composition I (3).  **ENG 1101**. Composing expository and argumentative essays for specific audiences. Emphasis on the processes of writing, reading and critical thinking. Introduction to research and documentation. Prerequisite: Satisfactory score on the English skills assessment; or a grade of "C" or better in ENG 100. Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Focus
2. Development strategies
3. Voice
4. Organization
5. Details
6. Sentence Structure
7. Language
8. Sources and Documentation
9. Surface Features
10. Critical Reading
11. Critical Thinking

#### LEARNING OUTCOMES:

1. Write focus statements. (1)
2. Apply reasoned development strategies. (2, 11) (WC 2)
3. Select and apply voice. (3, 11)
4. Use organizational strategies. (1, 2, 4, 6, 11). (WC 2)
5. Use and select details. (5, 7, 11)
6. Apply sentence structure strategies. (4, 6, 7) (WC 3)
7. Incorporate purposeful, varied and appropriate vocabulary. (1, 3, 5, 7, 11) (WC 3)
8. Locate, evaluate, integrate, and document information. (2, 8, 10, 11) (WC 1)
9. Apply conventions of standard written English. (7, 9, 10) (WC 3)
10. Evaluate and analyze professional and student writing. (7, 8, 10, 11)
11. Use persuasive reasoning. (2,4,7,11) (WC 2)

#### REQUIRED ASSESSMENT:

1. A minimum of 4500 words of student writing.

3.000 Credit hours  
3.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)


Foundation Studies Division  
English Department

**Course Attributes:**

Applied Communication/Writing, College Composition (AGEC), Written Comm (WC), SUN# ENG 1101

### **ENG 102 - College Composition II**

**COURSE DESCRIPTION:**

ENG 102. College Composition II (3).  **ENG 1102.** Extensive critical reading and writing about texts. Emphasis on fluency in critical writing. Includes research skills and writing a critical, documented essay. Prerequisite: ENG 101 or ENG103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Focus
2. Development strategies
3. Voice
4. Organization
5. Details
6. Sentence structure
7. Multiple meanings and perspectives in language
8. Sources and documentation
9. Surface features
10. Text interpretation and analysis
11. Critical reading

**LEARNING OUTCOMES:**

1. Write focus statements. (1)
2. Apply reasoned development strategies. (2) (WC 2)
3. Select and apply voice. (3)
4. Use organizational strategies. (1, 2, 4, 6, 10) (WC 2)
5. Use and select details. (5, 7, 10)
6. Apply sentence structure strategies. (4, 6) (WC 3)
7. Identify and evaluate multiple meanings and perspectives in language. (7, 10)
8. Locate, evaluate, integrate, and document information. (2, 8, 10) (WC 1)
9. Apply conventions of standard written English. (7, 9, 10) (WC 3)
10. Interpret and analyze texts. (7, 8, 10)
11. Evaluate and analyze professional and student writing. (11)

**REQUIRED ASSESSMENT:**

1. A minimum of 5000 words of evaluated student writing.

3.000 Credit hours

3.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Foundation Studies Division  
English Department

**Course Attributes:**

Applied Communication/Writing, College Composition (AGEC), Written Comm (WC), SUN# ENG 1102

### **ENG 103 - College Composition I Honors**

**COURSE DESCRIPTION:**

ENG 103. College Composition I Honors (3). Composing expository and argumentative essays for specific audiences. Emphasis on the processes of writing, reading, and critical thinking. Advanced English 101 content and learning activities. Introduction to research and documentation. Prerequisite: Placement by English skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Focus
2. Development strategies
3. Voice
4. Organization
5. Details
6. Sentence structure
7. Language
8. Sources and documentation
9. Surface features
10. Critical reading
11. Critical thinking

**LEARNING OUTCOMES:**

1. Write focus statements. (1)
2. Apply reasoned development strategies. (2,11) (WC 2)
3. Select and apply voice. (3,11)
4. Use organizational strategies. (1,2,4,6,11) (WC 2)
5. Use and select details. (5,7,11)
6. Apply sentence structure strategies. (4,6,7). (WC 3)
7. Incorporate purposeful, varied and appropriate vocabulary. (1,3,5,7,11)
8. Locate, evaluate, integrate, and document information. (2,8,10,11) (WC 1)
9. Apply conventions of standard written English. (7,9,10) (WC 3)
10. Evaluate and analyze professional and student writing. (7,8,10,11)
11. Use persuasive reasoning. (2,3,7,11)

**REQUIRED ASSESSMENT:**

1. A minimum of 4500 words of student writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
English Department

**Course Attributes:**

Applied Communication/Writing, College Composition (AGEC), Written Comm (WC)

### [ENG 104 - College Composition II Honors](#)

**COURSE DESCRIPTION:**

ENG 104. College Composition II Honors (3). Extensive critical reading and writing about texts, including literature. Emphasis on fluency in critical writing. Advanced English 102 content and learning activities. Includes research skills and writing a critical, documented essay. Prerequisite: ENG 103 or ENG 101 and placement by English skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Focus
2. Development strategies
3. Voice
4. Organization
5. Details
6. Sentence Structure
7. Multiple meanings and perspectives in language
8. Sources and Documentation
9. Surface Features
10. Text interpretation and analysis
11. Critical Reading

**LEARNING OUTCOMES:**

1. Write focus statements. (1)
2. Apply reasoned development strategies. (2) (WC 2)
3. Select and apply voice. (3)
4. Use organizational strategies. (1, 2, 4, 6, 10) (WC 2)
5. Use and select details. (5, 7, 10)
6. Apply sentence structure strategies. (4, 6) (WC 3)
7. Identify and evaluate multiple meanings and perspectives in language. (7, 10)
8. Locate, evaluate, integrate, and document information. (2, 8, 10) (WC 1)
9. Apply conventions of standard written English. (7, 9, 10) (WC 3)
10. Interpret and analyze texts. (7, 8, 10)
11. Evaluate and analyze professional and student writing. (11)

**REQUIRED ASSESSMENT:**

1. A minimum of 5000 words of student writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

**Course Attributes:**

Applied Communication/Writing, College Composition (AGEC), Written Comm (WC)

### [ENG 118 - Living Through Literature](#)

**COURSE DESCRIPTION:**

ENG 118. Living Through Literature (2). Literature and film as a means to self examination and personal growth. Emphasis on the use of literature and film to analyze personal experience and to develop values. Two lecture.

**COURSE CONTENT:**

1. Key literary terms such as metaphor, allegory, conflict, irony, genre and motif
2. Short stories, novels and films; plot structure, theses, main characters.
3. Key literary terms as applied to personal experience; structures, subplots, motifs, strengths, weaknesses, conflicts, ironies
4. Personal narrative in connection with literary texts, especially where struggle, catharsis, epiphany, progress or achievement is mirrored

**LEARNING OUTCOMES:**

1. Define and apply critical literary terms such as metaphor, allegory, conflict, irony, genre, motif.
2. Delineate the plot/structure, identify the thesis, and outline the main characters in short stories, novels and films.
3. Apply the structures, subplots, motifs, strengths, weaknesses, conflicts and ironies to personal life experience.
4. Contrast elements of a story by weaving in events from personal life to identify and illustrate how one reflects the other (i.e., in matters of struggle, catharsis, epiphany, progress, achievement, etc.).

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

**ENG 136 - Technical Writing****COURSE DESCRIPTION:**

ENG 136. Technical Writing (3). Practical writing for the world of work, from business correspondence to technical reports. Prerequisite: ENG 100 or COM 135 or minimum COMPASS writing score of 80. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Introduction to course
  - a. Nature of technical writing
  - b. Special purposes of technical writing
  - c. Qualities of technical writing
  - d. Connotation/denotation
  - e. Sentence variety
2. Technical letter writing
  - a. Letters of complaint/compliment
  - b. Letters seeking information
  - c. Letters issuing instructions
  - d. Memos
3. Technical reports
  - a. Accident reports
  - b. Progress reports
  - c. Periodic reports
  - d. Recommendation reports
  - e. Examination reports
4. Logical patterns of technical writing
  - a. Definition
  - b. Description
  - c. Process description
  - d. Instructions
5. Formal technical report (must complete to pass course)

**LEARNING OUTCOMES:**

1. Study and practice writing skills for the world of work.
2. Study and write a variety of job-related letters, periodic reports and technical reports.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
 English Department

**Course Attributes:**

Applied Communication/Writing, Written Comm (WC)

**ENG 140 - Academic Reading and Critical Thinking****COURSE DESCRIPTION:**

ENG 140. Academic Reading and Critical Thinking (3). Develop academic reading and critical thinking strategies. Focus on improving reading comprehension, information literacy, and vocabulary. Prerequisite: ENG 100 or higher level composition (may be taken concurrently) or satisfactory score on the English skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Critical thinking concepts
2. Strategies to improve comprehension
3. Strategies for summarizing, analyzing, evaluating, and synthesizing texts
4. Basic research, including evaluating and utilizing sources
5. Effective questioning and problem solving methods for exploring issues
6. Vocabulary building techniques and development

**LEARNING OUTCOMES:**

1. Describe the elements and aspects of the critical thinking process (1)
2. Apply critical thinking skills before, during, and after reading to improve comprehension (1,2) (CT 1-4)
3. Analyze and summarize aspects of text, including author's credibility, purpose, assumptions, bias, and logic. (2, 3) (CT 2,3)
4. Apply information literacy strategies. (4) (CT 1-4)
5. Construct pertinent questions and create effective solutions to text analysis and research problems, with the understanding that closure is not always reached. (5) (CT 1-4)
6. Develop and expand college-level vocabulary. (6)
7. Apply critical thinking skills when assessing issues. (4, 5) (CT 1,3,4)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
 English Department

**Course Attributes:**

Critical Thinking (AGEC), Critical Thinking (CT)

**ENG 211 - Major Issues in British Literature I****COURSE DESCRIPTION:**

ENG 211. Major Issues in British Literature I (3). Exploration of major artistic, historical, cultural, philosophical, gender, and genre issues represented in selected works from Medieval, Renaissance, 17th and 18th century British literature. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Representative individual works and authors from each period
2. Major themes and genres of each period

3. Patterns of development and influence in British literature
4. Relationships between primary works and the historical and cultural context
5. Critical analysis based upon a sampling of theoretical perspectives
6. Research and documentation techniques

**LEARNING OUTCOMES:**

1. Demonstrate curiosity and empathy in critical reading of literary texts in their historical and cultural contexts. (AH 1,2)
2. Appraise the close relationship between British literature (both form and content) and historical changes in British society and culture. (AH 1,2)
3. Describe broad patterns of development in British literature from its beginnings to the end of the 18th century. (AH 5)
4. Identify the major literary themes and genres as well as some of their variations in each historical period. (AH 3)
5. Develop written and oral critical analysis of significant literary texts, working from a coherent theoretical perspective. (AH 4)
6. Apply effective research and documentation techniques when needed. (AH 4)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
 English Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

**ENG 212 - British Literature 1798 to Present****COURSE DESCRIPTION:**

ENG 212. British Literature 1798 to Present (3). Exploration of major artistic, historical, cultural, philosophical, gender, and genre issues represented in selected works of British literature from 1798 to the present. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Characteristic elements and examples of literary texts and genres (themes, structure, style, types, and analysis)
2. Factors that affect critical reading and response: issues of translation, ethnocentrism, gender, and bias/prejudice
3. Historical, geographical, cultural, ethnic, race and gender contexts for the study of British literature from 1798 to present
4. Conceptual frameworks applied to British literature from 1798 to present: definitions of culture, gender, race, and ethnicity; literary terminology; aesthetic movements
5. Information literacy skills related to independent research

**LEARNING OUTCOMES:**

1. Classify, analyze and compare representative works of British literature from 1798 to present within thematic, cultural, and aesthetic frameworks. (1) (AH 1,5)
2. Analyze cultural, linguistic, historical and other factors that influence perspectives on British literature from 1798 to present, including attitudes about race, gender, and ethnicity. (2) (AH 2,3) (ERG 2,3)
3. Evaluate the role of literature in illuminating, challenging and/or perpetuating prejudice and social inequalities. (3) (AH 4) (ERG 4,5)
4. Explain and apply key terms and concepts related to literature and cultural diversity. (4) (AH 3) (ERG 1)
5. Employ tools of scholarship to communicate on issues of race, ethnicity and gender in British literature from 1798 to present. (5) (AH 5) (ERG 6)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
 English Department

**Course Attributes:**

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

**ENG 216 - Major Issues in Ancient Literature****COURSE DESCRIPTION:**

ENG 216. Major Issues in Ancient Literature (3). Investigation of major artistic, historical, cultural, and philosophical issues represented in selected works from Greek, Roman, and Hebrew literature. Prerequisite: ENG 101 or ENG 103. Three lecture.

**COURSE CONTENT:**

1. Aristotle's Poetics
  - a. Study of epic and tragic forms
2. The Odyssey by Homer
3. The Aeneid by Virgil
4. Exodus and Deuteronomy from the Bible
5. First and Second Samuel and First Kings from the Bible
6. Agamemnon by Aeschylus
7. Antigone by Sophocles
8. The Creation story from Genesis in the Bible
9. Job from the Bible
10. Alcestis by Euripides
11. Bacchae by Euripides

**LEARNING OUTCOMES:**

1. Develop in an awareness of the literary forms of tragedy and epic by reading and comparing works from the three ancient cultures.
2. Develop an understanding of the origins of tragedy and epic in all three cultures.
3. Develop an understanding of the qualities of heroism and tragic stature in all three cultures.
4. Develop an understanding of the social, cultural, and historical from which this literature arose.
5. Develop an understanding of the universality of theme in ancient literature.
6. Assess individual understanding of material presented through critical papers and examinations.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

### ENG 217 - Major Issues in World Literature

#### COURSE DESCRIPTION:

ENG 217. Major Issues in World Literature (3). Investigation of major artistic, historical, ethnic, race, gender and philosophical issues in representative works of great literature. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Characteristic elements and examples of literary texts and genres (themes, structure, style, types and analysis)
2. Factors that affect critical reading and response: issues of translation, ethnocentrism, gender, and bias/prejudice
3. Geographical, historical, cultural, ethnic, race and gender contexts for the study of world literature.
4. Conceptual Frameworks: definitions of culture, gender, race and ethnicity; literary terminology; aesthetic movements
5. Applying information literacy skills to independent research about issues of diversity in world literature

#### LEARNING OUTCOMES:

1. Classify, analyze and compare representative works of world literature within thematic, cultural and aesthetic frameworks. (1) (AH 1, 5)
2. Analyze cultural, linguistic, historical and other factors that influence perspectives on world literature and attitudes about race, gender and ethnicity. (2) (AH 2, 3) (ERG 2, 3)
3. Evaluate the role of literature in illuminating, challenging and/or perpetuating prejudice and social inequalities. (3) (AH 4), (ERG 4, 5)
4. Explain and apply key terms and concepts related to literature and cultural diversity. (4) (AH 3) (ERG 1)
5. Employ tools of scholarship (thoughtful and precise writing, critical reading, intellectual curiosity, independent thinking and intelligent discourse) to world literature and communication of issues of race, ethnicity and gender. (5) (AH 5) (ERG 6)

#### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

**Course Attributes:**  
Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

### ENG 219 - Major Issues in Modern Drama

#### COURSE DESCRIPTION:

ENG 219. Major Issues in Modern Drama (3). Investigation of important works of world drama from 1870 to the present. Approaches that include reading and production awareness. Critical analysis of cultural, social, and political issues that have shaped and been shaped by modern plays. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Elements of production and theatricality in modern drama
2. Social, political, economic, and intellectual influences on modern drama
3. Impact of modern dramatic works on the society and culture from which they arise
4. Elements of dramatic form (such as structure, character, dialogue) in modern drama

#### LEARNING OUTCOMES:

1. Recognize aspects of theatricality and production in modern dramatic works. (1) (AH 3,5)
2. Describe and analyze major social, political, economic, and intellectual influences on drama since 1870. (2) (AH 1,2,4)
3. Assess the impact of modern dramatic works on the society and culture from which they arise. (3) (AH 4)
4. Identify and assess, as a reader and audience, formal elements in modern dramatic works. (4) (AH 3,4,5)

#### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

**Course Attributes:**  
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

### ENG 236 - Advanced Technical Writing

#### COURSE DESCRIPTION:

ENG 236. Advanced Technical Writing (3). Management-level problems in business and technical communications. Includes internal communications and public relations. Prerequisite: ENG 136. Three lecture.

#### COURSE CONTENT:

1. Introduction to course
  - a. General principles of business and technical communications
  - b. Industry expectations
  - c. Potential audiences



2. Report writing
    - a. Collections, analysis and presentations of data
    - b. Methods of research
    - c. Documentation, style and format
    - d. Use of Illustration
  3. Types of reports
    - a. Feasibility reports
    - b. Proposals
    - c. Progress reports
    - d. Operations manuals
  4. Formal presentations
    - a. Principles of group dynamics
    - b. Video support
    - c. Analysis of audience and purpose
  5. Public relations
    - a. Ads and brochures
    - b. Video/slide presentations
    - c. Media relations
  6. Special corporate communication problems
    - a. Federal and state agencies
    - b. Stockholder/board of directors
    - c. Committee business
- Demonstrate familiarity with various strategies relating to reports and presentations.

**LEARNING OUTCOMES:**

1. Demonstrate research procedures and documentation pertaining to technical and business reports.
2. Demonstrate methods of effective office and organizational communications.
3. Demonstrate knowledge of various public relations strategies.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
 English Department

**ENG 237 - Women in Literature****COURSE DESCRIPTION:**

ENG 237. Women in Literature (3). Survey of women in literature from ancient Greece to present with emphasis on images of female protagonists as portrayed by male and female authors. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Characteristic elements of literature (theme, figurative language, characterization) and introduction to genres (essay, poetry, short story, novel)
2. Tools and methods of literary criticism and scholarly research
3. Geographical, historical, and social influences on women's literature including issues of race, gender, class, ethnicity, and sexuality
4. Historical portraits of women from selected time periods with emphasis on images of female protagonists as portrayed by male and female writers
5. Archetypal approach to the study of portraits of women by male and female writers

**LEARNING OUTCOMES:**

1. Define key literary terms, and apply them to the study of selected works of women's literature from a variety of genres. (1) (AH 3)
2. Apply the tools and methods of literary criticism and scholarly research to selected works of women's literature. (2) (AH 4)
3. Discuss and analyze geographical, historical, and social influences on women's literature, including issues of race, gender, class, ethnicity, and sexuality. (3) (AH 2)
4. Analyze historical portrayals of female protagonists in literature. (4) (AH 1,5)
5. Identify the various archetypal patterns of women throughout history and literary periods. (5)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
 English Department

**Course Attributes:**

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

**ENG 238 - Literature of the Southwest****COURSE DESCRIPTION:**

ENG 238. Literature of the Southwest (3). A study of the literature, land and peoples of the American Southwest using the tools of literary criticism and including issues of race, ethnicity, gender, history, philosophy and geography. Prerequisite: ENG 101 or ENG 102. Reading Proficiency. Three Lecture. A-F grading only.

**COURSE CONTENT:**

1. Tools and methods of literary criticism and scholarly research
2. Key literary terms such as: genre, theme, symbol, figurative language, imagery, setting, point of view and characterization
3. Geographical, historical, and environmental influences on Southwest literature
4. Social and cultural influences on Southwestern literature, including issues of race, gender, class, ethnicity and sexuality
5. Conceptual frameworks and context as a means for discussing Southwest literature as a microcosm for universal human experiences and problems including: gender-discrimination, racial prejudice and ethnocentrism

**LEARNING OUTCOMES:**

1. Apply the tools and methods of literary criticism and scholarly research to selected works of Southwest literature from a variety of genres. (1) (AH 4,6)
2. Define key literary terms and apply them to the study of selected works of Southwest literature. (2) (AH 1, 3)
3. Discuss and analyze geographical, historical and environmental influences on Southwest literature. (3) (AH 1,2,5) (ERG 3)
4. Discuss, define and analyze social and cultural influences on Southwest literature including issues of race, gender, class, ethnicity and sexuality and focusing on interactions

between Native American, Anglo and Spanish-Mexican cultures. (4) (ERG 1,2,4,6)

5. Apply conceptual frameworks to the study of Southwest literature to facilitate discussion of literature as a microcosm for human experiences and problems including: gender-discrimination, racial prejudice and ethnocentrism. (5) (ERG 5)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2,500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

**Course Attributes:**

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

**ENG 239 - Images of the Southwest**

**COURSE DESCRIPTION:**

ENG 239. Images of the Southwest (3). Studies of varying individual and cultural images of the Southwest; emphasis on literature, but including other disciplines as appropriate. Each section of Images focuses on a special topic: a writer or group of writers, a theme, an issue, or a specific locale. Three lecture.

**COURSE CONTENT:**

1. The writer or group of writers, theme, issue, or specific locale will be significant to an understanding of the Southwest
2. The topic will lend itself to an exploration of the relation of aesthetic/literary judgment and regional issues
3. The topic, while focusing on literary concerns, will lend itself to exploration through comparisons with other media and to enrichment by interdisciplinary contributions as appropriate for Southwest studies

**LEARNING OUTCOMES:**

1. Demonstrate increased awareness of varying concepts of the Southwest.
2. Exhibit an understanding of the interplay between imagination and place, including (as appropriate to each special topic) historical, ethical, socioeconomic, bioregional, and other cultural and natural factors.
3. Demonstrate (through substantial writing and through discussion and other expressions) increased understanding and critical judgment in applying aesthetic (and especially literary) standards to the subject material focused in the special topic.
4. Demonstrate increased awareness of the relationship between the regionally focused subject material and broader cultural and literary tradition.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

**ENG 240 - American Literature to 1865**

**COURSE DESCRIPTION:**

ENG 240. American Literature to 1865 (3). Exploration of major artistic, historical, philosophical, cultural and gender issues represented in selected works from the Colonial era to the Civil War Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Characteristic elements and examples of literary texts and genres (themes, structure, style, types and analysis)
2. Factors that affect critical reading and response: issues of translation, ethnocentrism, gender, and bias/prejudice
3. The historical, religious, geographical, cultural, ethnic, race and gender contexts for the study of American literature before 1865
4. Conceptual frameworks applied to American literature from 1865 to present: definitions of culture, gender, race and ethnicity; literary terminology; aesthetic movements such as Romanticism, Transcendentalism and the literature of abolition
5. Information literacy skills related to independent research

**LEARNING OUTCOMES:**

1. Classify, analyze and compare representative works of American literature from before 1865 within thematic, cultural and aesthetic frameworks. (1) (AH 1,5)
2. Analyze cultural, linguistic, historical and other factors that influence perspectives on American literature before 1865, including attitudes about race, gender and ethnicity. (2) (AH 1,2,4) (ERG 2,3)
3. Evaluate the role of literature in illuminating, challenging and/or perpetuating prejudice and social inequalities. (3) (AH 2) (ERG 4,5)
4. Explain and apply key terms and concepts related to literature and cultural diversity. (4) (AH 3) (ERG 1)
5. Employ tools of scholarship on issues of race, ethnicity and gender to American literature from before 1865. (5) (AH 4) (ERG 6)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2,500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

**Course Attributes:**

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

**ENG 241 - American Literature 1865 to Present**

**COURSE DESCRIPTION:**

ENG 241. American Literature 1865 to Present (3). Exploration of major artistic, historical, philosophical, cultural and gender issues represented in selected works from the Civil War to the present. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Characteristic elements and examples of literary texts and genres (themes, structure, style, types and analysis).
2. Factors that affect critical reading and response: issues of translation, ethnocentrism, gender, and bias/prejudice.
3. Historical, geographical, cultural, ethnic, race and gender contexts for the study of American literature from 1865 to present.
4. Conceptual frameworks applied to American literature from 1865 to present: definitions of culture, gender, race and ethnicity; literary terminology; aesthetic movements.
5. Information literacy skills related to independent research.

**LEARNING OUTCOMES:**

1. Classify, analyze and compare representative works of American literature from 1865 to present within thematic, cultural and aesthetic frameworks. (1) (AH 1,5)
2. Analyze cultural, linguistic, historical and other factors that influence perspectives on American literature from 1865 to present, including attitudes about race, gender and ethnicity. (2) (AH 2,3) (ERG 2,3)
3. Evaluate the role of literature in illuminating, challenging and/or perpetuating prejudice and social inequalities. (3) (AH 4), (ERG 4,5)
4. Explain and apply key terms and concepts related to literature and cultural diversity. (4) (AH 3) (ERG 1)
5. Employ tools of scholarship on issues of race, ethnicity and gender to American literature from 1865 to present. (5) (AH 5) (ERG 6)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2,500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
English Department

**Course Attributes:**

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

**ENG 242 - Introduction to Shakespeare****COURSE DESCRIPTION:**

ENG 242. Introduction to Shakespeare (3). An examination, through close reading, critical analysis and research, of six to eight Shakespearean plays, selected sonnets and poems as well as an investigation into the cultural and historical settings from which his work emerged. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. The role of literature and drama in humanistic learning
2. Selected plays, sonnets, and poems
3. Examination of the cultural/historical context which shaped Shakespeare's art
4. Information regarding Shakespeare's life
5. Published critical analyses

**LEARNING OUTCOMES:**

1. Classify Shakespeare's plays and poems into stylistic groupings of comedies, tragedies, histories, problem plays, sonnets and lyric poetry. (2,3) (AH 1-3)
2. Analyze influences (such as historical, political, economic, social, cultural, religious and environmental) of Renaissance England to the development of theatre, plays and poetry. (3) (AH 1-5)
3. Define and use key terms appropriate to the historical and literary period for this genre. (1-5) (AH 1-3)
4. Develop and support personal and reasonable positions on Shakespearean issues discovered through critically analyzing Shakespearean scholarship, his works, his life and times and by examining various theatrical interpretations of the script including re-enacting a portion of one of the plays. (1-5) (AH 1,2,4)
5. Engage in discussions that cultivate curiosity and empathy in the pursuit of humanistic insights and knowledge of the times, Shakespeare and other contributing playwrights. (1-4) (AH 1-4)
6. Recognize the contributions of Shakespeare as a universal landmark of human achievement by applying his concepts and language to current circumstances. (1) (Ah 1-5)
7. Identify other major contributors and contributions to the Elizabethan Renaissance arts and literature and compare them to the works of Shakespeare. (1-5) (AH 1-5)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
English Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

**ENG 260 - Literature and Film****COURSE DESCRIPTION:**

ENG 260. Literature and Film (3). Examination of storytelling in both literature and film. Study how prose is translated into visual images. Critical work on the language/methods of literature and film. Study of avant garde art and how it has influenced both literature and film. Brief history of literature and film. Three lecture.

**COURSE CONTENT:**

1. Contrast prose and visual images
2. Literature and films that are directly linked
3. Language of literature and film
4. Avant garde art and its influences on literature and film
5. Process of translating prose images into visual images

**LEARNING OUTCOMES:**

1. Analyze the critical factors of prose translated into visual images.
2. Use the language of literature and cinema.
3. Identify avant garde art influences (Expressionism, Dada, Surrealism, Neorealism, Montage, New Wave) in literature and film and discuss the international dynamics of these

influences.

4. Discuss major authors/directors, how they were influenced by earlier literature/film, and how they influenced the literature/film that followed.
5. Apply the developmental history of literature (plays, short stories, novels) and film in order to reflect on and analyze the relationship of self and community in the present culture.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

### ENG 265 - Studies in Film and Literature

#### COURSE DESCRIPTION:

ENG 265. Studies in Film and Literature: (3). Focus on a different special topic or cinematic genre. Emphasis on the history and evolution of the genre as well as the critical analysis of representative films. Examination of the relationships between films and their literary counterparts. Three lecture.

#### COURSE CONTENT:

1. History of the film topic or genre
2. Terms related to the analysis and interpretation of films and literary texts
3. Issues involved in adapting literary texts to the medium of film
4. Criticism, reviews and other writings associated with the films
5. Elements of cinema
6. Strategies and materials for researching film

#### LEARNING OUTCOMES:

1. Describe and discuss the history and evolution of the cinematic type.
2. Define and apply terms relating to the analysis and interpretation of films and literary texts.
3. Discuss the issues involved in adapting literary texts to the medium of film.
4. Discuss criticism, reviews and other writings associated with the films.
5. Identify and analyze the roles of cinematic elements in a film.
6. Locate and use library and Internet information about films.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

### ENG 296 - Internship: English

#### COURSE DESCRIPTION:

ENG 296. Internship: English (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

#### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

#### LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

#### REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.

4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Foundation Studies Division  
English Department

**ENG 298 - Special Topics:****COURSE DESCRIPTION:**

ENG 298. Special Topics in Literature (3). Investigation of major artistic, historical and philosophical issues in representative works of literature within topic or genre. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. History of the course topic or genre
2. Terms related to the analysis and interpretation of literary texts
3. Criticism, reviews and other writings associated with the literary topic and texts
4. Strategies and materials for researching literary topic and texts

**LEARNING OUTCOMES:**

1. Describe and discuss the history and evolution of the literary topic. (1) (AH 1,2,5)
2. Define and apply terms relating to the analysis and interpretation of literary texts. (2) (AH 3)
3. Discuss criticism, reviews and other writings associated with the literary topic and texts. (3) (AH 2,4,5)
4. Locate and use library and internet information about the literary topic and texts. (4) (AH 4,5)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
English Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

**ENG 299 - Independent Study English****COURSE DESCRIPTION:**

ENG 299. Independent Study English (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Foundation Studies Division  
English Department

**ENV 105 - Environmental Biology****COURSE DESCRIPTION:**

ENV 105. Environmental Biology (4). Introduction to ecological systems, natural resources, and applications to environmental issues. Includes population, community, and ecosystem analysis. Emphasis on field, laboratory, and writing activities. This course is cross-listed with BIO 105. Prerequisite: Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Interactions of individual organisms with the physical environment
2. Interactions of individuals and populations with the biological environment
3. Energy flow through communities and ecosystems
4. Factors affecting global distribution of climate
5. Characteristics of the major biomes
6. Interaction between humans and the environment
7. Field data collection techniques
8. Recording data and observations
9. Interpretation of data
10. Elementary statistics
11. Biogeochemical cycles
12. Population variation, adaptations, and natural selection
13. Island biogeography and conservation applications

**LEARNING OUTCOMES:**

1. Describe the adaptations of organisms to the physical environment. (1) (PBS 1)
2. Describe intra and inter specific competition, and other types of interactions between individuals and populations. (2)
3. Describe and graph exponential and logistic population growth. (2) (PBS 2,3)
4. Describe the flow of energy through ecosystems emphasizing trophic levels and food webs. (3)
5. Describe the processes generating climatic zones on the Earth. (4)
6. Correlate biomes with climate patterns (4,5)
7. List the physical and biotic characteristics of the major biomes (5)

8. Describe interactions between hunter-gatherer, pastoral, agrarian, and industrial societies and the environment. (6)
9. Collect quantifiable data using various field methods. (7,8) (PBS 1,2)
10. Analyze data using graphical and statistical methods. (9,10) (PBS 2,3)
11. Describe the major biogeochemical cycles including water, carbon, and nitrogen. (11)
12. Describe the basic mechanisms and conditions affecting populations with respect to evolution and natural selection. (12)
13. Describe the influence of area, distance, and other factors in predicting species diversity. (13)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
 Environmental Studies Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL)

### [ENV 110 - Environmental Geology](#)

**COURSE DESCRIPTION:**

ENV 110. Environmental Geology (4). Introduction to geologic studies and their application to environmental problems, causes and possible solutions. Includes geologic processes, geohazards, and geologic natural resources. This course is cross-listed with GLG 110. Prerequisite: Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. The role of population in environmental problems.
2. Basic geology, including rocks and minerals, plate tectonics, and basic surface processes
3. Earthquakes
4. Volcanism
5. Streams and flooding
6. Mass wasting and slope stability
7. Climate, as related to geology
8. Water as a resource
9. Soil
10. Mineral resources
11. Energy resources, including coal, oil, and natural gas
12. Alternative energy resources
13. Waste disposal
14. Water and air pollution

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-13) (PBS 1,2)
  - a. Use scientific methods used to explain geological and environmental concepts and theories. (PBS 1,2)
2. Identify the unifying themes of the scientific field of study. (1-13) (PBS 3)
  - a. Recognize the role of population in environmental issues. (PBS 3)
  - b. Identify and explain the causes and hazards of some natural geologic processes. (PBS 3)
3. Describe the role of natural resources in modern culture and the problems caused by their extraction and exploitation. (PBS 1,2)
3. Interpret the numerical and/or graphical presentation of scientific data. (1-13) (PBS 2)
  - a. Identify, synthesize, interpret, and evaluate data associated with the discipline of environmental geology. (PBS 2)
  - b. Draw conclusions from geologic data presented on graphs or charts regarding population, earthquakes, volcanoes, streams and flooding, mass wasting, atmospheric composition, natural resources (water, soil, mineral and energy), alternative energy, waste disposal and water pollution. (PBS 2)
4. Use the tools and equipment necessary for basic scientific analysis and research. (2) (PBS 2)
  - a. Perform basic laboratory skills to identify the physical properties of minerals and rocks. (PBS 2)
  - b. Use topographic maps. (PBS 2)
5. Record the results of investigation through writing. (1-13) (PBS 1)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
 Environmental Studies Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL)

### [ENV 121 - Environmental Chemistry](#)

**COURSE DESCRIPTION:**

ENV 121. Environmental Chemistry (4). Atomic structure, the Periodic Table, chemical bonding and reactions with emphasis on environmental applications: the atmosphere and air pollution, water and water pollution, pesticides, food additives, and nuclear wastes. This course is cross-listed with CHM 121. Prerequisite: Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Introduction, atomic structure, chemical bonding, chemical reactions, states of matter, gases
2. The atmosphere and atmospheric pollution
3. Water properties, pollutants--organic, heavy metals, biological and thermal
4. Organic compounds in the environment - structures, carcinogens and mutagens, pesticides, food additives, drugs
5. Nuclear chemistry - natural radioactivity, fission and fusion, nuclear energy.

**LEARNING OUTCOMES:**

1. Understand the basic atomic nature of matter, chemical bonding and the periodic table.
2. Demonstrate an elementary understanding of the states of matter. (PBS 1)
3. Understand the basic chemical principles involved in chemical reactions. (PBS 2)
4. Understand the atmosphere, its composition and various atmospheric pollutants. (PBS 3)
5. Understand the chemical significance of water and the effects of chemical, biological and thermal pollution. (PBS 1-3)
6. Understand the basic structure of organic compounds used as pesticides and food additives and their effects. (PBS 2)
7. Demonstrate an elementary understanding of radioactivity and nuclear chemistry and the effects of radiation on biological systems. (PBS 2,3)

8. Understand basic ecology from a chemical point of view and the effects of pollutants on food chains and ecosystems. (PBS 1-3)
9. Appreciate the social and economic implications of technology which underlie decisions about pollution, nuclear energy and food additives. (PBS 1,3)
10. Perform basic laboratory procedures such as titrations. (PBS 2)
11. Use common laboratory instruments including analytical balances, pH meters, specific ion electrodes, spectrophotometers, flame photometers and gas chromatographs. (PBS 2)
12. Perform simple chemical analysis such as biochemical oxygen demand, heavy metal detection, soil analysis.(PBS 2)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Environmental Studies Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL)

#### ENV 296 - Internship: Environmental Studies

##### COURSE DESCRIPTION:

ENV 296. Internship: Environmental Studies (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

##### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

##### LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

##### REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Sciences, Health & Public Safe Division  
Environmental Studies Department

#### ENV 299 - Independent Study Environmental Studies

##### COURSE DESCRIPTION:

ENV 299. Independent Study Environmental Studies (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

##### COURSE CONTENT:

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

##### LEARNING OUTCOMES:

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Sciences, Health & Public Safe Division  
Environmental Studies Department

**FSC 100 - Principles of Emergency Services****COURSE DESCRIPTION:**

FSC 100. Principles of Emergency Services (3). Overview of fire protection and emergency services along with its culture and history; career opportunities; organization and function of public and private fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics; life safety initiatives. Three lecture.

**COURSE CONTENT:**

1. Fire and emergency service careers
2. Present-day fire and emergency services and early traditions and history
3. Operations
4. Organization and professionalism
5. Fire behavior
6. Fire ground and station safety
7. Education and training
8. Fire and emergency service response
9. Fire apparatus, service equipment and facilities
10. National Incident Management System/Incident Command System (NIMS/ICS)
11. Leadership and management
12. Fire prevention and pre-planning
13. Firefighter safety and survival

**LEARNING OUTCOMES:**

1. Illustrate and explain the history and culture of the fire service. (2-4)
2. Analyze the basic components of fire as a chemical chain reaction, the major phases of fire, and examine the main factors that influence fire spread and fire behavior. (5)
3. Differentiate between fire service training and education and explain the value of higher education to the professionalization of the fire service. (4,7)
4. List and describe the major organizations that provide emergency response services and illustrate how they interrelate. (2,8)
5. Identify fire protection and emergency service careers in both the public and private sector. (1,2)
6. Define the role of national, state and local support organizations in fire and emergency services. (8, 10)
7. Discuss and describe the scope, purpose, and organizational structure of fire and emergency services. (2-4, 10)
8. Describe the common types of fire and emergency service facilities, equipment, and apparatus. (6,9)
9. Compare and contrast effective management concepts for various emergency situations. (11)
10. Identify the primary responsibilities of fire prevention personnel including: code enforcement, public information, and public and private protection systems. (3, 4,12)
11. Outline the components of career preparation and goal setting. (1, 2, 7)
12. Describe the importance of wellness and fitness as it relates to emergency services. (1, 2, 4, 7, 13)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Fire Science Department

**FSC 102 - Principles of Fire and Emergency Services Safety and Survival****COURSE DESCRIPTION:**

FSC 102. Principles of Fire and Emergency Services Safety & Survival (3) (Fall). Basic principles and history of the national firefighter life safety initiatives, focusing on the need for cultural and behavioral change throughout the emergency services. Three lecture.

**COURSE CONTENT:**

1. History of fire service culture
2. Organizational culture
3. Individual role in culture/behavior
4. History of line of duty deaths and injuries statistics
5. National Fire Protection Association (NFPA) and Occupational Health and Safety Administration (OSHA)
6. Medical and fitness standards
7. Data collection (NFIRS)
8. Research/investigation (NIST, NIOSH)
9. Training, equipment, response
10. Certification and credentialing
11. Organizational health and safety profile
12. Risk management
13. Prevention

**LEARNING OUTCOMES:**

1. Describe the need for cultural and behavioral change and enhancements within the emergency services related to health and safety - incorporating leadership, supervision, accountability and personal responsibility. (1-4, 6,12)
2. Define how the concepts of risk management affect strategic and tactical decision-making. (8,9,12)
3. Describe and evaluate circumstances that might constitute an unsafe act. (4,5,7,8)
4. Explain the concept of empowering all emergency services personnel to stop unsafe acts. (11,12)
5. Validate the need for national training standards as they correlate to professional development inclusive of qualifications, certifications, and re-certifications. (5,7-11)
6. Defend the need for annual medical evaluations and the establishment of physical fitness criteria for emergency services personnel throughout their careers. (4,5-8)
7. Explain the vital role of local departments in national research and data collection. (7,11,12)
8. Illustrate how technological advancements and standardized policies can produce higher levels of emergency services safety and survival. (9-13)
9. Explain the importance of investigating all near-misses, injuries and deaths and how incorporating the lessons learned from investigations can support cultural change. (4,7,11,12)
10. Describe how obtaining grants can support safety and survival initiatives. (9,11,12)
11. Explain how the increase in violent incidents impacts safety for emergency services personnel when responding to emergency scenes. (4,7-9,12)
12. Recognize the need for counseling and psychological support for emergency services personnel and their families, and identify local resources and services. (9,11-13)
13. Describe the importance of public education as a critical component of life safety programs. (12,13)
14. Discuss the importance of fire sprinklers and code enforcement. (13)
15. Explain the importance of safety in the design of apparatus and equipment. (4,7,9,12)

3.000 Credit hours  
3.000 Lecture hours



Levels: Credit

Schedule Types: [Lecture](#)

Career & Technical Education Division  
Fire Science Department

### FSC 104 - Hazardous Materials First Responder Operations

#### COURSE DESCRIPTION:

FSC 104. Hazardous Materials First Responder Operations (2). Introduction to the major categories of hazardous materials. Includes detection, identification, scene management, basic training, equipment planning, strategy and tactics in the management of hazardous materials incidents. Preparation for Department of Emergency Services certificate. One lecture. Three lab.

#### COURSE CONTENT:

1. The hazardous material problem
2. Recognizing and identifying hazardous materials
3. Flammable hazardous materials
4. Reactive hazardous materials
5. Toxic hazardous materials
6. Basic equipment and safety practices
7. Size-up, tactics and strategy
8. Scene management
9. Pre-emergency planning

#### LEARNING OUTCOMES:

1. Identify various hazardous materials and their potential dangers, including identification of placarding, labeling and shipping manifests. (1, 2)
2. Respond to and control flammable, reactive and toxic hazardous materials incidents. (3-5)
3. Use procedures necessary for effective size-up, tactical planning and scene management. (7, 8)
4. Identify systems for assessing possible intervention. (7)
5. Identify the three-tier concept of hazardous materials planning. (8)
6. Interpret the hazard and response information for a chosen chemical from the current edition of the Emergency Response Guidebook (ERG) and a Material Safety Data Sheet (MSDS). (2, 5, 6)
7. Remove a victim from a contaminated area, wash the victim, remove contaminated gear, and coordinate transporting the victim to a facility of higher care. (5-8)
8. Complete SCBA donning procedures within one minute. (6)
9. Match the type of control options for each response objective: absorption, damming, diking, dilution, diversion, retention, vapor dispersion, remote valve shut-off. (2, 6, 8)
10. Apply "Class B" firefighting foam(s) or vapor suppressing agent(s) on a spill or fire involving hazardous materials. (8, 9)

#### REQUIRED ASSESSMENT:

1. Pre- and Post-test
- 2.000 Credit hours
- 1.000 Lecture hours
- 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Fire Science Department

### FSC 105 - Firefighter I & II Certification Academy

#### COURSE DESCRIPTION:

FSC 105. Firefighter I & II Certification Academy (12). Essentials of firefighting including fire department operations, firefighting equipment, and safety. Emphasis on the chemistry of fire, techniques of firefighting, and utilization of equipment in fire suppression. Preparation for State Fire Marshal Fire Fighter I and II certification. Pre-requisite: FSC 104 (may be taken concurrently). Ten lecture. Six lab.

#### COURSE CONTENT:

1. Fire department organization
2. Fire behavior
3. Fireground and station safety
4. Ropes and knots
5. Water supply
6. Fire apparatus
7. Fire hose and evolutions
8. Fire service ladders and evolutions
9. Power tools
10. Building construction
11. Forcible entry
12. Search and rescue
13. Ventilation
14. Salvage and overhaul
15. Structural firefighting and organization
16. Electricity
17. Special firefighting techniques and hazard emergencies
18. Firefighter maintenance
19. Fire prevention and fire investigations
20. Firefighter safety and survival techniques

#### LEARNING OUTCOMES:

1. Describe theory of fire behavior, phases of fire, types of fires and methods of fire control. (2,5)
2. Show the proper rope inspection procedure as well as the established standard knots and hitches used by the fire service. (4)
3. Discuss the proper uses for various equipment/tools. (3,6,9,11,13)
4. Explain the care and use of fire service ladders and perform basic ladder raises for multi-person ladders. (8)
5. Describe the standard hose rolls and carries used by the fire service. (7)
6. Explain the need for proper ventilation. (10,13)
7. Show proper salvage cover placement and proper salvage and overhaul techniques. (14)
8. Describe basic building construction and building features as they apply to firefighting. (10)
9. Explain the reasons for and show ability to don the self-contained breathing apparatus and complete the crawl-through course. (12)
10. Perform basic forcible entry through various barriers using the proper tools and procedures. (11)
11. Successfully ventilate a structure utilizing both horizontal and vertical techniques with the proper equipment. (13)
12. Explain the method and theory of fire cause determination as it applies to the firefighter to include securing the scene and legal considerations. (16)
13. Explain the components of automatic sprinkler systems and the value of the systems. (16)
14. Design an inspection program for their community. (16)

15. Perform various drags, lifts, carries, wall breaching, narrow-space manipulation and hoisting techniques directly related to firefighter safety and self-survival. (15,17) 16. Explain the organizational model of the fire service. (1) 17. Practice the use of personnel accountability systems and of the NIMS incident command system. (1)

12.000 Credit hours  
10.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Fire Science Department

**Course Attributes:**  
Civic Engagement (CE)

### [FSC 115 - Firefighter Recruit Academy](#)

#### COURSE DESCRIPTION:

FSC 115. Firefighter Recruit Academy (4). Role and functions of the entry-level firefighter. Emphasis on practical aspects of fire suppression and operations. Three lecture. Two lab.

#### COURSE CONTENT:

1. Responsibilities
2. Role
3. Fire behavior
  - a. Definition
  - b. Elements
  - c. Heat transfer
  - d. Phases
  - e. Classes
  - f. Control theory
  - g. Building construction awareness
  - h. Fire ground safety
4. Equipment
  - a. Types
  - b. Policy
  - c. Protection levels
    1. Issue turnouts
    - d. Equipment demonstration
    - e. Self contained breathing apparatus
      1. Components
      2. Cleaning
      3. Donning
      4. Rescue techniques
      5. Emergency breathing
      6. SCBA maze
      - f. Fire extinguishers
        1. Types
        2. Applications
        3. Inspection
        5. Ventilation
          - a. Definition
          - b. Theory
          - c. Horizontal
          - d. Vertical
        6. First Aid
          - a. Responsibilities
          - b. Functions
            1. ABC's
            2. Practical application testing
            3. Stabilization
              - a. neck
              - b. long and short boards
            4. Extrication
            7. Ladders
              - a. Types
              - b. Construction
              - c. Raises
              - d. Carries
              - e. Safety
            8. Salvage and overhaul
              - a. Balloon
              - b. One and/or two person
              - c. Folding
            9. Water supply
              - a. Descriptions
              - b. Types
              - c. Testing
            10. Hoses and appliances
              - a. Hose evolutions
                1. Hydrant hook up
                2. 1 1/2" pre-connect w/SCBA
                3. Lay one dry/one wet
                4. Double supply
                5. 2 1/2" and 3" attack lines
              11. Advancing and handling hose lines
                - a. Charged
                - b. Dry
              12. Hazardous materials awareness
                - a. Chemical
                - b. Electrical
                - c. Radiological
                - d. Biological
            13. Ropes and knots

- a. Types of ropes used
- b. Inspection and care of ropes
- c. Knots and hitches used
- d. Raising equipment Describe the role of a basic firefighter.
14. Perform the functions required to safely respond to emergency situations.
15. Describe the components of a fire company.
16. Demonstrate basic knowledge of fire behavior.
17. Demonstrate the effective use of S.C.B.A. equipment, extrication tools, and other essential firefighting equipment.
18. Describe basic fire control techniques.
19. Administer first aid and treatment, and conduct search and rescue operations.
20. Demonstrate the ability to handle and advance a charged hose line.
21. Respond to safety hazards at an emergency scene.
22. Conduct basic salvage and overhaul functions.

4.000 Credit hours  
3.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Fire Science Department

### FSC 135 - Fire Prevention

#### COURSE DESCRIPTION:

FSC 135. Fire Prevention (3). Topics of fire prevention including: history and philosophy; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; fire and life safety education; and fire investigation. Three lecture.

#### COURSE CONTENT:

1. Goals, importance and organizations of fire prevention
2. History of major fires and fire prevention in America
3. Responsibilities and professional development
4. Standards for fire prevention personnel
5. Private organizations
6. Roles of government
7. Inspection and enforcement
8. Fire prevention laws, regulations and standards
9. Plans review programs
10. Fire protection engineering
11. Fire investigation
12. Public education

#### LEARNING OUTCOMES:

1. Define the national problem, role, history and philosophy of fire prevention. (1,2)
2. Identify and describe fire prevention organizations and associations. (1,5)
3. Define laws, rules, regulations, and codes relevant to fire prevention and the authority having jurisdiction. (5,6,8)
4. Outline the functions of a fire prevention bureau. (1,7,9-12)
5. Explain inspection practices and procedures. (7,8)
6. Identify and describe the standards for professional qualifications for Fire Marshal, Plans Examiner, Fire Inspector, Fire and Life Safety Educator, and Fire Investigator. (3,4,8)
7. List opportunities in professional development for fire prevention personnel. (3)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Fire Science Department

#### Course Attributes:

Creative Thinking (CR)

### FSC 137 - Fire Protection Hydraulics and Water Supply

#### COURSE DESCRIPTION:

FSC 137. Fire Protection Hydraulics and Water Supply (3). Theoretical foundation in the principles of water use for fire protection. Includes application of the laws of hydraulics to analyze and solve water supply problems. Three lecture.

#### COURSE CONTENT:

1. Hydraulics origin and history within the fire service
2. Water volume, weight, chemical and physical properties
3. Force and pressure
4. Velocity, flow calculations and relations
5. Friction loss and effects, conversion factors, GPM and hose sizes
6. Pump theory and operation
7. Theory of drafting and pump testing
8. Fire streams
9. Engine pressure calculations
10. Water supply and distribution systems
11. Standpipes, sprinklers and fireground formulas

#### LEARNING OUTCOMES:

1. Use mathematics and physics to calculate the movement of water in fire suppression activities. (1-5, 8-11)
2. Identify the design principles of pumping apparatus. (6, 7)
3. Analyze community fire flow demand criteria. (4,10,11)
4. Explain the principles of forces that affect water, both at rest and in motion. (2-5,8)
5. List and describe the various types of water distribution systems. (2,10)
6. Discuss the various types of fire pumps. (7, 10)

**REQUIRED ASSESSMENT:**

1. Pre- and Post-test.

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Fire Science Department

**Course Attributes:**

Quantitative Lit (QL)

**FSC 138 - Fire Department Apparatus****COURSE DESCRIPTION:**

FSC 138. Fire Department Apparatus (3). Responsibilities and skills required of fire department pumping apparatus drivers/operators. Includes operation of pumping apparatus at simulated fire and hazardous materials incidents. Preparation for the competencies of NFPA 1002, Standard on Fire Apparatus Driver/Operator Professional Qualifications.  
Prerequisite: FSC 137. Two lecture. Three lab.

**COURSE CONTENT:**

1. Apparatus driver/operator basic responsibilities and requirements
2. Types of fire apparatus equipped with a pump
3. Apparatus inspection and maintenance
4. Operating emergency vehicles
5. Positioning apparatus
6. Water and fire service supply systems
7. Fire hose, nozzles, and flow rates
8. Theoretical pressure calculations
9. Fireground hydraulic calculations
10. Fire pump theory
11. Operating fire pumps
12. Static water supply sources
13. Relay pumping operations
14. Water shuttle operations
15. Foam equipment and systems
16. Apparatus testing

**LEARNING OUTCOMES:**

1. Perform safety inspection on fire department pumper. (1, 3)
2. Identify elements of fire department pumper. (2, 10)
3. Operate emergency vehicles adhering to state and local laws. (4)
4. Identify safety guidelines pursuant to the operation of fire department apparatus. (5, 16)
5. Determine the characteristics and limitations of fire department apparatus, pumps, and water supplies. (6, 11, 12, 14, 15)
6. Operate various types of fire service pumps and explain their operation. (8-10)
7. Analyze and identify different fire department equipment. (6, 7)
8. Ascertain fire department equipment problems and make immediate corrective actions to resolve issues. (11)
9. Safely operate fire department apparatus. (4, 11-13)
10. Apply the proper course of action to various emergency and non-emergency incidents. (1, 4, 11)

**REQUIRED ASSESSMENT:**

1. Pre- and Post-test
- 3.000 Credit hours
- 2.000 Lecture hours
- 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Fire Science Department

**FSC 150 - Uniform Fire Code****COURSE DESCRIPTION:**

FSC 150. Uniform Fire Code (3). Essentials and principles of the Uniform Fire Code as published by the International Fire Code Institute. Prerequisite: FSC 100 or FSC 105 or FSC 115  
. Three lecture.

**COURSE CONTENT:**

1. The Uniform Fire Code
2. Permits
3. Definitions and abbreviations
4. General provisions for fire safety
5. Special occupancy uses
6. Special processes
7. Special equipment
8. Special subjects
9. Standards
10. Appendices to the Fire Code
11. Related Codes to the Uniform Fire Code
12. Nationally recognized standards
13. Administration of the Uniform Fire Code

**LEARNING OUTCOMES:**

1. Explain the sections and components of the Code.
2. Explain the difference between the body of the Code and the appendix sections.
3. Describe the permits required by the Code.
4. Apply code sections and components to safety provisions and enforcement.
5. Compare and contrast the characteristics of the various uniform codes and nationally recognized fire code standards.
6. Explain the administration of the Uniform Fire Code, Code supplements and the Code review process.
7. Use the definitions and abbreviations in the Uniform Fire Code.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Directed Study, Lecture

Career & Technical Education Division  
 Fire Science Department

### **FSC 155 - Basic Wildland Firefighting**

**COURSE DESCRIPTION:**

FSC 155. Basic Wildland Firefighting (3). Introduction to wildland fire prevention, including fire behavior, suppression methods, equipment considerations, safety, and incident command. (S-130/190, I-100, L-180). Three lecture.

**COURSE CONTENT:**

1. Fire behavior factors
2. Fire suppression methods
3. Weather
  - a. Wind
  - b. Humidity
4. Preparedness
  - a. Approach
  - b. Departure
5. Firefighter preparedness
  - a. Method of response
  - b. Response time
6. Tools and equipment
7. Firing devices
  - a. Counter fires
  - b. Back fires
8. Water and chemicals
  - a. Ground application
  - b. Airborne application
9. Topography
9. Suppression
  - a. Manpower allocation
  - b. Reserves
10. Securing control line--communication
11. Maps
12. Scouting, patrolling
13. Safety
  - a. First aid
  - b. Aircraft
  - c. Ten standard firefighting orders
  - d. Situations to shout watchout
  - e. L.C.E.S.
14. Investigation
15. Standards for survival--protective equipment
16. Fire shelter use
  - a. Reserve housing
  - b. Food and supplies
17. Line construction--mop up
  - a. Principles
  - b. Black line
  - c. Fireline safety
18. Incident command system

**LEARNING OUTCOMES:**

1. Identify and prepare for wildland fire prevention. (1-16)
2. Define differences in logistical approaches to wildland and wildfire suppression. (6-13,17)
3. Estimate the potential environmental impact of wildland fires. (14,18)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Career & Technical Education Division  
 Fire Science Department

### **FSC 205 - Intermediate Fire Academy**

**COURSE DESCRIPTION:**

FSC 205. Intermediate Fire Academy (3). Roles and functions of the entry-level firefighter. Emphasis on self-contained breathing apparatus (SCBA) proficiency and other ground operations. Prerequisite: FSC 105. Two lecture. Three lab.

**COURSE CONTENT:**

1. Roles and responsibilities in the fire service
2. Equipment
3. Ladders
4. Salvage and overhaul
5. Hoses and appliances

**LEARNING OUTCOMES:**

1. Describe the roles and responsibilities of the entry-level firefighter. (1)
2. Describe and explain the components of a fire company. (1)
3. Use self-contained breathing apparatus (SCBA) equipment, extrication tools, and other essential firefighting equipment. (2)
4. Describe, handle and use the types of ladders utilized in firefighting. (3)

5. Conduct basic salvage and overhaul functions. (4)
6. Handle and advance a charged hose line. (5)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Fire Science Department

### FSC 210 - Advanced Fire Behavior and Combustion

**COURSE DESCRIPTION:**

FSC 210. Advanced Fire Behavior and Combustion (3). Advanced theories of how and why fires start, spread, and how they are controlled. Prerequisite: MAT 100 or higher or satisfactory score on mathematics skills assessment. Three lecture.

**COURSE CONTENT:**

1. Math and chemistry review
2. Properties of matter and physics
3. Gaseous combustion
4. Ignitable liquids
5. Solid combustion
6. Heat release rate
7. Heat transfer
8. Ignition
9. Enclosure fire dynamics
10. Fire modeling
11. Extinguishment

**LEARNING OUTCOMES:**

1. Identify physical properties of the three states of matter. (2, 4-6)
2. Categorize the components of fire. (4-6)
3. Define the physical and chemical properties of fire, the process of burning and dynamics of combustion. (1-3)
4. Describe the process of burning. (7-9)
5. Define and use basic terms and concepts associated with the chemistry and dynamics of fire. (1, 2)
6. Describe the dynamics of fire. (7,8,10)
7. Discuss various materials and their relationship to fires as fuel. (9-11)
8. Explain the characteristics of water as a fire suppression agent. (3, 11)
9. Articulate what suppression agents are, their use and strategies. (11)
10. Compare methods and techniques of fire extinguishments. (11)

**REQUIRED ASSESSMENT:**

1. Pre- and Post-test
- 3.000 Credit hours
- 3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Fire Science Department

**Course Attributes:**

Scientific (SL)

### FSC 220 - Advanced Fire Academy

**COURSE DESCRIPTION:**

FSC 220. Advanced Fire Academy (8). Fire fighting skill sets including live fire training, flashover recognition, apparatus and driver training, water tender and rehabilitation operations. Prerequisite: FSC 205. Six lecture. Six lab.

**COURSE CONTENT:**

1. Fire behavior
2. Apparatus
3. Water supply
4. Ventilation
5. First Aid
6. Hazardous materials
7. Ropes

**LEARNING OUTCOMES:**

1. Describe and classify fire and apply fire ground safety procedures. (1,2,6)
2. Explain and apply fire control techniques. (1,3)
3. Apply the use of apparatus in response to emergency situations. (2)
4. Describe types and sources of water supply. (3)
5. Employ water testing techniques. (3)
6. Define and utilize ventilation techniques. (4)
7. Explain first aid responsibilities and use practical application, stabilization and extrication. (5-7)
8. Respond to safety hazards at an emergency scene. (6)
9. Inspect, care for, and work with ropes and knots used in rescue operations. (7)

8.000 Credit hours  
6.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Fire Science Department

**FSC 225 - Legal Aspects of Emergency Services****COURSE DESCRIPTION:**

FSC 225. Legal Aspects of Emergency Services (4). Federal, state, and local laws that regulate, and national standards that influence, emergency services. Includes standard care, tort, liability and consensus standards as they pertain to emergency services. Four lecture.

**COURSE CONTENT:**

1. Legal system of the United States: foundations and Constitution
2. Civil vs. criminal - differences, lawsuits, punishments and burden of proof
3. Tort liability
4. Negligence
5. Judicial systems: U.S. Supreme Court, special courts, local courts and their penalties
6. Federal laws and the fire service including the Fair Labor Standards Act, American Disabilities Act, age discrimination, civil rights and sexual harassment
7. Employee relations, standards for physical testing, residency, grooming, promotions, psychological examinations and polygraphs
8. Fire prevention and fire codes, Fourth Amendment, certifications, building code vs. fire code
9. Mutual aid
10. Hazardous materials
11. Volunteers/contracts, At-will doctrine
12. Arson

**LEARNING OUTCOMES:**

1. Define different types of laws, their basic differences, and how they function in society. (1-3, 5, 8)
2. Articulate federal, state and local laws which regulate and influence the emergency services. (2-5, 8-12)
3. Explain the purpose and roles of national codes and standards concerning their legal influence. (6-8)
4. Interpret legal decisions that have, or will, affect emergency services. (2-6, 9)
5. Outline the organizational and legal structure of the emergency services. (1, 5, 8)
6. Define liabilities of emergency service workers. (3-9, 11)
7. Discuss negligence in an emergency setting. (2, 4, 6, 12)
8. Differentiate forms of discrimination and identify areas of potential discrimination in the emergency services. (2, 5, 6)
9. Identify and discuss the legalities of entrance requirements, residency, grooming and testing. (2, 6, 7, 11)
10. Explain the scope of the Civil Rights Act. (1, 2, 6, 8)
11. List the parameters and explain the basic intent of the American Disabilities Act, Fair Labor Standards Act, and Family Medical Leave Act. (6)
12. Articulate the At-will doctrine. (11)
13. Specify the purpose of labor and employment laws. (5-7, 11)
14. Identify and analyze the major cause of firefighter deaths in the line of duty related to health, fitness, wellness and vehicle operations. (2-7)

**REQUIRED ASSESSMENT:**

1. Pre- and Post-test
- 4.000 Credit hours  
4.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division

Fire Science Department

**Course Attributes:**

Diversity (DA), Written Comm (WC)

**FSC 234 - Fire Investigation****COURSE DESCRIPTION:**

FSC 234. Fire Investigation (3). Fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the fire setter, and types of fire causes. Three lecture.

**COURSE CONTENT:**

1. Responsibilities of the Firefighter, Fire Officer, and Fire Department
2. Observations approaching, on arrival at scene, during operations
3. Identification of incendiary devices
4. Criminal law/constitutional amendments
5. Case studies
6. Terminology
7. Fire dynamics
8. Building construction
9. Fire protection systems
10. Basic principles of electricity
11. Health and safety
12. Fire scene investigations
13. Determining point of origin
14. Fire Causes
15. Vehicle fires
16. Fire setters

**LEARNING OUTCOMES:**

1. Identify the responsibilities of fire personnel when responding to the scene of a fire, including scene security and evidence preservation. (1-3)
2. Describe the implications of constitutional amendments as they apply to fire investigations. (4).
3. Identify key case law decisions that have affected fire investigations. (5)
4. Define the common terms used in fire investigations. (6)
5. Explain the basic elements of fire dynamics and how they affect cause determination. (7)
6. Describe how fire progression is affected by fire protection systems and a building's design and construction. (7-9,14)
7. Discuss the basic principles of electricity as an ignition source. (10,11)
8. List potential health and safety hazards. (11)
9. Describe the process of conducting investigations using the scientific method. (12, 13)
10. Identify cause and origin and differentiate between accidental and incendiary. (3,13,14,16)
11. Explain the procedures used for investigating vehicle fires. (15)
12. Identify the characteristics of an incendiary fire and common motives of the fire setter. (3,14,16)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Fire Science Department

### FSC 235 - Fire Protection Systems

**COURSE DESCRIPTION:**

FSC 235. Fire Protection Systems (3). Design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection and portable fire extinguishers. Three lecture.

**COURSE CONTENT:**

1. Automatic sprinkler systems
2. Special extinguishing systems
3. Stand pipe and fire extinguisher systems
4. Fire detection and alarm systems

**LEARNING OUTCOMES:**

1. Explain the benefits of fire protection systems in various types of structures. (1,4)
2. Describe the basic elements of a public water supply system including sources, distribution networks, piping and hydrants. (1,4)
3. Explain why water is a commonly used extinguishing agent. (1,3)
4. Identify types and components of sprinkler, standpipe and foam systems. (1-3)
5. Discuss residential and commercial sprinkler legislation. (1,3,4)
6. Identify types of non-water based fire suppression systems. (2)
7. Explain the basic components of a fire alarm system. (4)
8. Identify types of detectors and explain how they detect fire. (4)
9. Describe the hazards of smoke and list the four factors that can influence smoke movement in a building. (3,4)
10. Discuss the appropriate application of fire protection systems. (1-4)
11. Explain the operation and application of portable fire protection systems. (2,3)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Fire Science Department

### FSC 236 - Occupational Safety and Health for Emergency Services

**COURSE DESCRIPTION:**

>FSC 236. Occupational Safety and Health for Emergency Services (3). Basic concepts of occupational health and safety as it relates to emergency service organizations. Includes risk and hazard evaluation and control procedures for emergency service organizations. Three lecture.

**COURSE CONTENT:**

1. History of occupational safety and health in industry and in emergency service organizations
2. Identification of safety problems
3. Review of national injury statistics
4. National, state, and private organizations
5. Regulations versus standards
6. Safety-related regulations and standards
7. Risk management
8. Safety program development and management
9. Employee fitness/wellness programs
10. Pre- and post-incident safety and management
11. Safety at fire emergencies, EMS emergencies, and specialized incidents
12. Personal roles

**LEARNING OUTCOMES:**

1. Discuss the history of occupational health and safety. (1)
2. Identify occupational health and safety programs for industry and emergency services today. (1,3,4,8)
3. Compare and contrast standards and regulations. (5,6)
4. List and describe the components of risk identification, risk evaluation, and incident management. (7,10,11)
5. Describe the relevance for safety in the work place including Personal Protective Equipment (PPE). (2,3,7,8,12)
6. Apply the knowledge of an effective safety plan to pre-incident planning, response, and training activities. (8,10,11)
7. Explain the components of an accountability system in emergency service operations. (11,12)
8. Discuss the need, and process, for post-incident analysis. (10)
9. Describe the components and value of critical incident management programs. (8-10,12)
10. Describe the responsibilities of individual responders, supervisors, safety officers, and managers as they relate to health and safety programs. (12)
11. List the components of a wellness/fitness plan. (9)
12. Identify and analyze the major causes involved in line-of-duty firefighter deaths related to health, wellness, fitness and vehicle operations. (2,3,7,8,12)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Fire Science Department

### FSC 238 - Strategy and Tactics

**COURSE DESCRIPTION:**

FSC 238. Strategy and Tactics (3). Principles of fire ground control through utilization of personnel, equipment, and extinguishing agents. Three lecture.

**COURSE CONTENT:**

1. Fire chemistry terms and concepts
2. Extinguishing equipment



3. Visual perception
4. Pre-planning
5. Size-up
6. Pre-fire planning
7. Concept/phases/methods/format
8. Occupancy classifications and building types
9. Basic divisions of tactics
10. Plan of operations
11. Rescue
12. Exposures
13. Confinement

## LEARNING OUTCOMES:

1. Discuss fire behavior as it relates to strategies and tactics. (1,3,7,9,10)
2. Explain the main components of pre-fire planning and identify steps needed for a pre-fire plan review. (4,6,8)
3. Identify the basics of building construction and how they interrelate to pre-fire planning and strategy and tactics. (2,8-13)
4. Describe the steps taken during size-up. (3-5,10)
5. Examine the significance of fire ground communications. (9-11)
6. Identify the roles of the National Incident Management Systems (NIMS) and Incident Management System (ICS) as they relate to strategy and tactics. (2,5,10,11)
7. Discuss the various roles and responsibilities in ICS/NIMS. (9,10)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Career & Technical Education Division  
 Fire Science Department

Course Attributes:  
 Critical Thinking (CT)

**FSC 239 - Fire Department Company Officer**

## COURSE DESCRIPTION:

FSC 239. Fire Department Company Officer (3). Supervisory methods for the fire service in fire safety, fire department organization and personnel supervision. Elements of management for the first-level Company Officer Supervisor. Includes principles of organization, communication, leadership and emergency incident management. Three lecture.

## COURSE CONTENT:

1. Organizational structure
2. Communications
3. The company as a group
4. Leadership as a group influence
5. Elements of management
6. Company motivation
7. Career counseling
8. Problem solving
9. Pre-incident surveys
10. Fireground management
11. Incident command and communications
12. Firefighter safety and health
13. Company officer liability

## LEARNING OUTCOMES:

1. Describe a typical fire department's organizational structure.
2. Describe the functions and processes of the internal communications system.
3. Apply leadership and management strategies for effective individual and group performance.
4. Apply motivational strategies to individual and group performance.
5. Perform pre-incident surveys
6. Develop a plan for firefighter safety during regular job duties and emergencies.
7. Identify potential liability issues of the company officer and a plan to prevent occurrences.
8. Perform as the emergency scene commander.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Career & Technical Education Division  
 Fire Science Department

Course Attributes:  
 Digital Lit (DL)

**FSC 240 - Principles of Fire and Emergency Service Administration**

## COURSE DESCRIPTION:

FSC 240. Principles of Fire and Emergency Service Administration (3). Organization and management of a fire and emergency services department and the relationship of government agencies to the fire service. Emphasis is placed on fire and emergency service, ethics, and leadership from the perspective of the company officer. Three lecture.

## COURSE CONTENT:

1. Duties
2. National standards
3. Career opportunities, education and training
4. Span of control, delegation and division of labor
5. Unity of command/chain of command
6. Organizational structure and communication
7. Evaluation and appraisal of employees, rewards and motivation
8. Progressive system of discipline and grievance procedures

9. Theories and history of management and supervision
10. Managing resources for emergency and non-emergency
11. Management roles, responsibilities, styles, traits and effectiveness
12. Labor
13. Emergency management system
14. Records management

## LEARNING OUTCOMES:

1. Identify career development opportunities and strategies for success. (3)
2. Utilize communication skills, both written and verbal. (6)
3. Identify and explain the concepts of span of control, effective delegation, and division of labor. (1,2,4-6)
4. Select and implement the appropriate disciplinary action based upon an employee's conduct. (7,8)
5. Explain the history of management and supervision methods and procedures. (9,11)
6. Discuss the various levels of leadership, roles, and responsibilities of an organization. (1,10,11,14)
7. Describe the traits of effective versus ineffective management styles. (9-11)
8. Identify the importance of ethics as it relates to fire and emergency services. (12,14)
9. Identify the roles of the National Incident Management System (NIMS) and Incident Management System (IMS). (13)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
 Fire Science Department

## Course Attributes:

Oral Communication (OC)

**FSC 241 - Building Construction for Fire Protection**

## COURSE DESCRIPTION:

FSC 241. Building Construction for Fire Protection (3). Components of building construction related to firefighter and life safety. Emphasis on the construction and design of structures as key factors when inspecting buildings, pre-planning fire operations, and operating at emergencies. Three lecture.

## COURSE CONTENT:

1. The fire problem
2. Principles of construction
3. Wood construction
4. Typical building design and construction
5. Principles of fire resistance
6. Steel construction
7. Concrete construction
8. Flame spread
9. Smoke and fire containment
10. High rise construction

## LEARNING OUTCOMES:

1. Describe building construction as it relates to firefighter safety, building codes, fire prevention, code inspection, firefighting strategy, and tactics. (1)
2. Classify major types of building construction in accordance with a local/model building code. (2)
3. Analyze hazards and tactical considerations associated with various types of building construction. (2-4,6,7,10)
4. Explain loads and stresses placed on a building and their interrelationships. (2,5,8)
5. Identify the function of principle structural components in typical building design. (1,2,5,8,9)
6. Differentiate between fire resistance and flame spread, and describe the testing procedures used to establish ratings for each. (1,2,5,8,9)
7. Classify occupancy designations of the building code. (1,5,8,9)
8. Identify indicators of potential structural failure as they relate to firefighter safety. (1,2,5,8,9)
9. Identify the role of GIS as it relates to building construction. (2,5)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
 Fire Science Department

## Course Attributes:

Info Literacy (IL)

**FSC 296 - Internship: Fire Science**

## COURSE DESCRIPTION:

FSC 296. Internship: Fire Science (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

## COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

## LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.

3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Career & Technical Education Division  
Fire Science Department

### **FSC 299 - Independent Study Fire Science**

**COURSE DESCRIPTION:**

FSC 299. Independent Study Fire Science (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required. One to Six lecture.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours


**Levels:** Credit

**Schedule Types:** Independent Study

Career & Technical Education Division  
Fire Science Department

### **GEO 101 - World Geography West**

**COURSE DESCRIPTION:**

GEO 101. World Geography West (3) (Spring).  **GEO 1121.** A geographical exploration of the people, places, and landscapes of North America, South America, Europe and Russia. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Geographic traditions, terminology and methodology
2. Regional presentation of important human and physical locations
3. Major geographic qualities, characteristics and unifying elements of each region
4. Regional physiography and human adaptation to it
5. Regional economic, political, settlement, cultural, human and historical geographic distributions and qualities
6. Unique and/or significant regional issues or events
7. Significant characteristics, qualities and issues for individual countries or subregions
8. Current issues/events of global concern or impact

**LEARNING OUTCOMES:**

1. Describe the traditions of geography. (1) (SS 1)
2. Cite the basic concepts in geographical study and analysis. (1,2) (SS 1)
3. Identify and discuss basic cultural differences within geographic regions and between regions. (3-5) (SS 4)
4. Relate the physical geography of each region and its influences to human geography. (2-4) (SS 2)
5. Locate and evaluate geographical information from a variety of sources. (6-8) (SS 3)
6. Integrate historical information with spatial distribution information of human phenomena. (5) (SS 5)
7. Apply spatial analysis skills to regional geographic distributions. (1,4) (SS 2)
8. Use locational analysis to explain natural and human geographical phenomena. (2,7) (SS 2)
9. Critically analyze issues and synthesize information related to current regional trends. (6-8) (SS 3)
10. Identify significant physical and cultural geographical locations. (2-6)
11. Explain a personal connection to the global/international community in contemporary society. (8) (SS 5)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours

3.000 Lecture hours  
0.000 Lab hours


**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**  
Diversity (DA), Global/Internal or Historical, Social Science (AGEC)

### **GEO 102 - World Geography East**

#### **COURSE DESCRIPTION:**

GEO 102. World Geography East (3) (Fall).  **GEO 1121.** A geographical exploration of the people, places, and landscapes of Africa, Asia and Australia/Pacific Islands. Prerequisite: Reading Proficiency. Three lecture.

#### **COURSE CONTENT:**

1. Geographic traditions, terminology and methodology
2. Regional presentation of important human and physical locations
3. Major geographic qualities, characteristics and unifying elements of each region
4. Regional physiography and human adaptation to it
5. Regional economic, political, settlement, cultural, human and historical geographic distributions and qualities
6. Unique and/or significant regional issues or events
7. Significant characteristics, qualities and issues for individual countries or subregions
8. Current issues/events of global concern or impact

#### **LEARNING OUTCOMES:**

1. Describe the traditions of geography. (1) (SS 1)
2. Cite the basic concepts in geographical study and analysis. (1,2) (SS 1)
3. Identify and discuss basic cultural differences within geographic regions and between regions. (3-5) (SS 4)
4. Relate the physical geography of each region and its influences to human geography. (2-4) (SS 2)
5. Locate and evaluate geographical information from a variety of sources. (6-8) (SS 3)
6. Integrate historical information with spatial distribution information of human phenomena. (5) (SS 5)
7. Apply spatial analysis skills to regional geographic distributions. (1,4) (SS 2)
8. Use locational analysis to explain natural and human geographical phenomena. (2,7) (SS 2)
9. Critically analyze issues and synthesize information related to current regional trends. (6-8) (SS 3)
10. Identify significant physical and cultural geographical locations. (2-6) (SS 2)
11. Explain a personal connection to the global/international community in contemporary society. (8) (SS 5)

#### **REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**  
Diversity (DA), Global/Internal or Historical, Social Science (AGEC)

### **GEO 103 - Introduction to Physical Geography**

#### **COURSE DESCRIPTION:**

GEO 103. Introduction to Physical Geography (4). A geographic introduction to the physical processes and landforms of the earth. Prerequisite: Reading Proficiency. Three lecture. Three lab.

#### **COURSE CONTENT:**

1. Physical geography tools and terminology
2. Earth's origins and energy systems
3. Atmospheric systems and weather
4. Climates and biomes
5. Earth history and geomorphology of landforms
6. Plate tectonics, earthquakes and volcanism
7. Fluvial, marine, glacial and Aeolian landform processes
8. Human-environment interactions and environmental change

#### **LEARNING OUTCOMES:**

1. Employ tools of a geographer to test physical geography concepts. (1-8) (PBS 1)
2. Diagram earth's energy and atmospheric systems, and summarize ocean-atmosphere interactions. (2,3)
3. Relate atmospheric processes, temperature patterns and moisture to weather and atmospheric disturbances. (2-4)
4. Classify climate zones and biomes and discuss climate anomalies. (4,8)
5. Use scientific theories to investigate earth's history, structure and surface landforms. (5-7) (PBS 2)
6. Describe the impact of fluvial, Aeolian, marine and glacial processes on landforms. (5,7)
7. Synthesize geographic theories and recent research on human-environment interactions. (1,3,4,6,8) (PBS 3)

#### **REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

[All Sections for this Course](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**  
Physical & Biol Science (AGEC), Scientific (SL)

### **GEO 105 - Introduction to Cultural Geography**

**COURSE DESCRIPTION:**

GEO 105. Introduction to Cultural Geography (3). A geographical exploration of the human landscape, examining aspects of culture such as language, religion, political organization and economics. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Geographic principles
2. Population
3. Migration
4. Folk and Popular culture
5. Language
6. Religion
7. Ethnicity
8. Political geography
9. Development
10. Agriculture
11. Industry
12. Services
13. Urban patterns
14. Resource issues

**LEARNING OUTCOMES:**

1. Outline the principle concepts of geographic study. (1) (SS 1)
2. Describe basic cultural differences among selected societies. (4-7) (SS 5)
3. Relate physical geography to cultural characteristics of regions.(2-6) (SS 1)
4. Integrate historical information with spatial distribution information of cultural phenomena. (2,3,8) (SS 2)
5. Identify and explain the spatial distribution of cultural phenomena.(3-8) (SS 3)
6. Locate and evaluate information from a variety of sources.(1) (SS 1)
7. Explain a personal connection to the global/international community in contemporary society. (8) (SS 1)
8. Critically analyze information related to current regional and global cultural issues. (1,8) (SS 3)
9. Organize information from multiple sources into a unified presentation.(1) (SS 2)
10. Describe relationships between distributions of different cultural phenomena.(9) (SS 4)
11. Discuss key elements and concepts relating to selected cultural topics.(1) (SS 1)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**  
Diversity (DA), Ethnic, Race & Gender, Global/Internl or Historical, Social Science (AGEC)

### **GEO 210 - Society and Environment**

**COURSE DESCRIPTION:**

GEO 210. Society and Environment (3). Interaction among social processes, key environmental issues, and nature's role as a resource at global and regional scales. Application of critical thinking skills to analyze environment-human interactions. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Physical environment, ecosystems, resource use, pollution & climate fluctuations
2. Causes and consequences of the population explosion & world hunger including the role of farming & sustainability
3. History of the environmental movement and modern environmentalism
4. Fundamentals of critical thinking as a skill and a process as it pertains to environmental and social issues
5. Critical thinking skills and reasoned arguments

**LEARNING OUTCOMES:**

1. Describe the concept of natural resources, their origin and their geographic patterns. (1,2)
2. Describe and use elements and aspects of the critical thinking process, including the examination of complex and conflicting ideas about the environment. (1-5) (CT 1)
3. Relate the causes and consequences of habitat degradation and pollution including modern and historical human activities. (1-5) (CT 3)
4. Describe and model the essential steps and concepts of critical thinking while evaluating environmental data and data sources, including socio-economic and temporal constraints, biases, implications and consequences. (1-5) (CT 2,4)
5. Analyze rehabilitation and mediation measures including environmentalism, recycling, composting and ecotourism. (2-5)
6. Explain sustainability and predict the impact of pollution and exploitation of resources on modern lifestyles and future populations. (2-5)
7. Apply critical thinking skills when assessing technical, social and individual issues in environment-society interactions. (2-5) (CT 3)
8. Explain how open-mindedness to new ideas is crucial to the development of critical thinking skills and that closure is not always achieved in intellectual discourse. (4-5)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**  
Critical Thinking (AGEC), Critical Thinking (CT)

**GEO 212 - Introduction to Meteorology****COURSE DESCRIPTION:**

GEO 212. Introduction to Meteorology (4). Physical and chemical conditions that regulate global weather phenomena. Includes structure of the atmosphere, temperature, humidity, air pressure and winds, the development of weather systems, tornadoes and hurricanes, and the parameters that affect local and global climate. Laboratory includes image interpretation, field observation and prediction. Three lecture. Three lab.

**COURSE CONTENT:**

1. Origin of the atmosphere, earth/sun relations and energy systems including the greenhouse effect
2. Atmospheric pressure, air pollution and local and regional wind patterns
3. Hydrologic cycle including humidity and stability of air masses and air-sea interactions
4. Clouds, precipitation, frontal systems and severe weather
5. Tropical and midlatitude systems including wave cyclones, tropical cyclones and tornadoes
6. Atmospheric circulation patterns & oscillations including monsoonal winds, El Nino & global circulation models
7. Global climate patterns, climate change and global warming
8. Meteorological methods and tools for weather monitoring, analysis and forecasting including remote sensing, observations and weather mapping

**LEARNING OUTCOMES:**

1. Describe the origin and structure of the earth and its atmosphere. (1, 7) (PBS 1)
2. Use scientific reasoning to explain the relationship between the earth and sun and how solar and terrestrial radiation affects temperature, air pressure and wind patterns. (1, 2, 7, 8)
3. Explain the role of heat, moisture and winds in generating clouds, precipitation and severe weather. (2-6, 8)
4. Model major atmospheric circulation systems and oscillations. (1-8)
5. Describe climatic regions and assess climate change predictions. (1-8) (PBS 3)
6. Interpret meteorological data to predict weather conditions. (1-8) (PBS 2)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, **Lecture/Lab**

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL)

**GEO 296 - Internship: Geography****COURSE DESCRIPTION:**

GEO 296. Internship: Geography (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**GEO 299 - Independent Study Geography****COURSE DESCRIPTION:**

GEO 299. Independent Study Geography (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours

0.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**GLG 100 - Concepts in Basic Geology****COURSE DESCRIPTION:**

GLG 100. Concepts in Basic Geology (2). Fundamental principles of geology, including rocks and minerals, internal and external earth processes and plate tectonics. Prerequisite: Reading Proficiency. Two lecture.

**COURSE CONTENT:**

1. Physical properties of minerals.
2. Mineral keys and identification of common minerals.
3. The rock cycle.
4. Igneous rocks and igneous processes.
5. Weathering.
6. Sedimentary rocks and sedimentary processes.
7. Metamorphic rocks and metamorphic processes.
8. Plate tectonics;
  - a. development of theory;
  - b. plate boundaries;
  - c. implications for local/regional landscape development
  - d. critical analysis of this theory in its historical context
9. Seismicity.
10. Geologic structures and their development: folds and faults.
11. Geologic time, including fundamental principles of historical geology.
12. Maps: topographic and geologic.
13. Critical analysis, synthesis, and expression of geologic data in a precise manner.

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-13) (PBS 1)
  - a. Identify rocks and minerals and rock-forming processes.
  - b. Describe fundamental geologic principles
  - c. Define common geologic terms.
2. Identify the unifying themes of the scientific field of study. (4-10) (PBS 1)
  - a. Describe the theory of plate tectonics, its historical development, and plate boundary interactions and their consequences. (PBS 3)
  - b. Predict outcomes of tectonic interactions.
3. Interpret the numerical and/or graphical presentation of scientific data (1-11) (PBS 2)
  - a. Draw conclusions from geologic data presented on graphs or charts regarding minerals, rocks, plate tectonics, seismicity, geologic time and geologic structures. (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research (1, 4, 6, 7,12)
  - a. Perform laboratory skills to identify the physical properties of minerals and rocks.
  - b. Use a rock/mineral key.
  - c. Use topographic and geologic maps.
5. Record the results of investigation through writing (13).

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication of geologic ideas.

2.000 Credit hours

2.000 Lecture hours

0.000 Lab hours

**Levels:** Credit


**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL)

**GLG 101 - Introduction to Geology I****COURSE DESCRIPTION:**

GLG 101. Introduction to Geology I (4).  **GLG 1101.** Geologic principles emphasizing the structure and composition of the earth, internal and external earth processes and plate tectonics. Prerequisite: Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. The scientific method
2. Elemental composition of crust
3. Physical properties of minerals

4. Mineral keys and identification of common minerals
5. The rock cycle
6. Igneous rocks and igneous processes.
7. Weathering
8. Sedimentary rocks and sedimentary processes
9. Metamorphic rocks and metamorphic processes
10. Plate tectonics:
  - a. development of theory
  - b. plate boundaries
  - c. implications for local/regional landscape development
  - d. critical analysis of this theory in its historical context
11. Seismicity
12. Geologic structures and their development: folds and faults
13. Geologic time, including fundamental principles of historical geology
14. Maps: topographic and geologic
15. Critical analysis, synthesis, and expression of geologic data in a precise manner

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-13) (PBS 1)
  - a. Describe and utilize the scientific method. (PBS 1)
  - b. Identify rocks and minerals and rock-forming processes.
  - c. Describe fundamental geologic principles
  - d. Define common geologic terms.
2. Identify the unifying themes of the scientific field of study. (5-12)
  - a. Recognize plate tectonics as the unifying theory for earth science.
  - b. Describe the theory of plate tectonics, its historical development, and plate boundary interactions and their consequences. (PBS 3)
  - c. Predict outcomes of tectonic interactions.
3. Interpret the numerical and/or graphical presentation of scientific data (1-15) (PBS 2)
  - a. Identify, synthesize, interpret, and evaluate data associated with the discipline of physical geology.
  - b. Draw conclusions from geologic data presented on graphs or charts regarding earth's interior, minerals, rocks, plate tectonics, seismicity, geologic time and geologic structures. (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research (3-5 and 14)
  - a. Perform laboratory skills used to identify the physical properties of minerals and rocks.
  - b. Use a rock/mineral key.
  - c. Use topographic and geologic maps.
5. Record the results of investigation through writing (15)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
 Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL), SUN# GLG 1101

**GLG 102 - Introduction to Geology II****COURSE DESCRIPTION:**

GLG 102. Introduction to Geology II (4) (Spring). Earth's origin and history, including plate tectonics and the consequent movement and distribution of lands and seas through time; basic concepts of age-dating, stratigraphy, and the study of fossils; the geologic time scale and development of life on earth. Prerequisite: GLG 100 or GLG 101 or GLG/ENV 110. Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Sedimentary rocks
2. Stratigraphy and sedimentation
3. Plate tectonics: plate boundaries; plate motions through time; implications for regional/global landscape development through time
4. Relative and absolute dating
5. Geologic time and the development of the geologic time scale
6. Evolution
7. Fossil organisms, including identifications, classification, and basic morphology
8. Geologic eras, periods, and epochs, particularly the details of North American continental development
9. Development of life from its beginnings to the present
10. Maps: geologic, paleogeographic, lithofacies, paleotectonic, and isopach

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-3, 6, 7, 9) (PBS 1)
  - a. Recognize sedimentary rocks.
  - b. Describe the development of life forms known from rocks, through time.
  - c. Describe the effects of plate movements on the global landscape.
  - d. Identify basic fossils.
  - e. Identify life forms through time.
2. Identify the unifying themes of the scientific field of study. (2-4, 6)
  - a. Describe and utilize the principles of stratigraphy and sedimentation.
  - b. Describe plate tectonics as the unifying theory for earth science.
  - c. Identify and describe the principles of relative and absolute age-dating methods.
  - d. Use scientific reasoning to evaluate and explain the major evidence for evolution and some of its potential consequences. (PBS 3)
3. Interpret the numerical and/or graphical presentation of scientific data (3-8) (PBS 2)
  - a. Identify, synthesize, interpret, and evaluate data associated with the discipline of historical geology. (PBS 2)
  - b. Draw conclusions from geologic data presented on graphs or charts regarding sedimentary rocks, stratigraphy, plate tectonics, age dating, geologic time, evolution and fossils. (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research (7, 10)
  - a. Use maps: geologic, paleogeographic, lithofacies, paleotectonic, and isopach.
  - b. Identify basic fossils
5. Record the results of investigation through writing (1-10)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours



**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL)

### GLG 104 - Cave Geology

**COURSE DESCRIPTION:**

GLG 104. Cave Geology (2). Groundwater, karst, and cavern development. Field trip(s). Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

**COURSE CONTENT:**

1. The hydrologic cycle
2. Principles of groundwater and hydrology
3. Karst processes/landforms and pseudokarst
4. Speleothems
5. Rock and minerals associated with caves
6. Lava caves and volcanic pseudokarst
7. Speleogenesis, with special emphasis on the Basin and Range and Colorado Plateau physiographic provinces
8. Topographic and geologic maps
9. Critical analysis, synthesis, and expression of speleologic data in a precise manner

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-9) (PBS 1,3)
2. Identify the unifying themes of the scientific field of study. (1-6)
  - a. Describe the hydrologic cycle.
  - b. Explain groundwater and basic hydrologic principles.
  - c. Identify karst-forming processes pertinent to this area.
  - d. Identify speleothems and describe their formation.
  - e. Identify rocks and minerals associated with caves.
  - f. Describe volcanic processes required to form caves and pseudokarst.
3. Interpret the numerical and/or graphical presentation of scientific data. (1,2,5) (PBS 2)
4. Draw conclusions from geologic data presented on graphs or charts regarding minerals, rocks, and hydrologic data pertinent to cave formation.
4. Use the tools and equipment necessary for basic scientific analysis and research. (8)
5. Record the results of investigation through writing. (7,9)
  - a. Analyze and synthesize speleologic data.

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication of speleological ideas.

2.000 Credit hours

1.000 Lecture hours

3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC)

### GLG 105 - Geology of Canyon Lands

**COURSE DESCRIPTION:**

GLG 105. Geology of Canyon Lands (2). Geologic investigation of the slick rock canyon country of northern Arizona and southern Utah, with emphasis on stratigraphic relationships and depositional environments. Field trip. Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

**COURSE CONTENT:**

1. Geography of slick-rock canyon country
2. Generalizations about Colorado Plateau geology
3. Pertinent sedimentary, igneous and metamorphic processes
4. Sedimentary depositional environments and their change through time
5. Fundamental stratigraphic principles
6. Tectonic and structural processes of the Colorado Plateau
7. Recent erosional/climatic history
8. Topographic and geologic maps
9. Critical analysis and synthesis of published geologic interpretations of these areas.

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-9) (PBS 1,2)
2. Identify the unifying themes of the scientific field of study. (1-7) (PBS 2)
  - a. Describe the geography of slick-rock canyon country
  - b. Generalize about Colorado Plateau geology
  - c. Summarize pertinent sedimentary, igneous and metamorphic processes
  - d. Describe sedimentary depositional environments and their change through time
  - e. Identify fundamental stratigraphic principles
  - f. Summarize the tectonic and structural processes of the Colorado Plateau
  - g. Describe the recent erosional/climatic history
3. Interpret the numerical and/or graphical presentation of scientific data. (4) (PBS 2)
- a. Draw conclusions from geologic data presented on graphs or charts regarding sedimentary depositional environments and their change through time (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research. (8) (PBS 4)
  - a. Use topographic and geologic maps of areas of interest
5. Record the results of investigation through writing. (9) (PBS 5)
  - a. Analyze and synthesize geologic information about this area

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication regarding the geologic history of this area.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**  
Physical & Biol Science (AGEC)

### GLG 106 - Geology of Bryce and Zion

#### COURSE DESCRIPTION:

GLG 106. Geology of Bryce and Zion (2). Stratigraphy and landforms of Bryce and Zion national parks. Study of Earth's history starting where the Grand Canyon story ends. Field trip.  
Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

#### COURSE CONTENT:

1. Geography of Bryce and Zion
2. General Colorado Plateau geology
3. Pertinent sedimentary, igneous and metamorphic processes.
4. Sedimentary depositional environments and their change through time.
5. Fundamental stratigraphic principles.
6. Tectonic and structural processes of the Colorado Plateau.
7. Recent erosional/climatic history.
8. Development of drainage patterns.
9. Topographic and geologic maps.
10. Critical analysis and synthesis of published geologic interpretations of these areas.

#### LEARNING OUTCOMES:

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-10) (PBS 1,3)
2. Identify the unifying themes of the scientific field of study. (1-8) (PBS 2)
  - a. Describe the geography of Bryce and Zion national parks
  - b. Describe the basic geologic framework of the Colorado Plateau
  - c. Summarize pertinent sedimentary, igneous and metamorphic processes
  - d. Identify fundamental stratigraphic principles
  - e. Identify and describe the basic tectonic and structural processes that have affected the Colorado Plateau (PBS 3)
  - f. Describe the recent erosional/climatic history
  - g. Explain the development of drainage patterns in this area
3. Interpret the numerical and/or graphical presentation of scientific data. (4) (PBS 2,3)
  - a. Draw conclusions from geologic data presented on graphs or charts regarding sedimentary depositional environments and their change through time (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research. (9) (PBS 4)
  - a. Use topographic and geologic maps of areas of interest
5. Record the results of investigation through writing. (10) (PBS 5)
  - a. Analyze and synthesize geologic information about this area

#### REQUIRED ASSESSMENT:

1. Demonstrate precise written communication regarding the geologic history of these areas.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**  
Physical & Biol Science (AGEC)

### GLG 107 - Geology of Death Valley

#### COURSE DESCRIPTION:

GLG 107. Geology of Death Valley (2). Landform and sediments characteristic of arid regions. Geologic history and plate tectonic setting of the Death Valley area. Field trip. Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

#### COURSE CONTENT:

1. Geography of the Basin and Range physiographic province.
2. General Basin and Range geology.
3. Pertinent sedimentary, igneous and metamorphic processes.
4. Sedimentary depositional environments and their change through time.
5. Fundamental stratigraphic principles.
6. Tectonic and structural processes of the Basin and Range.
7. Tertiary extension and the formation of metamorphic core complexes.
8. Recent erosional/climatic history.
9. Topographic and geologic maps.
10. Critical analysis, synthesis, and expression of Tertiary extensional tectonics in a precise manner.

#### LEARNING OUTCOMES:

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-10) (PBS 1,3)
2. Identify the unifying themes of the scientific field of study. (1-8) (PBS 2)
  - a. Describe the geography of the Basin and Range physiographic province
  - b. Generalize about Basin and Range geology
  - c. Summarize pertinent sedimentary, igneous and metamorphic processes
  - d. Describe sedimentary depositional environments and their change through time
  - e. Identify fundamental stratigraphic principles
  - f. Summarize the tectonic and structural processes of the Basin and Range
  - g. Explain the possible causes and consequences of Tertiary extension and the formation of metamorphic core complexes (PBS 3)
  - h. Describe the recent erosional/climatic history

3. Interpret the numerical and/or graphical presentation of scientific data. (4) (PBS 2,3)
  - a. Draw conclusions from geologic data presented on graphs or charts regarding sedimentary depositional environments and their change through time (PBS 2)
4. Use the tools and equipment necessary for basic scientific analysis and research. (1) (PBS 4)
  - a. Use topographic and geologic maps of areas of interest
5. Record the results of investigation through writing. (10) (PBS 5)
  - a. Analyze and synthesize geologic information about this area

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication regarding the geologic history of this area.

2.000 Credit hours  
 1.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC)

**GLG 108 - Volcanoes and Earthquakes of Northern Arizona****COURSE DESCRIPTION:**

GLG 108. Volcanoes and Earthquakes of Northern Arizona (2). Volcanism and seismicity of northern Arizona. One or more field trips, including Sunset Crater and the San Francisco volcanic field. Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

**COURSE CONTENT:**

1. Geography of northern Arizona
2. General northern Arizona geology
3. Igneous processes, rocks, and landforms
4. Fundamental concepts of seismicity
5. Tectonic and structural processes of northern Arizona
6. Volcanic and seismic history of northern Arizona
7. Topographic and geologic maps
8. Critical analysis, synthesis, and expression of seismic and volcanic information.

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-10) (PBS 1,3)
2. Identify the unifying themes of the scientific field of study. (1-8) (PBS 2)
  - a. Describe the geography of northern Arizona
  - b. Generalize about northern Arizona geology
  - c. Summarize pertinent igneous processes and landforms
  - d. Identify fundamental stratigraphic concepts
  - e. Summarize the tectonic and structural processes of northern Arizona
  - f. Describe the volcanic and seismic history of northern Arizona
3. Interpret the numerical and/or graphical presentation of scientific data. (4) (PBS 2,3)
  - a. Draw conclusions from geologic data presented on graphs or charts regarding seismicity (PBS 2)
4. Use the tools and equipment necessary for basic scientific analysis and research. (1) (PBS 4)
  - a. Use topographic and geologic maps of areas of interest
5. Record the results of investigation through writing. (10) (PBS 5)
  - a. Analyze and synthesize geologic information about this area

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication regarding the seismic and volcanic history of northern Arizona.

2.000 Credit hours  
 1.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC)

**GLG 109 - Geology of the Prescott Region****COURSE DESCRIPTION:**

GLG 109. Geology of the Prescott Region (2). Rocks, landforms, and geologic history of region around Prescott. Field trips. Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

**COURSE CONTENT:**

1. Geography of the Transition Zone physiographic province and the Prescott area.
2. General Transition Zone geology.
3. Pertinent sedimentary, igneous and metamorphic processes.
4. Ore deposits of the Prescott area.
5. Tectonic and structural processes of the Transition Zone.
6. Relative and absolute age-dating methods.
7. Origins of Prescott region landmarks, including: Granite Mountain, Granite Dells, Thumb Butte and Glassford Hill.
8. Geologic history of the Prescott area.
9. Topographic and geologic maps.
10. Critical analysis and synthesis of published geologic interpretations.

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-10) (PBS 1,3)
  - a. Identify scientific methods used to develop geologic concepts pertinent to the Prescott area.
2. Identify the unifying themes of the scientific field of study. (1-6)

- a. Describe the geography of the Transition Zone in the Prescott area.
- b. Identify rock-forming processes pertinent to this area.
- c. Describe the basic geologic framework of the Transition Zone
- d. Explain processes of ore formation in this area.
- e. Identify and describe the basic tectonic and structural processes that have affected the Transition Zone. (PBS 3)
- f. Summarize current relative and absolute age-dating methods.
3. Interpret the numerical and/or graphical presentation of scientific data (3-6) (PBS 2)
  - a. Draw conclusions from geologic data presented on graphs or charts regarding minerals, rocks, ores, plate tectonics, geologic time and geologic structures in the Prescott area. (PBS 2)
4. Use the tools and equipment necessary for basic scientific analysis and research (9)
  - a. Use topographic and geologic maps of the Prescott area.
5. Record the results of investigation through writing. (7, 8, 10)
  - a. Discuss the origins of Prescott region landmarks, including: Granite Mountain, Granite Dells, Thumb Butte and Glassford Hill. (PBS 3)
  - b. Describe the general geologic events that created the landforms of the Prescott area.
  - c. Analyze and synthesize geologic information about the Prescott area.

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication regarding the geologic history of this area.

2.000 Credit hours

1.000 Lecture hours

3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division

Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC)

**GLG 110 - Environmental Geology****COURSE DESCRIPTION:**

GLG 110. Environmental Geology (4). Introduction to geologic studies and their application to environmental problems, causes and possible solutions. Includes geologic processes, geohazards, and geologic natural resources. This course is cross-listed with ENV 110. Prerequisite: Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. The role of population in environmental problems.
2. Basic geology, including rocks and minerals, plate tectonics, and basic surface processes
3. Earthquakes
4. Volcanism
5. Streams and flooding
6. Mass wasting and slope stability
7. Climate, as related to geology
8. Water as a resource
9. Soil
10. Mineral resources
11. Energy resources, including coal, oil, and natural gas
12. Alternative energy resources
13. Waste disposal
14. Water and air pollution

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-13) (PBS 1,3)
  - a. Use scientific methods used to explain geological and environmental concepts and theories. (PBS 1,3)
2. Identify the unifying themes of the scientific field of study. (1-13)
  - a. Recognize the role of population in environmental issues.
  - b. Identify and explain the causes and hazards of some natural geologic processes.
  - c. Describe the role of natural resources in modern culture and the problems caused by their extraction and exploitation. (PBS 3)
3. Interpret the numerical and/or graphical presentation of scientific data. (1-13) (PBS 2)
  - a. Identify, synthesize, interpret, and evaluate data associated with the discipline of environmental geology. (PBS 2)
  - b. Draw conclusions from geologic data presented on graphs or charts regarding population, earthquakes, volcanoes, streams and flooding, mass wasting, atmospheric composition, natural resources (water, soil, mineral and energy), alternative energy, waste disposal and water pollution. (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research. (2)
  - a. Perform basic laboratory skills to identify the physical properties of minerals and rocks.
  - b. Use topographic maps.
5. Record the results of investigation through writing. (1-13)

4.000 Credit hours

3.000 Lecture hours

3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division

Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL)

**GLG 112 - Geology of Northern Arizona****COURSE DESCRIPTION:**

GLG 112. Geology of Northern Arizona (2). Stratigraphy, volcanology, geomorphology, glacial, and structural geology applied to specific localities in northern Arizona. Field trip(s). Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

**COURSE CONTENT:**

1. Geography of northern Arizona and the Colorado Plateau
2. General Colorado Plateau geology/geomorphology
3. Pertinent sedimentary, igneous and metamorphic processes

4. Fundamental stratigraphic, tectonic and structural principles
5. Tectonic and structural processes of northern Arizona and the Colorado Plateau
6. Volcanism in northern Arizona
7. Glacial processes, landforms and sediments pertinent to northern Arizona
8. Topographic and geologic maps of northern Arizona
9. General geologic history of northern Arizona
10. Critical analysis and synthesis of published geologic interpretations of local areas in northern Arizona.

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-10) (PBS 1,3)
2. Identify the unifying themes of the scientific field of study. (1-7, 9) (PBS 2)
  - a. Describe the geography of northern Arizona and the Colorado Plateau
  - b. Generalize about the Colorado Plateau geology and geomorphology
  - c. Summarize pertinent sedimentary, igneous and metamorphic processes
  - d. Identify fundamental stratigraphic, tectonic and structural principles
  - e. Summarize the tectonic and structural processes of the Colorado Plateau
  - f. Describe the recent volcanic history of northern Arizona (PBS 3)
  - g. Recognize glacial landforms, sediments and the processes responsible for their information
  - h. Describe the general geologic history of this area (PBS 3)
3. Interpret the numerical and/or graphical presentation of scientific data. (5) (PBS 2,3)
  - a. Draw conclusions from geologic data presented on graphs or charts regarding tectonic and structural processes through time (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research (8) (PBS 4)
  - a. Use topographic and geologic maps of areas of interest
5. Record the results of investigation through writing (10) (PBS 5)
  - a. Analyze and synthesize geologic information about this area

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication regarding the geology of local areas in northern Arizona.

2.000 Credit hours  
 1.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC)

**GLG 113 - Geology of Grand Canyon****COURSE DESCRIPTION:**

GLG 113. Geology of Grand Canyon (2). Geology, geography, stratigraphy, structure, history, and paleontology of the Canyon. Field trip(s). Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

**COURSE CONTENT:**

1. Geography of the Grand Canyon and adjacent Colorado Plateau
2. General Colorado Plateau geology
3. Pertinent sedimentary, igneous and metamorphic processes.
4. Sedimentary depositional environments and their change through time
5. Fundamental stratigraphic principles and Grand Canyon strata
6. Tectonic and structural processes of the Colorado Plateau
7. Theories about the development of the Colorado River drainage system and the cutting of the Canyon
8. Basic Paleozoic paleontology
9. Topographic and geologic maps
10. Critical analysis of published theories of Grand Canyon formation.

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-10) (PBS 1,3)
2. Identify the unifying themes of the scientific field of study. (1-8) (PBS 2)
  - a. Describe the geography of the Grand Canyon and adjacent Colorado Plateau
  - b. Generalize about Colorado Plateau geology
  - c. Summarize pertinent sedimentary, igneous and metamorphic processes
  - d. Describe sedimentary depositional environments and their change through time
  - e. Identify fundamental stratigraphic principles and apply to Grand Canyon strata
  - f. Summarize the tectonic and structural processes of the Colorado Plateau (PBS 3)
  - g. Summarize and evaluate theories of the development of the Colorado River drainage system cutting of the Canyon (PBS 3)
  - h. Recognize basic Paleozoic fossils
3. Interpret the numerical and/or graphical presentation of scientific data. (4) (PBS 2,3)
  - a. Draw conclusions from geologic data presented on graphs or charts regarding sedimentary environments and their change through time (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research. (9) (PBS 4)
  - a. Use topographic and geologic maps of areas of interest
5. Record the results of investigation through writing. (10) (PBS 5)
  - a. Analyze and synthesize geologic information about this area

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication regarding the geologic processes at work in the Grand Canyon.

2.000 Credit hours  
 1.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC)

**GLG 114 - Evolution of the Basin and Range****COURSE DESCRIPTION:**

GLG 114. Evolution of the Basin and Range (2). Geologic history of the Basin and Range physiographic province, emphasizing the relationship between current geology/geomorphology and plate tectonics. Field trips. Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

**COURSE CONTENT:**

1. Geography of the Basin and Range physiographic province
2. General Basin and Range geology/geomorphology
3. Pertinent sedimentary, igneous and metamorphic processes
4. Fundamental stratigraphic, tectonic and structural principles
5. Implications of tectonic processes, especially with respect to:
  - a. large-scale Mesozoic thrust faults;
  - b. Tertiary extensional features, such as listric normal faults and detachment surfaces;
  - c. metamorphic core complexes;
  - d. volcanism;
  - e. hydrothermal activity and mineralization;
  - f. basin-fill sediments.
6. Topographic and geologic maps
7. General geologic history of the Basin and Range physiographic province
8. Critical analysis and synthesis of published geologic interpretations of specific features within the Basin and Range physiographic province.

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-8) (PBS 1,3)
2. Identify the unifying themes of the scientific field of study. (1-5,7) (PBS 2)
  - a. Describe the geography of the Basin and Range physiographic province
  - b. Generalize about Basin and Range geology and geomorphology
  - c. Summarize pertinent sedimentary, igneous and metamorphic processes
  - d. Identify the fundamental stratigraphic principles and tectonic and structural processes of the Basin and Range
  - e. Explain the possible causes and consequences of Tertiary extension and the formation of: large scale Mesozoic thrust faults, Tertiary extensional features, metamorphic core complexes, volcanism, hydrothermal activity and mineralization, basin-fill sediments (PBS 3)
3. Interpret the numerical and/or graphical presentation of scientific data (5) (PBS 2,3)
  - a. Draw conclusions from geologic data presented on graphs or charts regarding: large-scale Mesozoic thrust faults, Tertiary extensional features, metamorphic core complexes, volcanism, hydrothermal activity and mineralization, basin-fill sediments (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research. (6) (PBS 4)
  - a. Use topographic and geologic maps of areas of interest
5. Record the results of investigation through writing. (8) (PBS 5)
  - a. Analyze and synthesize geologic information about this area

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication regarding the geology of the Basin and Range physiographic province.

2.000 Credit hours  
 1.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC)

**GLG 115 - Implications of Plate Tectonics****COURSE DESCRIPTION:**

GLG 115. Implications of Plate Tectonics (2). Plate tectonics-oriented approach to many facets of basic geology, including seafloor spreading, continental drift, volcanism and the development of characteristic geologic structures and ore deposits. Field trips. Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

**COURSE CONTENT:**

1. Basic layers within the earth and their inferred compositions
2. Historical development of the theory of plate tectonics, including the role of continental drift and seafloor spreading
3. Theory of plate tectonics
4. Tectonic plate boundaries and their characteristic dynamics/interactions.
5. Hot spots
6. Interpretation of earthquake occurrence and volcanism using the plate model
7. Structures and ore deposits associated with tectonism
8. General geologic history of the Southwest
9. Topographic and geologic maps
10. Critical analysis and synthesis of published geologic interpretations of specific geologic features and their relationship to plate tectonics.

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-10) (PBS 1,3)
2. Identify the unifying themes of the scientific field of study. (1-8) (PBS 2)
  - a. Describe the basic layers within the earth and their inferred compositions
  - b. Describe the historical development of the theory of plate tectonics, including the role of continental drift and seafloor spreading (PBS 3)
  - c. Explain the theory of plate tectonics
  - d. Summarize the types of tectonic plate boundaries and their characteristics, dynamics/interactions
  - e. Describe hot spots
  - f. Describe structures and ore deposits associated with tectonism
  - g. Generalize about the geologic history of the Southwest (PBS 3)
3. Interpret the numerical and/or graphical presentation of scientific data. (6) (PBS 2,3)
  - a. Draw conclusions from geologic data presented on graphs or charts regarding earthquake occurrence and volcanism, using the plate model (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research. (9) (PBS 4)
  - a. Use topographic and geologic maps of areas of interest
5. Record the results of investigation through writing. (10) (PBS 5)
  - a. Analyze and synthesize geologic information about this area

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication regarding the implications of plate tectonics in the Southwest.

2.000 Credit hours

1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC)

### GLG 116 - Geology of the Verde Valley

**COURSE DESCRIPTION:**

GLG 116. Geology of the Verde Valley (2). Rocks, landforms and geologic history of the region immediately surrounding and including the Verde Valley. Field trip(s). Prerequisite: GLG 100 or GLG 101. Reading Proficiency. One lecture. Three lab.

**COURSE CONTENT:**

1. Geography of central Arizona and the Verde Valley
2. General central Arizona/Transition Zone geology
3. Pertinent sedimentary, igneous and metamorphic processes
4. Fundamental stratigraphic principles
5. Sedimentary depositional environments and their characteristic sediments
6. Tertiary basin fill sediments: clastics and evaporates
7. Tectonic and structural processes of central Arizona and the Verde Valley
8. Tertiary volcanism in central Arizona and the Verde Valley
9. General geologic history of central Arizona and the Verde Valley
10. Origins of Verde Valley landmarks, including:
  - a. Oak Creek Canyon;
  - b. Black Mountain;
  - c. House Mountain;
  - d. Black Hills Range;
  - e. Verde salt deposits;
  - f. Peck's Lake;
  - g. Montezuma's Well.
11. Topographic and geologic maps
12. Critical analysis and synthesis of published geologic interpretations of these areas.

**LEARNING OUTCOMES:**

1. Use scientific reasoning to evaluate physical and natural phenomena. (1-12) (PBS 1,3)
2. Identify the unifying themes of the scientific field of study. (1-10) (PBS 2)
  - a. Describe the geography of central Arizona and the Verde Valley
  - b. Generalize about central Arizona/Transition Zone geology (PBS 3)
  - c. Summarize pertinent sedimentary, igneous and metamorphic processes
  - d. Identify fundamental stratigraphic principles
  - e. Describe sedimentary depositional environments and their characteristic sediments
  - f. Identify Tertiary basin fill sediments: clastics and evaporates
  - g. Describe the tectonic and structural processes of central Arizona and the Verde Valley
  - h. Describe Tertiary volcanism in central Arizona and the Verde Valley
  - ii. Generalize about geologic history of central Arizona and the Verde Valley
  - j. Explain the origins of Verde Valley landmarks including: Oak Creek Canyon; Black Mountain; House Mountain; Black Hills Range; Verde salt deposits; Peck's Lake; Montezuma's Well
3. Interpret the numerical and/or graphical presentation of scientific data. (7,8) (PBS 2,3)
  - a. Draw conclusions from geologic data presented on graphs or charts regarding tectonic and structural processes and Tertiary volcanism in central Arizona and the Verde Valley (PBS 2,3)
4. Use the tools and equipment necessary for basic scientific analysis and research. (11) (PBS 4)
  - a. Use topographic and geologic maps of areas of interest
5. Record the results of investigation through writing. (12) (PBS 5)
  - a. Analyze and synthesize geologic information about this area

**REQUIRED ASSESSMENT:**

1. Demonstrate precise written communication regarding the geology of the Verde Valley.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL)

### GLG 130 - Water in Arizona

**COURSE DESCRIPTION:**

GLG 130. Water in Arizona (2). Surface and ground water resources of Arizona. History of development, use and misuse. One lecture. Three lab.

**COURSE CONTENT:**

1. Basic hydrology of Arizona; influence of climate, topography and geology on water availability
2. Surface water supplies in Arizona
  - a. Major river basins
  - b. Major surface water projects (Salt River Project, Central Arizona Project, etc.)
  - c. Colorado River Compact
  - d. Amounts and uses of surface water
3. Ground water in Arizona
  - a. Occurrence and importance of ground water
  - b. Arizona's ground water basins
  - c. Amounts and uses of ground water in Arizona
4. Ownership and rights to use water in Arizona

5. Water quantity and quality problems, statewide and locally

**LEARNING OUTCOMES:**

1. Become aware of the existing and potential water quantity and quality problems in Arizona.
2. Become knowledgeable about the source, quality and limitations of his own drinking water.
3. Understand and evaluate media reports about Arizona water.
4. Become familiar with the federal, state and local agencies responsible for the quantity and quality of water, particularly in the Yavapai County area.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

**GLG 132 - Topics in Regional Geology**

**COURSE DESCRIPTION:**

GLG 132. Topics in Regional Geology (2). Basic geology, geography, and geologic formation of selected regions. One lecture. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Geographic introduction to the region
2. Igneous, sedimentary and metamorphic rocks
3. Local rocks and rock formations
4. Local structural geology
5. Plate tectonics
6. Geologic history

**LEARNING OUTCOMES:**

1. Describe the geography within and immediately surrounding the region of study.
2. Identify the rock types (igneous, sedimentary & metamorphic) and geologic formations present in the region of study.
3. Identify the types of geologic structures present in the region of study.
4. Place the region of study within a plate tectonic framework.
5. Describe the general geologic history of the region of study.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

**GLG 296 - Internship: Geology**

**COURSE DESCRIPTION:**

GLG 296. Internship: Geology (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship



Sciences, Health & Public Safe Division  
Physical Sciences Department

### GLG 299 - Independent Study Geology

#### COURSE DESCRIPTION:

GLG 299. Independent Study Geology (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

#### COURSE CONTENT:

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

#### LEARNING OUTCOMES:

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Sciences, Health & Public Safe Division  
Physical Sciences Department

### GRN 100 - Introduction to Social Gerontology

#### COURSE DESCRIPTION:

GRN 100. Introduction to Social Gerontology (3). Gerontology is a multi-disciplinary field of study. Emphasis on psychology, sociology, economics, ethics, health care, legal issues related to working with older adults. Three lecture.

#### COURSE CONTENT:

1. Introduction to Social Gerontology
2. Demographics of an Aging Population
3. History of Aging
4. Psychological Aspects of Aging
5. Social Aspects of Aging
6. Health and Aging
7. Economic Issues in an Aging Society
8. Cultural Images of Aging
9. Legal Issues in Aging

#### LEARNING OUTCOMES:

1. Describe the physiological, psychological and social aspects of aging.
2. Use professional vocabulary and terminology in the context of aging.
3. Explain the cultural variables that affect the status of the aged in our society.
4. Discuss the political and economic implications of an aging society.
5. Describe the variables that promote a healthy lifestyle.
6. Discuss the legal issues and public policy issues that impact an aging society.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Lifelong Learning Department

### GRN 101 - Psychology of Aging

#### COURSE DESCRIPTION:

GRN 101. Psychology of Aging (3). Study of the adult aging process. Focus on developmental psychology. Explore physiological, sociological and psychological issues affecting cognition, personality, and mental health in later years. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Theories of Adult Life
2. Behavioral Learning Theory
3. Cognition
4. Learning and Memory
5. Personality
6. Ethnicity and Culture
7. Psychological issues linked to age-related diseases
8. Legal Issues - Mental Health

#### LEARNING OUTCOMES:

1. Describe specific theoretical models associated with aging. (1) (BS 1,2)
2. Describe the psychological and social aspects of aging. (2-5) (BS 1)
3. Use professional vocabulary and terminology in the context of aging. (1-2) (BS 3,4)
4. Explain the impact of personality and social supports on the aging process (5)
5. Distinguish and describe mental health issues in later life. (7,8)

6. Describe learning theory as it applies to older adults. (4)
7. Explain the variables affecting cognition and their impact on learning. (3) (BS 2)
8. Describe various personality models that relate to older adults. (5)
9. Explain how cultural roles and expectations impact the psychology of aging. (6) (BS 3,4)
10. Discuss the legal issues related to mental health issues and aging. (8)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Lifelong Learning Department

**Course Attributes:**  
 Behavioral Science (AGEC)

#### [GRN 102 - Health and Aging](#)

**COURSE DESCRIPTION:**  
 GRN 102. Health and Aging (3). Designed for students working with older adults. Emphasis on normal changes of aging and preventative measures for maintaining optimal functioning. Focus on health problems, symptoms and treatments. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Expected health changes in older adults
2. Distinguishing between normal aging and illness
3. Common health problems in older adults
4. Systems: reproductive, cardiovascular, urinary, digestive, respiratory
5. Cognitive impairment
6. Health care ethics
7. Legal issues in health care

**LEARNING OUTCOMES:**

1. Distinguish between bodily changes due to aging and those caused by disease and destructive lifestyle. (1-5) (BS 3)
2. Identify specific disease entities and characterize the presenting signs and symptoms common to older people. (1-5) (BS 4)
3. Discuss both self-help and medical treatment modalities for selected disabilities. (1-7) (BS 1,3)
4. Discuss legal and ethical issues related to health care and older adults. (6,7) (BS 3,4)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Lifelong Learning Department

**Course Attributes:**  
 Behavioral Science (AGEC)

#### [GRN 294 - Practices in Gerontology](#)

**COURSE DESCRIPTION:**  
 GRN 294. Practices in Gerontology (3). Development of skills such as interviewing, narrative writing, the casework process, intake and assessment, intervention and termination. The values associated with practice in the helping fields will be explored. Prerequisite: GRN 100 and GRN 102. Three lecture.

**COURSE CONTENT:**

1. What happens to policy on the way to the people?
2. Communication theory
3. Interviewing techniques
4. The casework process
5. Termination
6. Group decision making
7. Crisis intervention
8. The aging network
9. Ethics and legal issues

**LEARNING OUTCOMES:**

1. Conduct client interviews; manage the casework process including intake, assessments, intervention and termination.
2. Write informed reports.
3. Summarize a common set of values within the helping profession.
4. Analyze the relationships between competing value systems when providing care to older adults.
5. Explain the dynamics of the casework process.
6. Describe how public policy impacts practice.
7. Describe the ethical and legal variables of practice.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Lifelong Learning Department

#### [GRN 295 - Practicum in Gerontology](#)

**COURSE DESCRIPTION:**

GRN 295. Practicum in Gerontology (2). Field experience to apply gerontological theory in a practice setting. Supervision by "on site" supervisor and instructor. Prerequisite: GRN 294. Six lab.

**COURSE CONTENT:**

1. Initial meeting with faculty advisor to develop a field placement plan
2. Six hour field experience per week
3. Consultation with advisor weekly for field learning, relative to placement activities
4. Literature related to field placement
5. Written log assessing weekly activities
6. Final evaluation with faculty advisor

**LEARNING OUTCOMES:**

1. Discuss the relationship between theory and practice
2. Identify the value base of the field placement
3. Provide service to older adults which includes:
  - a. Initiate relationships with clients;
  - b. Assess client needs;
  - c. Develop case management plans;
  - d. Connect case management to client needs, agency scope of practice and resources available;
  - e. Terminating care.
4. Describe the relationships formed in practice, with older adults and among agencies in the community.
5. Identify and discuss the legal and ethical components of the practice experience.

2.000 Credit hours  
0.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lab

Visual/Performing/LiberalOBS Division  
Lifelong Learning Department

**Course Attributes:**  
Civic Engagement (CE)

**GST 100 - Apprentice Gunsmithing****COURSE DESCRIPTION:**

GST 100. Apprentice Gunsmithing (10). Basic gunsmithing skills including shop and general firearms safety, machine tool skills, stockmaking, metal refinishing, shotgun design, application and function. Rifle systems and ballistics. Integration of computer applications. Prerequisite: Admission to the Gunsmithing program. Four lecture. Eighteen lab.

**COURSE CONTENT:**

1. Safety standards and liability
2. History, design, function and repair of rifle systems
3. Design, function and repair of shotguns
4. Measuring instruments, hand and power tool operation
5. Metal finishes used on firearms
6. Computer Ballistics Software Application

**LEARNING OUTCOMES:**

1. Operate firearms, machine shop and bluing equipment safely. (1)
2. Identify and repair various rifle designs. (2)
3. Maintain, repair and customize a variety of shotguns. (3)
4. Fabricate to specifications various projects using hand and power tools. (3,4)
5. Disassemble firearms, identify different metals, prepare parts, apply finishes, and reassemble firearms. (5)
6. Use Ballistics Software Application to develop ballistics data and research information. (6)

10.000 Credit hours  
4.000 Lecture hours  
18.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Gunsmithing Department

**Course Attributes:**  
Digital Lit (DL), Written Comm (WC)

**GST 150 - Journeyman Gunsmithing****COURSE DESCRIPTION:**

GST 150. Journeyman Gunsmithing (10). Intermediate study of machine tool use and firearms applications. Milling, turning, precision grinding, break action shotguns, stockmaking. Pistol and revolver design and function. Shotgun design, application and function. Prerequisite: GST 100. Four lecture. Eighteen lab.

**COURSE CONTENT:**

1. Turning, vertical milling, indexing and precision grinding
2. Modification and tuning of break action shotguns
3. Design, function and repair of pistols and revolvers
4. Stockmaking repairs and techniques
5. Orientation to trap, skeet and sporting clays

**LEARNING OUTCOMES:**

1. Operate various machine tools including the engine lathe vertical mill, precision grinder and dividing head. (1)
2. Maintain, repair and extensively modify break action shotguns. (2)
3. Maintain, repair and diagnose a variety of handguns. (3)
4. Repair, install accessories, refinish, and epoxy bed an existing wood stock. (4)
6. Identify firearms associated with trap, skeet and sporting clays. (5)

10.000 Credit hours

4.000 Lecture hours  
18.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Gunsmithing Department

**Course Attributes:**

Quantitative Lit (QL), Scientific (SL)

### **GST 191 - Basic Engraving**

**COURSE DESCRIPTION:**

GST 191. Basic Engraving (3). Practice in the art of engraving, primarily on steels used in the manufacturing of firearms. Operations and setups performed on a variety of projects and exercises. One lecture. Six lab.

**COURSE CONTENT:**

1. Gravermeister machine
2. Design and draw scroll patterns
3. Completion of a rifle floorplate with basic scroll design

**LEARNING OUTCOMES:**

1. Operate and maintain the Gravermeister machine. (1)
2. Grind gravers from blank tool steel to perfect cutting edge, large onklet, small onklet and background gravers. (1)
3. Lay out and cut straight lines. (1)
4. Lay out and cut circular scroll lines. (1,2)
5. Draw scroll pattern with borders, cut and finish a practice plate as though it were a part to a firearm. (1,2)
6. Grey and highlight for contrast. (3)
7. Design, draw, cut and finish a rifle floorplate. (1-3)

3.000 Credit hours  
1.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Gunsmithing Department

### **GST 192 - Advanced Engraving**

**COURSE DESCRIPTION:**

GST 192. Advanced Engraving (3). Design and layout on flat and cylindrical surfaces. Emphasis on balance, selecting tools and fixtures, manipulation of the engraver's vise, and all components familiar to the trade. Prerequisite: GST 191. One lecture. Six lab.

**COURSE CONTENT:**

1. Advanced scroll patterns
2. Animal and bird patterns
3. Shading with lines only
4. Grinding of flat gravers
5. Background removal
6. NSculpture engraving on practice plate
7. NSculpture engraving on firearm part
8. Jigs and fixtures for holding work in the vise
9. Lettering

**LEARNING OUTCOMES:**

1. Design and execute more advanced interlocked scroll work on practice plate. (1)
2. Design and execute scroll and animal or bird scene on practice plate. (2)
3. Shade designs with cut lines only. (3)
4. Grind flat gravers to remove background material, large and small. (4)
5. Cut away background material in preparation for sculptured animal scenes. (5)
6. Design, execute and finish sculptured animal scene on practice plate. (6)
7. Design, execute and finish sculptured animal or bird scene on a rifle floor plate. (7)
8. Utilize jigs and fixtures for holding pieces in vise. (8)
9. Perform the art of lettering. (9)

3.000 Credit hours  
1.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Gunsmithing Department

### **GST 195 - Gunsmithing Practicum**

**COURSE DESCRIPTION:**

GST 195. Gunsmithing Practicum (2). Laboratory and extended shop experience for students to develop skills in project planning, drawing and craftsmanship. Prerequisite: Concurrent enrollment in GST 100 or GST 150. Six lab.

**COURSE CONTENT:**

1. Safety standards
2. Time management
3. Project planning
4. Tools and material
5. Special tooling
6. Quality control standards

## LEARNING OUTCOMES:

1. Develop a work plan including a list of projects relative to 100-level gunsmithing courses and order the operations for each project. (1-3)
2. Draw working plans for each project. (4,5)
3. Summarize each project in a written report. (2,6)

2.000 Credit hours  
0.000 Lecture hours  
6.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Career & Technical Education Division  
Gunsmithing Department

**GST 200 - Professional Gunsmithing**

## COURSE DESCRIPTION:

GST 200. Professional Gunsmithing (10). Advanced gunsmithing techniques and applications of existing skills. Studies in precision barreling of rifles. Major pistol and revolver modifications. Advanced stockmaking procedures and machining of major firearm components. Prerequisite: GST 150. Four lecture. Eighteen lab.

## COURSE CONTENT:

1. Action modifications and compensator theory
2. Assembly, fitting and tuning of aftermarket handgun components
3. Stockmaking from a semi-inlet stock bank
4. Advanced tooling operations for precision barreling and accurizing
5. Rules and regulations set by the Bureau of Alcohol, Tobacco and Firearms

## LEARNING OUTCOMES:

1. Set up and operate various machine tools including the engine lathe and manual milling machine. (1,2,4)
2. Extensively customize pistols and revolvers. (1,2)
3. Complete a classic wood rifle stock from semi-inlet to a finished product. (3)
4. Safely install barrels on a variety of rifles using advanced methods. (1,4)
5. Identify Bureau of Alcohol, Tobacco and Firearms Violations. (5)

10.000 Credit hours  
4.000 Lecture hours  
18.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Gunsmithing Department

## Course Attributes:

Civic Engagement (CE), Critical Thinking (CT), Info Literacy (IL)

**GST 250 - Master Gunsmithing**

## COURSE DESCRIPTION:

GST 250. Master Gunsmithing (10). Mastery of Gunsmithing skills and metal skills. Capstone course to build the student portfolio. Construction of a business plan. Prerequisite: GST 200. One lecture. Twenty-seven lab.

## COURSE CONTENT:

1. Industry standards
2. Demographics
3. Workplace ethics and performance standards
4. Presentation techniques including photographs and resumes
5. Value of work
6. Advertising
7. Communication techniques and processes
8. Portfolio building
9. Documentation for business

## LEARNING OUTCOMES:

1. Perform a broad variety of Gunsmithing tasks at or beyond levels or competency accepted in the industry.
2. Communicate professionally with customer and vendors.
3. Develop a business plan, complete with demographics, suitable for a small business loan application.
4. Develop an accurate price list for performing technical services.
5. Develop marketing tools such as brochures and ads.
6. Present a portfolio including a resume, photos and finished work.

10.000 Credit hours  
1.000 Lecture hours  
27.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Gunsmithing Department

## Course Attributes:

Creative Thinking (CR), Diversity (DA), Oral Communication (OC)

**GST 270 - Guild Firearms**

## COURSE DESCRIPTION:

GST 270. Guild Firearms (10). Assembly and construction of guild quality traditional sporting firearms. Preparation for application to a firearm guild. Prerequisite: Admission to the Advanced Gunsmithing program. Three lecture. Twenty lab.

**COURSE CONTENT:**

1. Operation of hand and machine tools
2. Machining on rifled and smoothbore barrels
3. Custom stock alterations
4. Fitting and installation of custom firearm accessories
5. Tightening and tuning of rifle, shotgun and handgun mechanisms
6. Guild membership

**LEARNING OUTCOMES:**

1. Safely operate hand and machine tools needed to create guild quality firearms. (1)
2. Design and machine custom rifle, handgun and shotgun barrels. (2)
3. Oil bend, install skeleton buttplates and grip caps on a custom wood stock. (3)
4. Install adjustable comb and length of pull hardware. (4)
5. Fine tune feeding on rifles converted to a different cartridge. (5)
6. Tighten loose bolting on break action shotguns. (5)
7. Build a guild quality handgun or rifle worthy of guild acceptance. (6)

10.000 Credit hours  
 3.000 Lecture hours  
 20.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Gunsmithing Department

**GST 280 - Competition Firearms****COURSE DESCRIPTION:**

GST 280. Competition Firearms (10). Maintenance, assembly and construction of competition firearms. Prerequisite: Admission to the Advanced Gunsmithing program. Three lecture. Twenty lab.

**COURSE CONTENT:**

1. Operation of hand and machine tools
2. Machining on rifled and smoothbore barrels
3. Custom stock alterations
4. Fitting and installation of custom firearm accessories
5. Tightening and tuning of rifle, shotgun and handgun mechanisms
6. Application of metallic sights and optics
7. Operation of a custom firearms business

**LEARNING OUTCOMES:**

1. Safely operate hand and machine tools needed to build competitive firearms. (1)
2. Design and machine custom rifle, handgun and shotgun barrels. (2)
3. Modify a wood or fiberglass stock to meet customer specifications. (3)
4. Install adjustable comb and length of pull hardware. (4)
5. Modify, smooth and tune firearm mechanisms for reliable operation. (5)
6. Identify and choose the correct sights and mounts for a given application. (6)
7. Balance quality, speed and price in a custom gunshop. (7)

10.000 Credit hours  
 3.000 Lecture hours  
 20.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Gunsmithing Department

**GST 291 - Professional Firearms Engraving****COURSE DESCRIPTION:**

GST 291. Professional Firearms Engraving (3). Individualized instruction in advanced methods and techniques employed by professional firearms engravers. Student must provide pistol or rifle to be engraved. Prerequisite: GST 192. One lecture. Six lab.

**COURSE CONTENT:**

1. Vise fixtures
2. Relief engraving
3. Figure and line inlays using precious metals

**LEARNING OUTCOMES:**

1. Use various vise fixtures. (1-3)
2. Design and execute deep relief scroll work. (2)
3. Inlay gold lines and figures. (3)
4. Engrave a firearm to accepted professional standards. (1-3)

3.000 Credit hours  
 1.000 Lecture hours  
 6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Gunsmithing Department

**GST 295 - Advanced Gunsmithing Practicum**

**COURSE DESCRIPTION:**

GST 295. Advanced Gunsmithing Practicum (3). Advanced gunsmithing laboratory and practice for students concurrently enrolled in one or more of the 200-level gunsmithing courses. Emphasis on development of a project plan, application of tooling and craftsman skills, and use of quality control standards. Prerequisite: Concurrent enrollment in GST 200 or GST 250. Six lab.

**COURSE CONTENT:**

1. Safety standards
2. Advanced project planning
3. Fiscal standards
4. Evaluative criteria

**LEARNING OUTCOMES:**

1. Develop a job plan. (2)
2. Finish projects to commercial quality. (1,2,4)
3. Document a profit/loss statement for completed projects. (3,4)

3.000 Credit hours  
0.000 Lecture hours  
9.000 Lab hours

Levels: Credit

Schedule Types: Lab

Career & Technical Education Division  
Gunsmithing Department

**GST 296 - Internship: Gunsmithing****COURSE DESCRIPTION:**

GST 296. Internship: Gunsmithing (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Internship

Career & Technical Education Division  
Gunsmithing Department

**GST 299 - Independent Study Gunsmithing****COURSE DESCRIPTION:**

GST 299. Independent Study Gunsmithing (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.

6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Career & Technical Education Division  
 Gunsmithing Department

### HIM 110 - Introduction to Health Information Management

#### COURSE DESCRIPTION:

HIM 110. Introduction to Health Information Management (3). Introduction to the history, evolution and functions performed in the Health Information Management profession. Emphasis on health record content and use within and outside the Health Information Management (HIM) Department. Three lecture.

#### COURSE CONTENT:

1. History, certification and accreditation
2. The health record
3. Record filing and numbering systems
4. Data sets and standards
5. Clinical vocabularies and classification systems
6. Health Information Management (HIM) department
7. Registries and indexes
8. Data sources, primary and secondary
9. Performance improvement, utilization management and review
10. Ethical issues
11. Health services organizations and delivery
12. Information technology, systems and security
13. Organizational and human resource management

#### LEARNING OUTCOMES:

1. Compare educational programs and professional credentials offered by the American Health Information Management Association and related organizations. (1) Domain III.A.1-2
2. Assess the role of the Health Information Management (HIM) profession in health care delivery and outline how HIM professionals interact with other healthcare professionals. (1,11) Domain III.A.2
3. Report on the structure and functions of a typical HIM department. (6) Domain I.A.2
4. Summarize the structure, purposes, functions and the users of health records. (2) Domain I.A.1-4, B.1-4
5. Examine health record filing and numbering systems and describe their advantages and disadvantages in specific types of health care settings. (3) Domain I.A.1
6. Distinguish the purpose, types and use of healthcare data sets. (4) Domain I.A.1, I.A.4
7. Compare clinical vocabularies and classification systems and describe their function, structure and use. (5) Domain I.C.6
8. Classify routine functions and services performed within the HIM department. (6) Domain I.B.1-4
9. Articulate the purpose, development and maintenance of common registries and indexes in relationship to Health Information Management. (7) Domain II.A.1
10. Outline the appropriateness of data and data sources for patient care, management, billing, reports, registries and databases. (8) Domain I.A.4, II.A.1
11. Explain the role of a HIM professional in performance improvement, utilization management and risk management. (9) Domain II.B.1, II.B.2
12. Discuss ethical principles and professional values. (10) Domain III.B.5
13. Connect the organization and components of health care delivery systems and the applicable health information initiatives and standards. (11) Domain III.A.1
14. Correlate basic computer concepts relevant to hardware and software, internet technologies and health information applications. (12) Domain IV.A.1, IV.A.2
15. Connect the principles, functions and usual practices of organizational resource management (human or material), leadership and work planning. (13) Domain V.A.1, V.A.7., V.B.1, V.B.2

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
 Allied Health Services Department

#### Course Attributes:

Oral Communication (OC)

### HIM 140 - Disease Process

#### COURSE DESCRIPTION:

HIM 140. Disease Process (4). Examination of the most common diseases of each body system, with normal anatomy and physiology compared to pathologic anatomy and physiologic malfunctioning due to disease process. Diagnostic methods, etiology, management, treatment, modalities, pharmacology and prognosis are discussed. Prerequisite: BIO 160 or (BIO 201 and BIO 202). Reading Proficiency. Four lecture.

#### COURSE CONTENT:

1. Basic concepts of disease process
2. Physiologic effects of disease
3. Pathological terminology
4. Fluid, electrolyte, and acid/base imbalance
5. Major body organs and systems
6. Neoplastic disease: signs, symptoms and treatment
7. Effects of altered status, growth and development
8. Clinical manifestation of disease
9. Methods of diagnosis
10. Short and long-term effects of disease process
11. Treatment, therapy and restoration strategies

#### LEARNING OUTCOMES:

1. Describe the structural, functional and normal variants in the body that may produce disease. (1)
2. Describe the common physiologic effects of disease on the body: infection, inflammation, tumors and immune response. (2)
3. Identify and spell correctly major pathological terminology and conditions. (3)
4. Describe the diagnosis, effect, and treatment of fluid, electrolyte and acid-base imbalances in the body. (4)
5. Describe major body systems and organs and their primary functions. (5)
6. Determine the causes, incidence, prevention methods, signs, symptoms, and treatment of cancer for body systems. (6)



7. Describe common diseases and conditions, methods of diagnosis, short and long term effects of disease processes, treatment and therapy, and restoration strategies for all major body systems. (5, 8-11)
8. Define and list special considerations for the effects and altered status, growth and development on disease processes. (7)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

### HIM 141 - Healthcare Delivery Systems

#### COURSE DESCRIPTION:

HIM 141. Healthcare Delivery Systems (3) Overview of healthcare delivery, regulation, operation, financing, organization and structure in the United States. Includes external standards, regulations and initiatives. Prerequisite: HIM 110. Three lecture.

#### COURSE CONTENT:

1. Foundations, values and evolution of health care delivery systems
2. Health services organization and delivery in the U.S.
3. Health care organization structure and operation
4. Commercial managed care and federal insurance
5. Payment methodologies and systems
6. Regulatory quality monitoring requirements
7. External standards, regulations and initiatives
8. Health care leadership
9. Health care professionals and their roles
10. Health care delivery in the future

#### LEARNING OUTCOMES:

1. Describe the evolution of the U.S. healthcare system. (1, 10)
2. Connect health services organization delivery, structure and operations in the U.S. (2,3,9) Domain 111.A.1-2
3. Differentiate between commercial, managed care and government sponsored insurance plans. (4) Domain. I.D.1-2
4. Apply policies and procedures to comply with the changing regulations among various payment systems for health care services like Medicare, Medicaid and managed care plans. (5) Domain I.D. 2
5. Evaluate established regulatory guidelines to comply with reimbursement and reporting requirements. (6) Domain I.D.4
6. Differentiate between regulating bodies within health care and identify standards organizations that impact healthcare delivery. (7) Domain III.A.1
7. Categorize the role and responsibilities of the governing body and administrative leadership in healthcare organizations. (8) Domain III.A.2
8. Differentiate the roles of various providers and disciplines throughout the health care continuum. (9) Domain III.A.2
9. Connect how changes emerging in health care models, workforce challenges, public health initiatives, clinical technologies and evidence-based medicine will influence the future of health care in the U.S. (10)

Domains listed refer to CAHIM Curriculum Requirements

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

### HIM 150 - ICD-9-CM Medical Coding

#### COURSE DESCRIPTION:

HIM 150. ICD-9-CM Medical Coding (4). Principles of ICD-9-CM coding. Use and assignment of codes in compliance with federal, state and local rules and regulations. Coding conventions and general and chapter specific guidelines to assure coding compliance. Assignment of accurate diagnostic and procedural codes using classroom materials and coding software applications. Prerequisite: AHS 130 and BIO 201 & 202 (or BIO 160) and HIM 110. Four lecture.

#### COURSE CONTENT:

1. Structure and use of health information
2. Data sources
3. Classifications, taxonomies, nomenclatures, terminologies and clinical vocabularies
4. Principles and applications of ICD coding systems
5. Diagnostic and procedural groupings
6. Case mix analysis and indexes
7. Severity of illness systems
8. Compliance strategies, auditing and reporting
9. Quality monitors and reporting
10. Commercial managed care and federal insurance plans
11. Payment methodologies and systems, IPPS, OPPI
12. Billing processes and procedures
13. Chargemaster maintenance
14. Regulatory guidelines
15. Reimbursement monitoring and reporting

#### LEARNING OUTCOMES:

1. Analyze the health record to ensure that it supports the patient's diagnosis, progress, clinical findings, discharge status and coding disposition. (1) Domain I.A.2
2. Discern timeliness, completeness, accuracy and appropriateness of data and data sources for patient care, management, billing reports, registries and/or databases. (2) Domain I.A.4
3. Explain the use and maintenance of applications and processes to support clinical classification and nomenclature systems. (3) Domain I.C.6
4. Apply diagnosis/procedure codes according to current nomenclature. (4) Domain I.C.1, I.C.2
5. Summarize the accuracy of diagnostic/procedural groupings and explain how the severity of illness is reflected in the case mix index. (5-7) Domain I.C.3, I.D.6
6. Support the reasons to adhere to ICD-9-CM coding guidelines, OIG compliance guidelines, CMS coding guidance and AHIMA code of ethics in code assignment. (8) Domain I.C.4
7. Validate coding accuracy and solve discrepancies between coded data and supporting documentation. (9) Domain I.C.7
8. Distinguish and apply policies and procedures for the use of clinical data required in reimbursement and prospective payment systems (PPS) in health care delivery. (10) Domain I.D.2
9. Apply policies and procedures to comply with changing regulations among various payment systems for healthcare services. (8,11) Domain I.D.2

10. Break down billing using resources from coding, the Chargemaster, claims management, and bill reconciliation process. (12, 13) Domain I.D.3
11. Use established regulatory guidelines to comply with reimbursement and reporting requirements. (14, 15) Domain I.D.4
12. Compile patient data and perform data quality reviews to validate code assignment and compliance with reporting requirements. (15) Domain I.D.1, I.D.5

Domains listed refer to CAHIM Curriculum Requirements

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**Course Attributes:**  
Info Literacy (L)

#### HIM 155 - Health Information Management Computer Systems

##### COURSE DESCRIPTION:

HIM 155. Health Information Management Computer Systems (2). Computer systems and their applications within the disciplines of health care and Health Information Management (HIM). Prerequisite: CSA 126. Two lecture.

##### COURSE CONTENT:

1. Computer concepts
2. Communication and internet technologies
3. Common software applications
4. Health information systems
5. Voice recognition technology
6. Health Information Technology (HIT) systems
7. Application of HIT systems
8. System acquisition, evaluation architecture, design
9. Document archival, retrieval, and imaging systems
10. Maintenance and monitoring of data storage systems
11. Screen design
12. Data retrieval, maintenance, integrity, security

##### LEARNING OUTCOMES:

1. Use technology for data collection, storage, analysis, and reporting of information. (1,4) Domain I.A.1, I.B.2, II.B.1-2, I.V.A.1
2. Distinguish common software applications such as spreadsheets, databases, word processing, graphics, presentation, and e-mail in the execution of work processes. (2-4) Domain I.V.A.2
3. Utilize specialized software in the completion of HIM processes such as record tracking, release of information, coding, grouping, registries, billing, quality improvement and imaging. (5,6,11) Domain I.V.A.3
4. Apply policies and procedures to the use of networks, including intranet and internet applications, to facilitate the electronic health record (EHR). (7) Domain I.V.A.5
5. Participate in the planning, design, selection, implementation, integration, testing, evaluation, and support of EHRs. (8) Domain I.V.A.5
6. Apply knowledge of database architecture and design to meet departmental needs. (8) Domain I.V.B.1
7. Outline appropriate electronic or imaging technology for data/record storage. (9) Domain I.V.C.1
8. Query and generate reports to facilitate information retrieval. (9) Domain I.V.C.2
9. Identify and follow retention and destruction policies for health information. (9,10) Domain I.V.C.3
10. Apply confidentiality and security measures to protect electronic health information. (11,12) Domain I.V.D.1
11. Evaluate data integrity and validity using software and hardware technology. (12) Domain I.V.D.2
12. Apply departmental and organizational data and information system security policies. (12) Domain I.V.D.3
13. Use and summarize data compiled from audit trail and data quality monitoring programs. (12) Domain I.V.D.4

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**Course Attributes:**  
Digital Lit (DL)

#### HIM 173 - Legal and Ethical Aspects of Health Information Management

##### COURSE DESCRIPTION:

HIM 173. Legal and Ethical Aspects of Health Information Management (2). Application of general principles of law and ethics as related to health information management and patient record management in an electronic, hybrid or paper environment. Legal and ethical issues, legal terminology, records law, patient rights, privacy and security and regulations. Two lecture.

##### COURSE CONTENT:

1. Legal concepts and processes
2. Legal terminology
3. Health record as a legal document
4. Confidentiality, privacy and security
5. Patient rights
6. Quality assessment and improvement
7. Health care compliance and security
8. Professional and practice-related ethical issues

##### LEARNING OUTCOMES:

1. Explain how legal and regulatory requirements relate to legal concepts and processes in health care and in health information management (HIM). (1,2,4) Domain III.B.1
2. Summarize the structure, purposes, functions and the users of health records. (3) Domain I.B.1-2
3. Release patient records in accordance with policies and procedures for access and disclosure of personal health information. (4,5,7) Domain III.B.2
4. Assess user access logs/systems to track access to, and disclosure of, identifiable patient data. (4,7) Domain III.B.4
5. Collect, organize and present data for quality management, utilization management and risk assessment pertinent to monitoring the privacy and security of health data. (6) Domain II.A.2

6. Release patient-specific data to authorized users when appropriate. (4) Domain II.B.3
7. Assess organizational policies and procedures to ensure compliance and security regulations and standards are met. (7) Domain I.B.2
8. Argue the validity of ethical standards of practice and summarize their applicability to HIM standards of practice. (8) Domain III.B.5

Domains listed refer to CAHIM Curriculum requirements.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**Course Attributes:**  
Diversity (DA)

#### HIM 176 - CPT Coding

##### COURSE DESCRIPTION:

HIM 176. CPT Coding (3). Overview and introduction to the principles of Current Procedural Terminology (CPT) coding techniques, conventions, and modifiers. Review of reimbursement trends, ethical coding and compliance, and the National Correct Coding Initiative (NCCI). Documentation guidelines in relationship to assignment of CPT and Evaluation and Management (E/M) codes. Includes hands-on practical skills in the assignment of CPT codes following coding rules and guidelines. Prerequisite: AHS 130 and BIO 201 & 202 (or BIO 160) and HIM 110. Three lecture.

##### COURSE CONTENT:

1. Structure and use of health information
2. Data sources
3. Classifications, taxonomies, nomenclatures, terminologies and clinical vocabularies
4. Principles and applications of CPT coding
5. Compliance strategies, auditing and reporting
6. Quality monitors and reporting
7. Commercial managed care and federal insurance plans
8. Payment methodologies and systems, RBRVS
9. Billing processes and procedures
10. Chargemaster maintenance
11. Regulatory guidelines
12. Reimbursement monitoring and reporting

##### LEARNING OUTCOMES:

1. Analyze the health record to ensure that it supports the patient's diagnosis, progress, clinical findings, discharge status and coding disposition. (1) Domain I.A.2
2. Discern timeliness, completeness, accuracy and appropriateness of data and data sources for patient care, management, billing reports, registries and/or databases. (2) I.A.4
3. Explain the use and maintenance of applications and processes to support clinical classification and nomenclature systems. (3) Domain I.C.6
4. Apply diagnosis/procedure codes according to current nomenclature. (4) Domain I.C.2
5. Support the reasons to adhere to current CPT coding regulations and established guidelines in code assignment. (5) Domain I.C.4
6. Validate coding accuracy and solve discrepancies between coded data and supporting documentation. (6) Domain I.C.7
7. Distinguish and apply policies and procedures for the use of clinical data required in reimbursement and prospective payment systems (PPS) in health care delivery. (7) Domain I.D.2
8. Apply policies and procedures to comply with changing regulations among various payment systems for healthcare services. (5,8) Domain I.D.2
9. Break down billing using resources from coding, the Chargemaster, claims management, and bill reconciliation processes. (9,10) Domain I.D.3
10. Use established guidelines to comply with reimbursement and reporting requirements. (11,12) Domain I.D.4
11. Compile patient data and perform data quality reviews to validate code assignment and compliance with reporting requirements. (12) Domain I.D.5

Domains listed refer to CAHIM Curriculum Requirements.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

#### HIM 200 - Principles of Healthcare Leadership

##### COURSE DESCRIPTION:

HIM 200. Principles of Healthcare Leadership (2). Introduction to the principles of leadership in health care and Health Information Management (HIM). Includes management theory, planning, organizing, leading and controlling through total quality improvement. Two lecture.

##### COURSE CONTENT:

1. Roles and functions of committees
2. Consensus building
3. Communication and interpersonal skills
4. Team leadership concepts and techniques
5. Orientation and training
6. Workflow and process
7. Labor regulations
8. Revenue cycle
9. Organizational plan and budgets
10. Resource allocation

##### LEARNING OUTCOMES:

1. Apply the fundamentals of team leadership. (1) Domain V.A.1-2
2. Justify and report staffing levels and productivity standards for HIM. (6) Domain V.A.1
3. Analyze team leadership concepts and techniques. (2-4) Domain V.A.3
4. Write training programs and conduct orientations. (5) Domain V.A.3
5. Summarize tools and techniques used to monitor, report and improve processes. (6) Domain V.A.6
6. Distinguish and comply with local, state and federal labor regulations. (7) Domain V.A.7
7. Outline coding and revenue cycle processes. (8) Domain V.B.3
8. Recommend items to include in budgets and contracts. (9) Domain V.B.1

9. Outline work plans, policies, procedures and resource requisitions in relation to HIM job functions. (9) Domain V.B.5
10. Evaluate and allocate supplies needed for work processes. (10) V.B.2
11. Select and recommend cost-saving and efficient means of achieving work processes and goals. (9) Domain V.B.4

Domains listed refer to CAHIM Curriculum requirements.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**Course Attributes:**  
Written Comm (WC)

#### HIM 210 - Healthcare Statistics and Research

##### COURSE DESCRIPTION:

HIM 210. Healthcare Statistics and Research (2). Concepts of basic healthcare statistics utilized in Health Information Management (HIM). Data collection methods, computation, organization and presentation of reported health statistics. Prerequisite: CSA 126. Two lecture.

##### COURSE CONTENT:

1. Vital statistics
2. Descriptive statistics
3. Health care statistics
4. Data presentation
5. Health information research
6. Institutional review boards

##### LEARNING OUTCOMES:

1. Articulate the principles of statistical reporting for compilation of birth, death and fetal death vital statistic reports. (1) Domain II.A.3
2. Describe and define terms required for accurate computation and interpretation of statistical data. (2) Domain II.A.1
3. Calculate a variety of health service rates including length of stay, facility occupancy, and death and autopsy rates. (3) Domain II.A.1-2
4. Organize data in a way that is manageable and can be understood and evaluated. (4) Domain II.A.1-3
5. Organize and present statistical data in the appropriate format, table or graph. (4). Domain II.A.2
6. Distinguish between qualitative and quantitative research. (5) Domain II.A.3
7. Discuss statistical approaches and steps, resources, reliability, validity and biases, and describe how they are applied to health information research. (5) Domain II.A.
8. Summarize the Federal regulations pertinent to institutional review boards and describe their purpose. (6) Domain II.A.3

Domains listed refer to CAHIM Curriculum requirements.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**Course Attributes:**  
Quantitative Lit (QL)

#### HIM 220 - Health Information Management in Alternative Healthcare Systems

##### COURSE DESCRIPTION:

HIM 220. Health Information Management in Alternative Healthcare Settings (2). Overview of non-acute care settings and their unique Health Information Management (HIM) practices, systems applications, coding and HIM department staff roles. Two lecture.

##### COURSE CONTENT:

1. Non-acute care settings
2. Patient needs
3. Health care professionals and their role
4. Standards, legislation, regulations and accreditations
5. Health record content and documentation requirements
6. Reimbursement methodologies and systems
7. HIM functions, practices, systems and roles

##### LEARNING OUTCOMES:

1. Distinguish between health care settings and they types of care provided. (1) Domain III.A.1
2. Examine patient needs by facility type. (2) Domain III.A.2
3. Correlate current laws, accreditation, licensure and certification standards related to health information by facility type. (4) Domain I.B.3, III.A.1
4. Summarize desired health record content and the documentation requirements per care setting. (5) Domain I.B.1, I.B.3
5. Analyze health records for accuracy and completeness as defined by internal policy and external regulations and standards. (5) Domain I.B.1, I.B.3
6. Measure reimbursement accuracy through coding, Chargemaster, claims management and the bill reconciliation processes. (6) Domain I.C.2, I.C.5, I.C.7, I.D.3, I.D.5, I.D.6
7. Distinguish HIM practices, systems and roles. (7) Domain III.A.1, B.1-5, IV.A.3, IV.C.3

Domains listed refer to CAHIM Curriculum requirements.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**HIM 242 - Healthcare Reimbursement Methodology****COURSE DESCRIPTION:**

HIM 242. Healthcare Reimbursement Methodology (3). A comprehensive review of reimbursement systems used in professional and institutional healthcare settings. Emphasis on eligibility, health plans and programs, claims processing and third party payers. Review of HIPAA, federal billing guidelines, compliance, clinical coding and revenue cycle management. Prerequisite: HIM 150 or 170. Three lecture.

**COURSE CONTENT:**

1. Payment methodologies and systems, RBRVS
2. Principles and applications of coding systems
3. Commercial managed care and federal insurance plans
4. Billing processes and claims procedures
5. Regulatory guidelines
6. Charge Description Master (CDM) maintenance
7. Compliance strategies and reporting
8. Reimbursement monitoring and reporting
9. Value-Based Purchasing (VBP)

**LEARNING OUTCOMES:**

1. Discuss application of diagnosis/procedure codes according to current nomenclature. (2) Domain I.C.2
2. Distinguish and apply policies and procedures for the use of clinical data required in reimbursement and prospective payment systems (PPS) in health care delivery. (3) Domain I.D.2
3. Break down billing by using resources from coding, the Chargemaster, claims management, and bill reconciliation processes. (4,6,8) Domain I.D.3
4. Use established guidelines to comply with reimbursement and reporting requirements. (5) Domain I.D.4
5. Apply policies and procedures to comply with the changing regulations among various payment systems for healthcare services. (1,7,9) Domain I.D.2
6. Compare and contrast existing and emerging CMS (Centers for Medicare and Medicaid Services) quality initiatives. (9) Domain I.D.1, I.D.2

Domains listed refer to CAHIM Curriculum Requirements

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**HIM 280 - ICD-10-CM/PCS Medical Coding****COURSE DESCRIPTION:**

HIM 280. ICD-10-CM/PCS Medical Coding (4). Principles of ICD-10-CM/PCS coding. Use and assignment of codes in compliance with federal, state and local rules and regulations. Coding conventions, features unique to ICD-10 and general and chapter specific guidelines to assure coding compliance. Assignment of accurate diagnostic and procedural codes using classroom materials and coding software applications. Prerequisite: HIM 150 or hold a coding credential through AHIMA of CCA, CCS, RHIT, or RHIA; or hold an AAPC coding credential of CPC or CPC-H. Four lecture.

**COURSE CONTENT:**

1. Structure and use of health information
2. Data sources
3. Classifications, taxonomies, nomenclatures, terminologies and clinical vocabularies
4. Principles and applications of ICD coding systems
5. Diagnostic and procedural groupings
6. Case mix analysis and indexes
7. Severity of illness systems
8. Compliance strategies, auditing and reporting
9. Quality monitors and reporting
10. Commercial managed care and federal insurance plans
11. Payment methodologies and systems, IPPS, OPSS
12. Billing processes and procedures
13. Chargemaster maintenance
14. Regulatory guidelines (NCDs and QUOs)
15. Reimbursement monitoring and reporting

**LEARNING OUTCOMES:**

1. Analyze the health record to ensure that it supports the patient's diagnosis, progress, clinical findings, discharge status and coding disposition. (1) Domain I.A.2
2. Discern timeliness, completeness, accuracy and appropriateness of data and data sources for patient care, management, billing reports, registries and/or databases. (2) Domain I.A.4
3. Explain the use and maintenance of applications and processes to support clinical classification and nomenclature systems. (3) Domain I.C.6
4. Apply diagnosis/procedure codes according to current nomenclature. (4) Domain I.C.1, I.C.2
5. Summarize the accuracy of diagnostic/procedural groupings and explain how the severity of illness is reflected in the case mix index. (5-7) Domain I.C.3, I.D.6
6. Support the reasons to adhere to ICD-10-CM/PCS coding guidelines, OIG compliance guidelines, CMS coding guidance and AHIMA code of ethics in code assignment. (8) Domain I.C.4
7. Validate coding accuracy and solve discrepancies between coded data and supporting documentation. (9) Domain I.C.7
8. Distinguish and apply policies and procedures for the use of clinical data required in reimbursement and prospective payment systems (PPS) in health care delivery. (10) Domain I.D.2
9. Apply policies and procedures to comply with changing regulations among various payment systems for healthcare services. (8, 11) Domain I.D.2
10. Break down billing by using resources from coding, the Chargemaster, claims management, and bill reconciliation processes. (12, 13) Domain I.D.3
11. Use established regulatory guidelines to comply with reimbursement and reporting requirements. (14,15) Domain I.D.4
12. Compile patient data and perform data quality reviews to validate code assignment and compliance with reporting requirements. (15) Domain I.D.1, I.D.5

Domains listed refer to CAHIM Curriculum Requirements.

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**Course Attributes:**  
Critical Thinking (CT)

### HIM 295 - Practicum: Health Information Management Professional Practice Experience

**COURSE DESCRIPTION:**

HIM 295, Practicum: Health Information Management Professional Practice Experience (4). Completion of specific projects and/or assignments at a supervised host site, within a virtual environment, or as assigned by the instructor. Application of health information technology skills and knowledge to operational, managerial and administrative roles. Prerequisite: Admission to program. Proof of CPR for Healthcare Providers, Immunizations, TB skin test, fingerprint clearance card, background check, urine drug screen, and any other specific requirements of the clinical site must be completed prior to enrollment into his course. Co-requisite: BSA 102. One lecture. Nine lab.

**COURSE CONTENT:**

1. HIM departments
2. Health records and documentation
3. ICD and CPT coding
4. Coding compliance strategies, auditing and reporting
5. Regulatory agencies, legislation, licensure, certification, accreditation
6. Providers and their HIM needs
7. Non-acute care settings
8. Confidentiality and informed consent
9. Computer, concepts and HIT specialty systems
10. Data retrieval, maintenance, integrity, security
11. Payment systems, insurance plans, government healthcare programs, third party payers
12. Workflow, process, quality improvement
13. Professionalism, dependability, teamwork
14. Communication, critical thinking, and problem solving

**LEARNING OUTCOMES:**

1. Describe the structure and functions of a typical Health Information Management (HIM) department. (1) Domain I.A.2-4, I.B.1-4
2. Access policies and procedures to ensure organizational compliance with regulations and standards. (2) Domain I.B.2
3. Evaluate the accuracy and completeness of the patient record as defined by organizational policy and external regulations and standards. (2) Domain I.B.3
4. Apply diagnosis/procedure codes according to current nomenclature. (3) Domain I.C.1-2
5. Support the reasons to adhere to CPT and ICD coding guidelines, OIG compliance guidelines, CMS coding guidance and AHIMA code of ethics in code assignment. (4) Domain I.C.4
6. Outline the role of federal, state and local governments in the provision of health care. (5) Domain III.A.1
7. Differentiate the roles of various providers and disciplines throughout the continuum of health care and respond to their information needs. (6) Domain III.A.2
8. Distinguish between alternative health care settings and their individualized HIM needs. (7) Domain III.A.1-2
9. Determine when it is appropriate to disclose/release content of a patient record in accordance to legal process. (8) Domain II.B.2
10. Utilize specialized software in completion of HIM processes such as record tracking, release of information, coding, grouping, registries, billing, quality improvement and imaging. (9) Domain IV.A.3
11. Apply departmental and organizational data and information system security policies. (10) Domain IV.D.3
12. Illustrate the tools and techniques used to monitor reports and improve processes. (12) Domain V.A.6
13. Exhibit appropriate workplace behaviors and professional ethics. (13) Domain III.B.5
14. Use critical thinking, problem solving, ethical awareness, and effective writing. (14) Domain B.III.5, V.B.5

Domains listed refer to CAHIM Curriculum requirements.

4.000 Credit hours  
1.000 Lecture hours  
9.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**Course Attributes:**

Civic Engagement (CE), Creative Thinking (CR)

### HIS 131 - United States History I

**COURSE DESCRIPTION:**

HIS 131, United States History I (3). Survey of social, economic, political, and cultural history from pre-Contact through the Civil War. Emphasis on conflicting interpretations of historical events and evidence. Examination of the continental approach to the development of the United States. Interpretation of the diversity of the American people and their various contributions to America's shared past. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Indigenous America
2. Columbian exchange
3. European colonization
4. Colonial society
5. Slavery and racialist thought
6. American revolution
7. Formation of a national government
8. National identity
9. Market revolution and the rise of capitalism
10. Age of Jackson
11. First & second great awakenings
12. Sectionalism
13. Reform movements
14. Abolition
15. Western expansion
16. Conflict and consensus
17. Civil war
18. Culture, ethnicity/race, class, and/or gender
19. Theories, methods, and historiography

**LEARNING OUTCOMES:**

1. Evaluate historical events through different historical methods, theories, and interpretations. (1-19) (HP 1)
2. Contrast common memory to historical evidence. (1-19) (HP 3)
3. Define and utilize relevant terminology. (1-18) (HP 2)
4. Locate, retrieve, and analyze primary and secondary historical sources. (1-19) (HP 4)
5. Evaluate the reliability and objectivity of various historical evidence. (1-19) (HP 5)

6. Evaluate and analyze historical issues. (1-18) (HP 6)
7. Formulate questions, make inferences, form generalizations, and draw conclusions from historical research. (1-19)
8. Create, organize, and support a thesis in written and/or oral form. (1-19) (HP 8)
9. Employ accurate and required citation format. (1-19)
10. Evaluate the issues of culture, ethnicity/race and/or gender, class and cultural diversity in the context of American history. (1-19)
11. Interpret events and actions within appropriate temporal and spatial contexts. (1-19) (HP 7)
12. Define the cultural, political, religious, scientific/technological, and economic structures that contributed to the development of American history. (1-19)
13. Define and articulate the pivotal events in American history within their historical context and interpret their contributions towards change and continuity (or cause and effect) of the historical period. (1-18)
14. Analyze major constitutional issues. (5-7, 18-19)
15. Articulate the concepts of racialist thought and the concept of "race." (1-5, 8, 12-19)

**REQUIRED ASSESSMENT:**

1. Employ thoughtful and precise writing (a minimum of 4500 words), critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Diversity (DA), Ethnic, Race & Gender, Global/Internl or Historical, Historical Perspective (AGEC), Intensive Writing, Written Comm (WC)

**HIS 132 - United States History II****COURSE DESCRIPTION:**

HIS 132. United States History II (3). Survey of social, economic, political and cultural history from 1865 through the 1980s. Explore diversity of the American people. Examine continued development of racism, social movements of reform, industrial America and the growth of labor and its concerns. Examine American imperialism and its impact on the world. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Reconstruction
2. Post-reconstruction era
3. Westward expansion
4. Populist and progressive movements
5. Imperialism
6. Jim Crow, racism and racialist thought
7. Second industrial revolution and the workers' responses
8. Modern economics: corporations and consumer culture
9. World wars
10. Cold war
11. Modernization theory: the welfare/warfare state
12. Civil Rights Movements
13. Conservatism and neoliberalism
14. Globalization
15. Culture, ethnicity/race, class, and/or gender
16. Theories, methods, and historiography

**LEARNING OUTCOMES:**

1. Evaluate historical events through different historical methods, theories, and interpretations. (1-16) (HP1)
2. Contrast common memory to historical evidence. (1-15) (HP3)
3. Define and use relevant terminology. (1-15) (HP 2)
4. Locate, retrieve, and analyze primary and secondary historical sources. (1-16) (HP 4)
5. Evaluate the reliability and objectivity of various historical evidence. (1-15) (HP 5)
6. Evaluate and analyze historical issues. (1-15) (HP 6)
7. Formulate questions, make inferences, form generalizations, and draw conclusions from historical research. (1-15)
8. Create, organize, and support a thesis in written and/or oral form. (1-16) (HP 8)
9. Employ accurate and required citation format. (1-16)
10. Evaluate the issues of culture, ethnicity/race and/or gender, class and cultural diversity in the context of American history. (1-14)
11. Interpret events and actions within appropriate temporal and spatial contexts. (1-15) (HP 7)
12. Define the cultural, political, religious, scientific/technological, and economic structures that contributed to the development of American history. (1-16)
13. Define and articulate the pivotal events in American history within their historical context and interpret their contributions towards change and continuity (or cause and effect) of the historical period. (1-15)
14. Evaluate environmental impact within a regional context. (1-10, 14-16)
15. Analyze major constitutional issues. (1-6, 8, 11-15)
16. Contrast different catalysts or issues within the Civil Rights Movement. (5-8, 12, 15, 16)

**REQUIRED ASSESSMENT:**

1. Employ thoughtful and precise writing (a minimum of 4500 words), critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Diversity (DA), Ethnic, Race & Gender, Global/Internl or Historical, Historical Perspective (AGEC), Intensive Writing, Written Comm (WC)

**HIS 135 - History of Arizona**

**COURSE DESCRIPTION:**

HIS 135. History of Arizona (3). Survey of Arizona history from Pre-Columbian times to the present: The Spanish, Mexican, and Anglo-American periods. Three lecture.

**COURSE CONTENT:**

1. Background--Physiography, climate and geology of the state as they influenced Arizona history
2. Paleo-Indians; the timing of Pleistocene Indian arrival in the New World; Clovis and Folsom sites in Arizona; Pleistocene faunas of Arizona
3. Formative cultures: Hohokam, Anasazi, Mongolian, etc.
4. Arizona Indians at contact: Pueblo People, Non-Pueblo--Athapascan, Colorado River groups, Pais
5. Spanish exploration and conquest--cultural conflicts with Native Americans
6. Impact of the Mexican Revolution
7. Early Anglo-American Penetration
8. The Mexican War
9. Early Anglo-American settlement and conflict with Native Americans
10. The Civil War in the West
11. Post-Civil War settlement and conflicts with Native Americans, the Apache wars
12. The founding of Prescott and the Territorial Period
13. Impact of modernization, Arizona economy, and the achievement of statehood
14. Labor in Arizona history, Arizona politics, race relations
15. Current problems
15. Man in the Grand Canyon and on the Colorado River

**LEARNING OUTCOMES:**

1. Knowledge of the salient facts of Arizona history as they relate to the course content indicated in the outline.
2. Describe differing period of history and identify parallels and contrasts.
3. Develop an appreciation for the diversity of Arizona history.
4. Acquire an understanding of the modernization process in Arizona and be able to locate himself and his community within this movement.

**REQUIRED ASSESSMENT:**

1. Employ thoughtful and precise writing (a minimum of 1500 words), critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**HIS 201 - Western Civilization I****COURSE DESCRIPTION:**

HIS 201. Western Civilization I (3). Exploration of the major developments in Western Civilization to 1688. Exploration of the social, intellectual, political, economic, religious, and cultural components that form the core of the modern western world. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Early humankind
2. Early societies-prehistoric revolutions
3. Ancient societies: Egypt and Mesopotamia
4. Religious traditions and their impact: Judaism, Christianity, and Islam
5. Classical societies: Hellenic, Hellenistic, Roman, and Byzantine
6. Feudal society
7. The Middle Ages and its crisis
8. Religious Movements: Luther, Calvin, and the Catholic Reformation
9. Renaissance culture and the development of humanism
10. Exploration, Colonialism, and Mercantilism
11. Development of slavery and racialist thought
12. Rise of new science and technology
13. Early Modern State
14. Philosophical movements
15. Political Revolutions
16. Culture, ethnicity/race and/or gender
17. Theories, methods, and historiography

**LEARNING OUTCOMES:**

1. Evaluate historical events through different historical methods, theories, and interpretations. (1-17) (HP 1)
2. Contrast common memory to historical evidence. (1-17) (HP 3)
3. Define and utilize relevant terminology. (1-16) (HP 2)
4. Locate, retrieve, and analyze primary and secondary historical sources. (1-17) (HP 4)
5. Evaluate the reliability and objectivity of various historical evidence. (1-17) (HP 5)
6. Evaluate and analyze historical issues. (1-16) (HP 6)
7. Formulate questions, make inferences, form generalizations, and draw conclusions from historical research. (1-17)
8. Create, organize, and support a thesis in written and/or oral form. (1-17) (HP 8)
9. Employ accurate and required citation format. (1-17)
10. Evaluate the issues of culture, ethnicity/race and/or gender, class and cultural diversity in the context of Western history. (1-16) (DA-2)
11. Interpret events and actions within appropriate temporal and spatial contexts. (1-16) (DA 2)(HP 7)
12. Define the cultural, political, religious, scientific/technological, and economic structures that contributed to the development of Western Societies. (1-17)
13. Define and articulate the pivotal events in Western history within their historical context and interpret their contributions towards change and continuity (or cause and effect) of the historical period. (1-16)

**REQUIRED ASSESSMENT:**

1. Employ thoughtful and precise writing (a minimum of 4500 words), critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture



Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Diversity (DA), Ethnic, Race & Gender, Global/Internl or Historical, Historical Perspective (AGEC), Intensive Writing, Written Comm (WC)

**HIS 202 - Western Civilization II**

**COURSE DESCRIPTION:**

HIS 202. Western Civilization II (3). Exploration of the major developments in Western Civilization from 1650 to present. Exploration of the social, intellectual, political, economic, religious, and cultural components that form the core of the modern western world. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Absolutism and enlightenment
2. Revolutions: English, American, French, and Russian
3. 19th Century intellectual movements: Romanticism, Liberalism, Conservatism, and Nationalism
4. Industrial Revolution and workers' responses
5. Modernization: political, cultural, and economic
6. Political Nationalism
7. Imperialism
8. World wars
9. Great depression
10. Fascism
11. Cold War
12. Decolonization
13. Twentieth century intellectual and cultural movements
14. Culture, ethnicity/race, class and/or gender
15. Issues in the contemporary world: decolonization, end of the Cold War, globalization, and the information age
16. Theories, methods, and historiography

**LEARNING OUTCOMES:**

1. Evaluate historical events through different historical methods, theories, and interpretations. (1-15) (HP 1)
2. Contrast common memory to historical evidence. (1-15) (HP 3)
3. Define and utilize relevant terminology. (1-15) (HP 2)
4. Locate, retrieve, and analyze primary and secondary historical sources. (1-16) (HP 4)
5. Evaluate the reliability and objectivity of various forms of historical evidence. (1-16) (HP 5)
6. Evaluate and analyze historical issues. (1-15) (HP 6)
7. Formulate questions, make inferences, form generalizations, and draw conclusions from historical research. (1-16)
8. Create, organize, and support a thesis in written and/or oral form. (1-16) (HP 8)
9. Employ accurate and required citation format. (1-16)
10. Evaluate the issues of culture, ethnicity/race and/or gender, class and cultural diversity in the context of Western history. (1-15) (DA 2)
11. Interpret events and actions within appropriate temporal and spatial contexts. (1-15) (DA 1) (HP 7)
12. Define the cultural, political, religious, scientific/technological, and economic structures that contributed to the development of Western Societies. (1-15)
13. Define and articulate the pivotal events in Western history within their historical context and interpret their contributions towards change and continuity (or cause and effect of the historical period. (1-15)
14. Articulate the rise of Fascism. (8-10)

**REQUIRED ASSESSMENT:**

1. Engage in active, informed and scholarly discussion.
2. Identify, locate and analyze primary source materials germane to historical study.
3. Conduct scholarly research using a research library.
4. Employ thoughtful and precise writing (a minimum of 3500 words), critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and research papers. .

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Diversity (DA), Ethnic, Race & Gender, Global/Internl or Historical, Historical Perspective (AGEC), Intensive Writing, Written Comm (WC)

**HIS 205 - World History**

**COURSE DESCRIPTION:**

HIS 205. World History (3). Exploration of major societies of the world from 1750 to the present. Examination of societies in Asia, Europe, African, the Americas and Oceania. Includes forces of change in the world, such as industrialization, nationalism, decolonization, urbanization, technology and political revolutions. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Global exchanges: biological, intellectual and economic
2. Slavery and the diaspora
3. Urbanization
4. Industrialization and labor
5. Political revolutions
6. Nationalism
7. Imperialism
8. Racialist thought
9. World Wars
10. Cold War
11. Ethnic conflicts, Wars and Genocide
12. Decolonization
13. United Nations
14. Globalization
15. Environmental change
16. Culture, ethnicity/race, class and/or gender
17. Theories, Methods and Historiography

## LEARNING OUTCOMES:

1. Evaluate historical events through different historical methods, theories and interpretations. (HP 1)
2. Contrast common memory to historical evidence. (HP 3)
3. Define and utilize relevant terminology. (HP 2)
4. Locate, retrieve and analyze primary and secondary historical sources. (HP 4)
5. Evaluate the reliability and objectivity of various historical evidence. (HP 5)
6. Evaluate and analyze historical issues. (HP 6)
7. Formulate questions, make inferences, form generalizations and draw conclusions from historical research.
8. Create, organize and support a thesis in written and/or oral form. (HP 8)
9. Employ accurate and required citation format.
10. Evaluate the issues of culture, ethnicity/race and/or gender, class and cultural diversity in the context of World History. (DA 2)
11. Interpret events and actions within appropriate temporal and spatial contexts. (DA 1) (HP 7)
12. Define the cultural, political, religious, scientific/technological, and economic structures that contributed to the development of World Societies.
13. Define and articulate the pivotal events in world history within their historical context and interpret their contributions towards change and continuity (or cause and effect) of the historical period.
14. Investigate and analyze forced or voluntary servitude and/or migration.

## REQUIRED ASSESSMENT:

1. Employ thoughtful and precise writing (a minimum of 4500 words), critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

## Course Attributes:

Diversity (DA), Ethnic, Race & Gender, Global/Intnl or Historical, Historical Perspective (AGEC), Intensive Writing, Written Comm (WC)

**[HIS 230 - Islamic Civilization: Traditional and Modern Middle East](#)**

## COURSE DESCRIPTION:

HIS 230. Islamic Civilization: Traditional and Modern Middle East (3). Traditional and contemporary social, political, economic, and gender institutions of Islamic societies. Emphasis on problems associated with modernization, colonization, and imperialism. Three lecture.

## COURSE CONTENT:

1. Lands and peoples of the Middle East
2. Pre-Islamic Arabia
3. The creation of early Islamic religion
4. Women in early Islam
5. Problems of the early Islamic state
6. The Arab empire--Ummayyads
7. The world empire--Abbasids
8. The Turkic migrations
9. Classical Islamic art, literature, and music
10. Women in classical Islamic world
11. Rise of the Ottoman Empire
12. Rise of the Safavid state
13. The Eastern Question
14. World War I, colonialism, and Pan-Arabism
15. Ethnic nationalism
16. Movements of national liberation
17. Problems of modernization
18. Israel and the Palestinians
19. Women in the modern Middle East
20. Islamic responses to modernization
21. Resource control--the crisis over water and oil
22. Contemporary art, literature, and music

## LEARNING OUTCOMES:

1. Briefly describe the history, religions, and cultures of the middle Eastern societies.
2. Compare and contrast the cultural distinctiveness of Middle Eastern societies.
3. Discuss the complex problems facing contemporary Middle Eastern societies.
4. Analyze the issues of gender, race and ethnicity in Middle Eastern societies.
5. Describe and evaluate the ethnocentrism of Western societies in their relations with the Islamic societies of the Middle East.
6. Analyze and draw conclusions about the current problems facing Middle Eastern societies.
7. Apply the categories of historical thinking to analyze historical events and issues.
8. Describe the major sub-fields and "schools" of current historical practice.
9. Explain how agents of historical causation are myriad and identify the temporal, spatial, and cultural dimensions informing historical development.
10. Distinguish between the various genres of secondary historical literature, including textbooks, monographs, and periodicals.
11. Distinguish between primary and secondary sources and evaluate the validity and objectivity of sources.
12. Identify the central arguments in professional source materials.
13. Use an organized system of note-taking.
14. Use appropriate footnoting and bibliographic entries.
15. Locate and retrieve appropriate historical sources (both primary and secondary).
16. Engage in computer/Internet based research.
17. Formulate focused historical questions.
18. Detect bias and point of view in historical sources.
19. Interpret and evaluate various kinds of evidence: material, media, oral, quantitative and statistical, textual, and visual.
20. Interpret actions and events within an appropriate temporal and spatial context, and distinguish their significance within a larger scheme of historical chronology and evolution.
21. Describe history as an on-going process of data interpretation and argument.
22. Make inferences, form generalizations, and draw conclusions from available evidence.
23. Create, organize, and support a thesis in written and oral presentations.

## REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### **HIS 253 - History of Women in the United States**

**COURSE DESCRIPTION:**

HIS 253. History of Women in the United States (3). Roles and contributions of women in history of the United States, with emphasis on social and cultural aspects of the feminist movements in 19th and 20th centuries. How woman's roles and the family have been affected by the modernization process. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. The problems of studying women's history and survey of leading feminist theories
2. European background of women's roles and colonial settlement
3. The Puritan contribution and Southern differences
4. The Witchcraft syndrome and the revolution
5. Women and religion in colonial and early national times
6. Early modernization in North America and critical responses
7. The cult of domesticity and the origins of female reform movements
8. Abolition and the origins of feminism
9. Women and civil conflict
10. Womens' Christian Traditional Union and women as "social glue"
11. The Second Industrial Revolution
12. Women and the development of the American Working Class
13. The Progressive Movement
14. Gilman and Sanger
15. Women and World War I
16. Achievement of the vote
17. Origins of the feminine mystique
18. Impact of the Depression
19. Women and war
20. Characteristics of the Third Industrial revolution
21. The New Movement
22. The Future of feminism

**LEARNING OUTCOMES:**

1. Describe and examine the roles women have played in American history.
2. Analyze the economic, political, and social phenomena that have influenced and shaped the position of women in American society.
3. Discuss the major contributions of feminist leaders of the nineteenth and twentieth centuries.
4. Analyze and draw conclusions about the successes and failures of the feminist movements in American history.
5. Assess the effectiveness and desirability of future feminist activity and participation in the social, political and economic spheres in the United States.
6. Apply the processes involved in historical analysis of problems relating to women's history in America.
7. Identify the issues of gender, race and ethnic differences in women's history.
8. Describe the major sub-fields and "schools" of current historical practice.
9. Explain how agents of historical causation are myriad and identify the temporal, spatial, and cultural dimensions informing historical development.
10. Distinguish between the various genres of secondary historical literature, including textbooks, monographs and periodicals.
11. Distinguish between primary and secondary sources and evaluate the validity and objectivity of sources.
12. Identify the central arguments in professional source materials.
13. Use an organized system of note-taking.
14. Use appropriate footnoting and bibliographic entries.
15. Locate and retrieve appropriate historical sources (both primary and secondary).
16. Engage in computer/Internet based research.
17. Formulate focused historical questions.
18. Detect bias and point of view in historical sources.
19. Interpret and evaluate various kinds of evidence: material, media, oral, quantitative and statistical, textual, and visual.
20. Interpret actions and events within an appropriate temporal and spatial context, and distinguish their significance within a larger scheme of historical chronology and evolution.
21. Describe history as an on-going process of data interpretation and argument.
22. Make inferences, form generalizations, and draw conclusions from available evidence.
23. Create, organize, and support a thesis in written and oral presentations.

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours

3.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Ethnic, Race & Gender

### **HIS 260 - History of Native Americans in the United States**

**COURSE DESCRIPTION:**

HIS 260. History of Native Americans in the United States (3). Survey of social, economic, political, and cultural history of indigenous peoples of the continental United States from the fifteenth century to present. Emphasis on Native American actions and responses to European and American contact. Exploration of Native Americans' relationships with the United States, including the growth and development of federal Indian policy. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Distinctive cultural regions of Native America
2. Native American and European interaction
3. Fur trade and ecological dislocation
4. Native American and American interaction
5. Native American resistance
6. Gender roles in Native America

7. Development of Reservation system
8. Western expansion and Native American responses
9. Allotment policy
10. American education policy
11. Revitalization Movements
12. Indian New Deal
13. Termination
14. Self-determination and the development of the American Indian Movement
15. Self-governance
16. Native American identity
17. Culture, ethnicity/race/class, and/or gender
18. Theories, methods, and historiography

**LEARNING OUTCOMES:**

1. Evaluate historical events through different historical methods, theories, and interpretations. (1-18) (SS 1)
2. Contrast common memory to historical evidence. (1-18) (SS 2)
3. Define and utilize relevant terminology. (1-18) (SS 3)
4. Locate, retrieve, and analyze primary and secondary historical sources. (1-18)
5. Evaluate the reliability and objectivity of historical evidence. (1-18)
6. Evaluate and analyze historical issues. (1-18)
7. Formulate questions, make inferences, form generalizations, and draw conclusions from historical research. (1-18)
8. Create, organize, and support a thesis in written and/or oral form. (1-18)
9. Employ accurate and required citation format. (1-18)
10. Evaluate the issues of culture, ethnicity/race and/or gender, class and cultural diversity in the context of Native American history. (1-17) (SS 4)
11. Articulate the impact of contact upon Native America. (1-17)
12. Articulate the ethnocentric perceptions of Native America in the dominant European and American societies. (1-17)
13. Analyze major constitutional issues associated with Native America. (7-16)
14. Define the development of Federal Indian Policy. (4-16)
15. Define and articulate the pivotal events in Native American history within their historical context and interpret Native American contributions towards American society. (1-17) (SS 5)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1,500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**Course Attributes:**

Diversity (DA), Ethnic, Race & Gender, Social Science (AGEC)

**HIS 296 - Internship: History**

**COURSE DESCRIPTION:**

HIS 296. Internship: History (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**HIS 299 - Independent Study History****COURSE DESCRIPTION:**

HIS 299. Independent Study History (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours

0.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**HUM 101 - Introduction to Popular Culture****COURSE DESCRIPTION:**

HUM 101. Introduction to Popular Culture (3). Analyzing and evaluating the relationships among technological innovation, American consumer society, popular arts and ethical questions. Application of critical thinking skills to assess issues, identify influencing factors, and make informed decisions. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Relationships between technology, popular arts, culture and society
2. Impact of technological innovation and mass production on creative expression, commercialism and artistic innovation
3. Effect of mass produced and broadcast artistic communication such as film, radio, television, video games, social networking, the Internet, pop music and best-selling fiction and non-fiction on cultural values and personal ethics
4. Fundamentals of critical thinking as a skill and a process
5. Critical thinking in evaluating popular culture
6. Development and analysis of reasoned arguments in written and verbal forms

**LEARNING OUTCOMES:**

1. Identify elements of popular arts and culture and categorize aspects of the humanities created by technological innovation. (1,2)
2. Evaluate the effect of technological development on culture and society through the medium of popular arts. (1,2,3,5)
3. Formulate questions about and critique the impact of mass media and popular arts on cultural values and personal ethics. (3-5) (CT 1)
4. Apply critical thinking skills when assessing technical, social and individual issues in the humanities. (4,5) (CT 2)
5. Express an opinion in the form of a reasoned argument on topics relating to popular culture and the impact of technological innovation on topics in the humanities. (1-6) (CT 4)
6. Describe and model the essential steps and concepts of critical thinking, including the barriers to critical thought and the recognition that closure is not always achieved in intellectual discourse. (4,6) (CT 3)

3.000 Credit hours

3.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Humanities Department

**Course Attributes:**

Critical Thinking (AGEC), Critical Thinking (CT)

**HUM 202 - Introduction to Mythology****COURSE DESCRIPTION:**

HUM 202. Introduction to Mythology (3). Examination of humanist questions through European and Non-Western mythologies. Issues include: creation of the world, cosmology, fertility/sexuality, human nature, the problem of evil, death, nature of gods/goddesses/God, and the natural world. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Classical mythology
2. Myth systems of world cultures, including those of Europe, Native America, Asia, Africa and Oceania
3. Nature of symbol and allegory in myth and traditional narratives
4. Various academic approaches to the study of myth, including linguistic, cultural, phenomenological, psychological, structural and perennialist
5. Dynamic relationship of mythology with science and other human disciplines

**LEARNING OUTCOMES:**

1. Accurately employ the terminology and concepts of the study of mythology (3,4) (AH 3)
2. Describe and discuss the characteristics, similarities and differences of major world mythologies (1-3, 5) (AH 1)
3. Identify, compare and critique major contributors and analytic theories in the study of mythology. (4) (AH 4)
4. Articulate and analyze the ways in which mythology influences and is influenced by culture, behavior and belief both in the past and present (1,2,4,5) (AH 2)
5. Locate, evaluate and reference valid and credible sources of information relating to myths and mythology studies (1-5) (AH 5)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Humanities Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

### HUM 205 - Technology and Human Values

#### COURSE DESCRIPTION:

HUM205. Technology and Human Values (3). Explores the relationship between technological development and individual and social values in the Western World from ancient times through the present. Includes technologies connected with a variety of areas, such as medicine, the military, architecture, food and agricultural production, and labor relations.

Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. The development, over time, of a variety of technologies, such as those related to computers, architecture, medicine, the military, communications, and food and agricultural production.
2. Current cutting edge technology: its development and relation to contemporary social values.
3. Ethical and values systems including aesthetics as well as community, family, and economic systems.
4. Techniques to critique the written word and the moving visual image.
5. Relationships among society, values, and technology.
6. Historical and contemporary view of the consequences of technological development on social institutions such as religion, family, workplace, and politics.
7. Impact of technology on individual lives.
8. Impact of technology on organizational structures.
9. Information technologies
10. Practices and strategies of research.

#### LEARNING OUTCOMES:

1. Trace the development of selected technologies over time. (1) (AH 1,5)
2. Analyze the way that contemporary issues affect selected technologies over time. (2,3,6) (AH 1,2)
3. Discuss historical and contemporary views of the consequences of a selected technology on institutions such as religion, family, workplace, and politics. (5) (AH 1,2)
4. Analyze the relationships among society, values, and technology. (4) (AH 2)
5. Navigate library data bases to conduct research. (10) (AH 4)
6. Employ integrity, curiosity, and empathy in information gathering and reporting. (4,10) (AH 4)
7. Research and critique articles from current published sources examining the sources' political/social message and intended audience, as well as individual authors/biases, the quality of their research, and the readability, relevance, and reliability of their work. (4,10) (AH 4)
8. Identify and analyze (orally and in writing) universal concerns connected to the moral and ethical considerations that may accompany technological innovations, especially as they relate to community, family, aesthetics, and economic systems. (3,5,6,8) (AH 2)
9. Describe how cutting edge technological innovation is related to contemporary social values. (2,9)
10. Articulate a coherent center of values and an integrated understanding of technology as it relates to students' lives and environments. (5,7) (AH 3)
11. Analyze visual presentations, describing how authors use cinematic techniques to present messages and values-related issues to produce desired effects in the audience. (4)
12. Present bibliography citations. (10)
13. Present research from multiple sources combining it into a unified presentation documenting and analyzing the social and values-related implications of a selected technology. (10) (AH 4,5)

#### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.
2. In-class oral presentations.
3. Reflective, cumulative learning portfolio.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Humanities Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

### HUM 236 - American Arts and Ideas

#### COURSE DESCRIPTION:

HUM 236. American Arts and Ideas (3). Cultural history of the United States from the Eighteenth Century to the present. Scholarly examination of the literature, philosophy, music, visual arts, and architecture. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. The creation of a national identity
2. Regionalism in United States cultural history
3. Great awakenings and religious movements
4. Social and political reform movements
5. Issues of gender, race and class in the United States
6. The influence of the environment and the economy on the culture of the United States
7. Theories, methods and scholarly writing in cultural history

#### LEARNING OUTCOMES:

1. Identify and classify ideas and artifacts within their respective historical and regional contexts. (5-7) (AH 1)
2. Identify, analyze, and evaluate the diverse influences on the ideas and artifacts created in the United States from the Eighteenth Century to the present. (1-6) (AH 2)
3. Identify, analyze and synthesize the relationship between historical events and cultural response. (6) (AH 4)
4. Employ relevant terminology in oral and/or written arguments. (1-7) (AH 3)
5. Identify, analyze, and evaluate major contributors and their contributions to the cultural history of the United States. (7) (AH 5)

#### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit  
Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Humanities Department

Course Attributes:  
Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

#### [HUM 241 - Humanities in the Western World I](#)

##### COURSE DESCRIPTION:

HUM 241. Humanities in the Western World I (3) Cultural history of Western Civilization from Ancient Civilizations to the Fourteenth Century. Scholarly examination of the literature, philosophy, music, visual arts, and architecture. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

##### COURSE CONTENT:

1. Neolithic revolutions and ancient civilizations
2. Classical Antiquity and Byzantium
3. Religious and philosophical traditions
4. Early Christian and Medieval Europe
5. Western aesthetic: the Classical and Abstract Transcendental
6. Issues of gender, race and class in the Western civilization
7. The influence of the environment and the economy on Western culture
8. Theories, methods and scholarly writing in cultural history

##### LEARNING OUTCOMES:

1. Identify and classify ideas and artifacts within their respective historical and regional contexts. (1-4) (AH 1)
2. Identify, analyze, and evaluate the diverse influences on the ideas and artifacts created in the Western Civilizations from the Neolithic to Fourteenth Century. (1-4) (AH 2)
3. Identify, analyze and synthesize the relationship between historical events and cultural response. (5-7) (AH 4)
4. Employ relevant terminology in oral and/or written arguments. (1-8) (AH 3)
5. Identify, analyze, and evaluate major contributors and their contributions to the cultural history of the Western World. (8) (AH 5)

##### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit  
Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Humanities Department

Course Attributes:  
Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

#### [HUM 242 - Humanities in the Western World II](#)

##### COURSE DESCRIPTION:

HUM 242. Humanities in the Western World II (3). Cultural history of Western Civilization from Fifteenth to late Twentieth Century. Scholarly examination of the literature, philosophy, music, visual arts, and architecture. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

##### COURSE CONTENT:

1. Renaissance as threshold to Modern World
2. Religious and philosophical reformations and revolutions
3. Western aesthetic traditions in art and literature
4. The influence of regionalism and nationalism on Western culture
5. The influence of the environment and the economy on Western culture
6. Issues of gender, race and class in the Western Civilization
7. Theories, methods and scholarly writing in cultural history

##### LEARNING OUTCOMES:

1. Identify and classify ideas and artifacts within their respective historical and regional contexts. (1-3) (AH 1)
2. Identify, analyze, and evaluate the diverse influences on the ideas and artifacts created in the Western Civilizations from the Renaissance to the late Twentieth Century. (4-6) (AH 2)
3. Identify, analyze and synthesize the relationship between historical events and cultural response. (1-7) (AH 4)
4. Employ relevant terminology in oral and/or written arguments. (1-7) (AH 3)
5. Identify, analyze, and evaluate major contributors and their contributions to the cultural history of the Modern Western World. (7) (AH 5)

##### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit  
Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Humanities Department

Course Attributes:  
Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

#### [HUM 243 - History of Film](#)

**COURSE DESCRIPTION:**

HUM 243. History of Film (3) (Fall). Historical and critical survey of the development of film as an art form, as a system of representation and communication, and as an industry from its invention to the present day. How films work technically, aesthetically, and culturally to create and reinforce social norms. Cross listed with THR 243. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. History of the development of film as a communications medium and an art form
2. History of the development of various film industries world-wide seen in historic, geographic and political contexts
3. Film genres and classifications seen within historical and stylistic contexts
4. Cinematic techniques and technologies in relation to spectators' receptions and interpretations
5. Film as seen by various thinkers and disciplines
6. Representations in films
7. Politics in film
8. The social function of film
9. Analyzing and critiquing film

**LEARNING OUTCOMES:**

1. Analyze the historical development of film as a communications medium and as an art form. (1) (AH1,2)
2. Discuss the development of film industries in historic, geographic, and political contexts. (2) (AH1,2)
3. Classify films and specify genres within their historical and stylistic contexts. (3) (AH1,3)
4. Relate cinematic techniques and technologies to spectators' receptions and interpretations. (4) (AH3-5)
5. Connect cinema to the systems of various important thinkers and disciplines. (5) (AH5)
6. Investigate the use of representations in films. (6) (AH 4-5)
7. Relate film to political settings. (7) (AH2)
8. Determine and analyze the social function of various films. (8) (AH2, 4-5)
9. Analyze and critique films. (9) (AH3-5)
10. Engage in informed, dialectic discussion regarding the various aspects of films and film production. (1-10) (AH1-4)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Humanities Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

**HUM 248 - Introduction to Folklore****COURSE DESCRIPTION:**

HUM 248. Introduction to Folklore (3). A cross-cultural introduction to the study of folklore. Focuses on the ways individuals and groups use artistic expression in everyday life - including storytelling, beliefs, songs, speech, dance, celebrations and artifacts - to address issues of identity, community, and tradition. Cross listed with ANT 248. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Definition of folklore and examination of folkloric behavior and artifacts around the world
2. Genres of folklore in narrative, speech, belief, performance and art
3. Folklore theories and scholarship
4. Methods of folklore investigation, including fieldwork
5. Use of artistic expression in establishing individual and group identity, authenticity and authority
6. Stability and change in tradition

**LEARNING OUTCOMES:**

1. Distinguish folkloric behavior and artifacts from other aspects of human culture. (1, 2) (AH 1, 3)
2. Identify and associate specific examples of folklore with cross-cultural categories of human social behavior. (1-3, 5, 6) (AH 2)
3. Justify the value of fieldwork in investigating human behavior. (3, 4) (AH 5)
4. Document and interpret the presence of folklore in everyday life. (1-6) (AH 4)
5. Describe and interpret the twin processes of conservation and change in the creation and transmission of folklore. (3, 6) (AH 3)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Humanities Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

**HUM 250 - American Cinema****COURSE DESCRIPTION:**

HUM 250. American Cinema (3). Survey of American film as an art form, an industry, and a system of representation and communication. Technical, aesthetic, and cultural aspects of cinema and the reading of film as a means for communicating American ideals, values and attitudes. This course is cross-listed with THR 250. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Development of the American film industry
2. Film vocabulary
3. Cinematic art and technology
4. Hollywood film genres



## 5. Film analysis and critique

## LEARNING OUTCOMES:

1. Identify the key events of American film history from the silent cinema to the present day. (1) (AH 1, 5)
2. Use the basic technical and critical vocabulary of motion pictures. (2) (AH 3)
3. Analyze the relationship between the technologies of cinema and film art. (3) (AH 2)
4. Explain the role of genre in American film history as it relates to the expression of American ideals, values and identity. (4) (AH 1,3)
5. Analyze and critique American films. (5) (AH 4)

REQUIRED ASSESSMENT: Demonstrate thoughtful and precise writing skills by completing at least 2500 words.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Humanities Department

## Course Attributes:

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

**HUM 260 - Intercultural Perspectives**

## COURSE DESCRIPTION:

HUM260. Intercultural Perspectives (3). Cultural, literary, and artistic expressions of Native Americans, Hispanic Americans, African American, and Asian Americans. Includes both traditional and modern work, issues of race, gender and ethnicity and contribution to American civilization. Prerequisite: ENG 101 or ENG 103. Three lecture.

## COURSE CONTENT:

1. Historical forces and social systems of American society that have shaped the experience of minorities in the United States, including issues of race, gender and ethnicity
2. Significant Native American, Hispanic American, African American and Asian American artists and writers
3. Importance and influence of traditional cultural artistry on the works of Native American, Hispanic American, African American and Asian American artists and writers
4. Influence of Native American, Hispanic American, African American and Asian American art and writing on the American artistic tradition

## LEARNING OUTCOMES:

1. Articulate the historical forces and social systems that shaped the cultures of Native American, Hispanic American, African American and Asian American artists and writers, including issues of race, gender and ethnicity. (1) (AH 2) (ERG 1, 3, 5)
2. Identify significant innovators, themes and techniques in the art of Native American, Hispanic American, African American and Asian American communities. (2) (AH 5) (ERG 2)
3. Compare traditional and modern works of Native American, Hispanic American, African American and Asian American artists and writers in order to trace the influence of cultural traditions on modern artistic expression. (3) (AH 1,4) (ERG 4)
4. Explain the influence of Native American, Hispanic American, African American and Asian American artists and writers on American art and culture. (4) (AH 3) (ERG 6)

REQUIRED ASSESSMENT: Demonstrate thoughtful and precise writing skills by completing at least 2500 words.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Humanities Department

## Course Attributes:

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

**HUM 296 - Internship: Humanities**

## COURSE DESCRIPTION:

HUM296. Internship: Humanities (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

## COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

## LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

## REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.

4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
Humanities Department

### **HUM 299 - Independent Study Humanities**

#### **COURSE DESCRIPTION:**

HUM 299. Independent Study Humanities (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

#### **COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

#### **LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
Humanities Department

### **IPT 110 - Industrial Shop Practices**

#### **COURSE DESCRIPTION:**

IPT 110. Industrial Shop Practices (3) (Fall). Basic skills needed to work in industrial repair and maintenance shops, emphasizing safe and efficient use of hand and power tools, fine measurement, tool maintenance and sharpening. One lecture. Four lab.

#### **COURSE CONTENT:**

1. Safe shop practices
2. Measuring tools
3. Basic hand tools
4. Taps and dies for threading
5. Cutting and fusing HDPE pipe
6. Drill press
7. Power pipe threader
8. Pedestal grinder
9. Hand and hydraulic presses

#### **LEARNING OUTCOMES:**

1. Identify common shop hazards. (1)
2. Use personal protective equipment. (1)
3. Use various hand tools safely. (1)
4. Use techniques of various power tools safely. (1)
5. Use measuring tools: tapes, calipers, dividers, and gauges. (2)
6. Take measurements in various materials and in the course of various processes. (2)
7. Distinguish between English and metric measures. (2)
8. Select the proper tool for a given task. (3)
9. Identify common hand tools and their applications. (3)
10. Identify common files and their uses. (3)
11. Interpret the American National Thread System. (4)
12. Identify common taps. (4)
13. Select appropriate tap for specific application. (4)
14. Tap holes by hand. (4)
15. Identify and correct common threading problems. (4)
16. Select and prepare a rod for threading. (4)
17. Cut threads with a die. (4)
18. Select proper pipe for specific application. (5)
19. Cut HDPE pipe. (5)
20. Prepare HDPE pipe for joining. (5)
21. Use adhesives to join HDPE pipe. (5)
22. Select drills for specific applications. (6)
23. Make safe setups on drill press. (6)
24. Determine correct speeds and feeds for drilling operation. (6)
25. Select dies for specific applications. (7)
26. Use cutting fluids. (6,7)
27. Make safe setups on pipe threader. (7)
28. Thread pipe up to 2" diameter. (7)
29. Safely setup the pedestal grinder. (8)

30. Identify different metals by shop testing. (8)
31. Sharpen a twist drill bit. (8)
32. Remove and install a ball bearing from a shaft or housing. (9)
33. Remove and install a shaft with a keyway using a arbor press. (9)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Industrial Plant Technology Department

**Course Attributes:**  
Written Comm (WC)

### [IPT 120 - Industrial Pump Maintenance and Repair](#)

**COURSE DESCRIPTION:**

IPT 120. Industrial Pump Maintenance and Repair (3) (Fall). Types of pumps and their associated piping systems as applied in industrial settings. One lecture. Four lab.

**COURSE CONTENT:**

1. Pump types
2. Principles of pump operation
3. Calculations required to use pumps safely and efficiently
4. Pump gauges
5. Pump maintenance procedures
6. Pump troubleshooting skills

**LEARNING OUTCOMES:**

1. Identify centrifugal pumps, including impeller, intake/discharge, and stage types (1)
2. Identify positive displacement pumps (1)
3. Identify rotary pumps, including gear, vane, and piston types (1)
4. Identify reciprocating pumps (1)
5. Identify special serviced pumps (1)
6. Use correct nomenclature for pump parts (2)
7. Explain the types and functions of impellers (2)
8. Explain the types and functions of seals (2)
9. Define and explain volute case (2)
10. Calculate head, reticulation, velocity, and pressure (3)
11. Describe NPSHR, NPSHA, and efficiency curves (3)
12. Connect pressure gauge for discharge (4)
13. Connect vacuum gauge for intake (4)
14. Read pump gauges (4)
15. Operate pump with throttled intake or throttled discharge (4)
16. Disassemble an end-suction centrifugal pump (5)
17. Inspect and evaluate pump parts (5)
18. Reassemble an end-suction centrifugal pump (5)
19. Construct intake and discharge companion flanges (5)
20. Use two-hole method for flange alignment on pipe (5)
21. Apply pump maintenance procedures (5)
22. Infer and apply troubleshooting strategies (6)
23. Use test equipment appropriately (6)
24. Use safe practices for troubleshooting pumps (6)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Industrial Plant Technology Department

**Course Attributes:**  
Digital Lit (DL)

### [IPT 130 - Industrial Valve Maintenance and Repair](#)

**COURSE DESCRIPTION:**

IPT 130. Industrial Valve Maintenance and Repair (3) (Spring). Valves and their associated piping systems as applied in industrial settings. One lecture. Four lab.

**COURSE CONTENT:**

1. Valve types
2. Nomenclature for various valve parts
3. Principles of valve operation
4. Characteristics of flow in different valves
5. Principles of proper valve selection for specific applications
6. Valve maintenance procedures
7. Valve troubleshooting skills

**LEARNING OUTCOMES:**

1. Identify valves: globe, butterfly, wafer, weir, needle and ball. (1)
2. Identify valve parts; stem, actuator yoke, packing box, bonnet, cage, seat ring, plug, body, and gaskets (2)
3. Use correct nomenclature for valve parts (3)
4. Explain hand, air, and hydraulic operational methods (3)
5. Define laminar flow (4)
6. Define turbulent flow (4)
7. Define mixed flow (4)
8. Apply flow characteristics to specific valve types (4)

9. Explain pressure drops (4)
10. Determine fluid types (5)
11. Determine temperatures (5)
12. Determine viscosity (5)
13. Determine specific gravity (5)
14. Determine capacity of flow (5)
15. Determine system pressure (5)
16. Determine pressure drops (5)
17. Select the valves for a given applications(5)
18. Disassemble a valve (6)
19. Inspect and evaluate valve parts (6)
20. Reassemble a valve (6)
21. Apply valve maintenance procedures (6)
22. Infer and apply troubleshooting strategies (7)
23. Use test equipment appropriately (7)
24. Use safe practices for troubleshooting valves (7)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Industrial Plant Technology Department

**Course Attributes:**

Scientific (SL)

#### **[IPT 140 - Bulk Materials Handling](#)**

**COURSE DESCRIPTION:**

IPT 140. Bulk Materials Handling (3). Operation, maintenance, and repair of industrial materials handling machinery including conveyors, feed and discharge devices, screens, and crushers. One lecture. Four lab.

**COURSE CONTENT:**

1. Power transmission equipment
2. Lubrication issues
3. Bearing design, use, and maintenance
4. Oil seal design, use, and maintenance
5. Belting maintenance and repair
6. Basic support structure repair

**LEARNING OUTCOMES:**

1. Explain the function of gear-box transmissions (1)
2. Explain fluid drives (1)
3. Explain chain drives (1)
4. Identify various couplings (1)
5. List types of friction (2)
6. Compare types of lubricants (2)
7. Compare properties of lubricants (2)
8. Explain the role of common additives (2)
9. Describe methods of lubricant delivery (2)
10. Define viscosity and use it to identify various oils (2)
11. Discuss environmental concerns of handling and use of petroleum-based lubricants (2)
12. Use correct nomenclature for bearing parts (3)
13. Identify types and characteristics of bearings (3)
14. Use proper storage, installation, and maintenance of bearings (3)
15. Discuss special bearing applications (3)
16. Identify the causes of bearing failure (3)
17. Use correct nomenclature for seal parts (4)
18. Identify types and characteristics of seals (4)
19. Installation and maintain bearings(4)
20. Discuss specific applications of oil seals (4)
21. Identify the causes of seal failure (4)
22. Discuss construction and design of belting systems (5)
23. Perform mechanical repairs in belting systems (5)
24. Compare mechanical and materials failures (5)
25. Perform troubleshooting in belting systems (5)
26. Recognize loading areas (5)
27. Perform training and alignment adjustments (5)
28. Perform head pulley, tail pulley, take-up and tensioning adjustments (5)
29. Check troughing idlers (5)
30. Check return idlers (5)
31. Analyze framing design and materials (6)
32. Make simple repairs to framing (6)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Directed Study, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Industrial Plant Technology Department

**Course Attributes:**

Critical Thinking (CT)

#### **[IPT 160 - Machinery Maintenance and Troubleshooting](#)**

**COURSE DESCRIPTION:**

IPT 160. Machinery Maintenance and Troubleshooting (3). Systematic methods of identifying causes of mechanical failure and using predictive methods to prevent mechanical failure. Prerequisite: IPT 140 (May be taken concurrently). One lecture. Four lab.

**COURSE CONTENT:**

1. Resources to understand equipment
2. Equipment maintenance history
3. Operation requirements for mechanical equipment
4. Root cause analysis of mechanical failure
5. Preventative maintenance scheduling

**LEARNING OUTCOMES:**

1. Interpret blueprints and drawings (1)
2. Utilize manufacturer's guides (1)
3. Analyze operators reports (1)
4. Perform electrical analysis (2)
5. Measure and record vibration signature (2)
6. Track thermal changes (2)
7. Perform oil analysis (2)
8. Determine electrical requirements (3)
9. Determine load capacity (3)
10. Determine RPM capacity (3)
11. Locate power lockout (3)
12. Inspect bearings (3)
13. Inspect seals (3)
14. Inspect gears (3)
15. Check shaft alignment (3)
16. Inspect fluid levels (3)
17. List possible causes of excessive vibration (4)
18. List possible causes of overheating (4)
19. Identify the types and causes of bearing failure (4)
20. Identify the causes of seal failure (4)
21. Identify maintenance needs of a specific system (5)
22. Schedule maintenance tasks to prevent failure/maximize equipment life and productivity (5)

3.000 Credit hours  
1.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Industrial Plant Technology Department

**Course Attributes:**

Diversity (DA), Oral Communication (OC)

**[IPT 260 - Advanced Machinery Maintenance](#)****COURSE DESCRIPTION:**

IPT 260. Advanced Machinery Maintenance (3). Advanced maintenance procedures of heavy industrial machinery. Prerequisite: IPT 160. Two lecture. Three lab.

**COURSE CONTENT:**

1. Bearings
2. Power transmission equipment
3. Lubrication

**LEARNING OUTCOMES:**

1. Replace and repair plain journal bearings. (1)
2. Replace and repair antifriction bearings. (1)
3. Replace and repair ball and roller bearings. (1)
4. Replace bearing seals. (1)
5. Lubricate all types of bearings. (1)
6. Change belt drives. (2)
7. Repair and change chain drives. (2)
8. Replace worn gears. (2)
9. Replace worn gear drives. (2)
10. Replace adjustable speed drives. (2)
11. Realign and replace driveshafts. (2)
12. Replace shaft coupling devices. (2)
13. Replace clutches and brakes. (2)
14. Explain the principles of lubrication. (3)
15. Describe lubricant characteristics. (3)
16. Explain the purpose of lubricant additives. (3)
17. Differentiate between general purpose and special purpose grease and dry film lubricants. (3)
18. Lubricate various conveyance systems. (3)
19. Explain appropriate storage, disposal and handling of lubricants. (3)
20. Develop lubrication PM sheets. (3)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Industrial Plant Technology Department

**Course Attributes:**

Info Literacy (IL)

**IPT 261 - Machine Shop****COURSE DESCRIPTION:**

IPT 261. Machine Shop (3) (Fall). Theory and practice in history, concepts, safety and job planning in the machine shop. Two lecture. Three lab.

**COURSE CONTENT:**

1. Standard machine tools
2. Safe machining
3. Hazard correction
4. History of machining
5. Machining procedures for drills, lathes, grinders, and saws
6. Measuring instruments

**LEARNING OUTCOMES:**

1. Utilize standard machine shop tools. (1)
2. Use basic machining setup procedures (2,5)
3. Calculate feed rates for boring tools. (1,5)
4. Use and sharpen a cylindrical grinder. (3,5)
5. Identify appropriate cutting fluids for a given job. (2,5)
6. Conduct angular measurement (6)
7. Perform drilling, tapping and reaming on a drill press. (5)
8. Turn a taper on a lathe. (5)
9. Face plate on a lathe. (5)
10. Operate band saw to contour, cut-off, and weld blades. (5)
11. Summarize the history of machining in North America. (4)
12. Debug problems with machines. (2,3)
13. Compile measurement data from metric instruments. (6)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Industrial Plant Technology Department

**Course Attributes:**

Civic Engagement (CE), Quantitative Lit (QL)

**IPT 295 - Apprenticeship: Industrial Plant****COURSE DESCRIPTION:**

IPT 295. Apprenticeship: Industrial Plant (3). Supervised field experience. [Repeatable for a total of 12 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Job description and organization requirements
2. Technical skill development
3. Workplace skills and professional ethics
4. Workplace safety

**LEARNING OUTCOMES:**

1. Repair and maintain required equipment. (2,4)
2. Adhere to all safety procedures. (1,3,4)
3. Incorporate proper company protocols in the workplace. (1)
4. Apply appropriate workplace behaviors and professional ethics. (3)
5. Use critical thinking, problem solving, ethical awareness and effective writing skills. (1,2,3)
6. Interpret written and oral instructions. (1,2)
7. Initiate and complete assigned responsibilities. (1)
8. Use specialized equipment, software and tools required. (1,2)

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** [Apprenticeship](#)

Career & Technical Education Division  
Industrial Plant Technology Department

**Course Attributes:**

Civic Engagement (CE)

**IPT 296 - Internship: Industrial Plant Technician****COURSE DESCRIPTION:**

IPT 296. Internship: Industrial Plant Technician (3) (Fall). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Career & Technical Education Division  
 Industrial Plant Technology Department

### **JRN 131 - Mass Media in American Society**

**COURSE DESCRIPTION:**

JRN 131. Mass Media in American Society (3). Critical examination of mass media and its social, historical, economic and political impact on American society. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Analysis of the functions served by newspaper, television, radio, magazines, movies and books, sound recordings and the internet in American society
2. Historical development of the print and broadcast media in America
3. Causes and consequences of the information explosion of the 20th century
4. Media power: media impact on attitudes, behavior, politics, culture and public policy
5. Press freedom and the law; government regulation and guidance of the media

**LEARNING OUTCOMES:**

1. Assess the functions of each component of the mass media. (1,2)
2. Analyze the political, cultural, ethical and economic impact of mass media on American society and on individual members of society by applying critical thinking skills. (1,5) (AH 2)
3. Critically process the connections between the growth and changes of mass media and the growth and changes in American society and communicate the reasons for those connections. (1,3,4)
4. Critique the relationships between governmental regulations and media practices. (1,5)
5. Create and communicate effective solutions to mass media problems. (1,4,5) (AH 1)
6. Formulate and articulate informed choices using critical thinking skills regarding personal and societal media consumption. (1,3) (AH 2)
7. Recognize that closure is not always achieved in intellectual discourse. (AH 4) (1)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Journalism Department

**Course Attributes:**

Critical Thinking (AGEC), Critical Thinking (CT)

### **JRN 150 - Mediawriting and Reporting**

**COURSE DESCRIPTION:**

JRN 150. Mediawriting and Reporting (3). Instruction and practice in reporting and news writing for a range of modalities, including online and print publication. Includes journalism as a career; gathering and defining news; interviewing and reporting; organizing, writing and revising the story. Features visual storytelling and an overview of ethics, libel and media law. Prerequisite: ENG 100 or skills assessment into ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Journalism in the digital age
2. Research and interviewing techniques
3. Organization and structure of news stories
4. Visual storytelling with photographs
5. Editing and decision-making
6. Media ethics at work
7. Libel and media law

**LEARNING OUTCOMES:**

1. Write for publication. (1,3)
2. Apply sound research, interviewing and investigative skills when gathering news. (2)
3. Develop and refine skills in visual storytelling with photographs. (4)
4. Use editing skills. (5)
5. Apply ethical principles and news judgment in content decision-making. (6,7)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Journalism Department

**Course Attributes:**

Applied Communication/Writing, Written Comm (WC)

### **JRN 250 - Advanced Newswriting and Reporting**

**COURSE DESCRIPTION:**

JRN 250. Advanced Newswriting and Reporting (3). Writing, organizational and research skills, especially as adapted to journalistic style. Emphasis on reading, rewriting and research, with focus on writing with accuracy, brevity and clarity. Prerequisite: JRN 150. Three lecture.

**COURSE CONTENT:**

1. News-gathering techniques
2. Structure, organization and process of writing news, features, and sports stories for the print media
3. Story ideas and a sense of what constitutes news
4. Publication in a simulated newsroom atmosphere
5. Editing and proofreading skills
6. Legal and ethical issues of journalistic importance

**LEARNING OUTCOMES:**

1. Gather, evaluate and synthesize information from a variety of sources and beats.
  2. Apply investigative skills when gathering news.
  3. Enterprise stories from idea inception to publication.
  4. Write news, feature and sports stories for publication.
  5. Write stories within the confines of a deadline.
  6. Assess personal and others' writing by examining the process and the product.
  7. Edit and proofread using a word processing program.
  8. Apply ethical and legal principles and news judgement in the process of reporting and news writing.
- 3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Journalism Department

### **JRN 296 - Internship: Journalism**

**COURSE DESCRIPTION:**

JRN 296. Internship: Journalism (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Internship

Visual/Performing/LiberalOBS Division  
Journalism Department

### **JRN 299 - Independent Study Journalism**



**COURSE DESCRIPTION:**

JRN 299. Independent Study Journalism (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours

0.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division

Journalism Department

### **LAW 100 - Introduction to Paralegal Studies**

**COURSE DESCRIPTION:**

LAW 100. Introduction to Paralegal Studies (3). Introduction to the role of the paralegal in the legal system, including the federal and state court systems, ethics, regulation and professional responsibility, legal analysis, research and basic legal concepts. Includes professional development and job search strategies. Three lecture.

**COURSE CONTENT:**

1. Introduction to the paralegal profession
  - a. History
  - b. Education
  - c. Skills
2. Careers in the legal community
3. The regulation of legal professionals
4. Ethics and professional responsibility
5. Introduction to law
  - a. Sources
  - b. Court system and alternative dispute resolution
  - c. Fundamental legal concepts
6. Civil and criminal litigation and procedures
7. Legal analysis and writing
8. Legal research

**LEARNING OUTCOMES:**

1. Describe the American judicial system and the responsibilities of the various court systems.
2. Distinguish between civil and criminal litigation, and describe the stages of litigation.
3. Describe and explain basic concepts of law.
4. Apply legal analysis to the briefing of cases and problem solving.
5. Define the issues of the paralegal profession, and discuss professional development and job search strategies.
6. Apply principles of ethics and professional responsibility to specific scenarios.

3.000 Credit hours

3.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division

Paralegal Studies Department

### **LAW 101 - Legal Ethics and Professional Responsibility**

**COURSE DESCRIPTION:**

LAW 101. Legal Ethics and Professional Responsibility (1). State and national ethical codes and rules of professional responsibility, ethical dilemmas and methods for researching answers, professionalism, and the unauthorized practice of law. One lecture.

**COURSE CONTENT:**

1. Codes of ethics and rules of professional responsibility
2. Regulation of lawyers and non-lawyers
3. Ethical dilemmas
4. Methods for researching answers to ethical dilemmas
5. Professionalism
6. Unauthorized practice of law

**LEARNING OUTCOMES:**

1. Identify state and national codes of ethics and rules of professional responsibility.
2. Delineate regulations pertaining to lawyers and non-lawyers.
3. Describe ethical dilemmas.
4. Research answers to ethical dilemmas.
5. Identify best practices representing professionalism.
6. Analyze statutes and rules relating to the unauthorized practice of law.

1.000 Credit hours

1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Paralegal Studies Department

#### **LAW 104 - Wills, Trusts and Probate**

##### **COURSE DESCRIPTION:**

LAW 104. Wills, Trusts and Probate (3). Critical issues, roles, and legal requirements in estate administration and pleadings. Pre-requisite: LAW 100 and either ENG 101 or ENG 103. Three lecture.

##### **COURSE CONTENT:**

1. Terminology, definitions, and law associated with wills, trusts, estate administration
2. Wills and trusts
  - a. Requirements for validity
  - b. Formation
  - c. Modification
  - d. Revocation
  - e. Client objectives
  - f. Tax considerations
3. Estate administration
  - a. Intestate vs. testate proceedings
  - b. Formal probate
  - c. Informal probate
  - d. Supervised administration
  - e. Jurisdiction and related issues
4. Personal representatives, fiduciaries and trustees
  - a. Qualifications and methods for appointment
  - b. Powers and responsibilities
  - c. Liabilities
5. Arizona probate law
  - a. History
  - b. Statutes

##### **LEARNING OUTCOMES:**

1. Apply the law regarding will and trust drafting.
2. Identify the laws of intestate succession.
3. Identify the basic functions of the participants in estate administration.
4. Prepare the pleadings for an informal probate.
5. Compare the responsibilities and liabilities of personal representatives, fiduciaries and trustees.
6. Identify the required pleadings in a formal probate.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Paralegal Studies Department

#### **LAW 105 - Legal Computer Applications**

##### **COURSE DESCRIPTION:**

LAW 105. Legal Computer Applications (2). Introduction to computer software and software applications used in a law office and the business community. Includes computer research tools, e-mail, application of general office management software to the legal environment, ethical considerations, and law office practice concepts. Prerequisite: LAW 100 (may be taken concurrently) and CSA 140. Two lecture.

##### **COURSE CONTENT:**

1. Computer hardware and software; concepts of law office management
2. Software programs for law office management including computer research, e-mail, and application of general office management software to the legal environment
3. WESTLAW and Internet research
4. Complex legal documents
5. The law office and law practice of the 21st century
6. Ethical considerations and basic law office practice concepts
7. Electronic presentation software

##### **LEARNING OUTCOMES:**

1. Explain the use of technology in the practice of law and in the management of the law office. (1-5,7)
2. Identify a variety of computer tools available to assist the legal professional in the performance of daily tasks. (1-3,5,7)
3. Identify research strategies in the use of WESTLAW and Internet research. (3)
4. Describe the application of general office management software packages to the legal environment (ex: word processing, database management, spreadsheets, and presentation software) and prepare complex legal documents. (2,4,7)
5. Use legal software applications packages:
  - a. Standard Internet browser to conduct Internet research. (2,3)
  - b. WESTLAW (legal research). (2,3)
  - c. General office management software (ex: word processing, database management, spreadsheets, presentation software). (1,2,4,5,7)
  - d. Other legal-specific software as appropriate and available. (2,3,4,5)
6. Find, evaluate and summarize new and emerging software and hardware technologies for the law office. (2,3,5)
7. Identify and explain ethical concerns relating to technology and the practice of law. (6)
8. Design an electronic slideshow using presentation software. (7)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Paralegal Studies Department

#### LAW 106 - Advanced Legal Computer Applications

##### COURSE DESCRIPTION:

LAW 106. Advanced Legal Computer Applications (2). Advanced application of computer software used in the law office and the business community. Includes time and billing, calendaring and docket control, case management, document management, litigation support, computer research tools, and ethical considerations. Prerequisite: LAW 105. Two lecture.

##### COURSE CONTENT:

1. Software programs for time and billing, calendaring and docket control, case management, document management, litigation support, general office management, and computer research tools  
WESTLAW and Internet research
2. Ethical considerations

##### LEARNING OUTCOMES:

1. Manage information by applying legal software applications packages to a law office situation, which may include:
  - a. Timeslips or Verdict software (time & billing). (1)
  - b. Amicus Attorney or Abacus software (calendaring & docket control). (1)
  - c. Summation Blaze or inData Director (litigation support). (1)
  - d. PCLAW (docket control, legal timekeeping, legal accounting). (1)
  - e. Standard Internet browser (Internet research). (2)
  - f. General office management software (ex: word processing, database management, spreadsheets, presentation software). (1)
  - g. Other legal-specific software as appropriate and available. (1)
2. Explain and prepare search strategies in the use of WESTLAW and the Internet. (2)
3. Summarize ethical concerns relating to technology and the use of software applications and suggest methods for preventing ethical violations. (3)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Paralegal Studies Department

#### LAW 107 - Law Office Management

##### COURSE DESCRIPTION:

LAW 107. Law Office Management (3). Processes and standards of law office management including record keeping, timekeeping, billing, calendaring and docket control. Emphasis on the principles and practices of law office management for manual and automated systems. LAW 100 (may be taken concurrently) and CSA 140 (may be taken concurrently). Three lecture.

##### COURSE CONTENT:

1. The field of law office management, standard office practices, time management and professionalism
2. Filing systems
3. Records management, classification, storage, retention, transfer and retrieval
4. Law office letters, memos, reports, table and legal documents
5. Filing legal documents with the courts
6. Timekeeping and billing
7. Calendaring and docket control
8. Confidentiality
9. Harvard Law Review Association Bluebook uniform system of legal citations

##### LEARNING OUTCOMES:

1. Employ principles of law office communication, time management, multi-tasking and initiative. (1)
2. Use filing systems as they pertain to the law office. (2)
3. Create, store, retrieve, retain and dispose of law office records using paper and paperless techniques. (3)
4. Select and use equipment and supplies for various records systems. (3)
5. Create, proofread, punctuate, format, revise and print law office letters, memos, reports, tables and legal documents. (4)
6. File legal documents with the courts. (5)
7. Carry out the mechanics of timekeeping and billing. (6)
8. Manage calendars and perform docket control procedures. (7)
9. Maintain law office confidentiality. (8)
10. Use the Harvard Law Review Association Bluebook uniform system of legal citations. (9)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Business & Computer ScienceOBS Division  
Paralegal Studies Department

#### LAW 201 - Criminal Law and Procedure

##### COURSE DESCRIPTION:

LAW 201. Criminal Law and Procedure (2). Fundamentals of criminal law and examination of the criminal court system, criminal investigation and prosecution, rules of evidence, and trial preparation and procedures. Prerequisite: LAW 100 and either ENG 101 or ENG 103. Two lecture.

##### COURSE CONTENT:

1. Federal and state court system
2. Terminology
3. Constitutional protections
4. Arrest
5. Evidence
  - a. Rules
  - b. Kinds

- c. Witnesses
- d. Authentication
- e. Relevance
- 6. Confessions and admissions
- 7. Trial preparation and procedures

**LEARNING OUTCOMES:**

1. Outline state and federal criminal court systems, the jurisdiction of courts and of law enforcement agencies.
2. Identify and apply the elements of common law and Arizona crimes.
3. Explain criminal trial procedure from grand jury through appeal.
- 4 Describe the roles of the police, prosecutors, defense attorney, judges and paralegals in the criminal justice system.
5. Define and use legal terminology related to criminal law.
- 6 Explain and define the role of the Bill of Rights in criminal litigation.

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Paralegal Studies Department

**LAW 203 - Family Law****COURSE DESCRIPTION:**

LAW 203. Family Law (3). Legal aspects of domestic matters and family relationships. Emphasis on dissolution of marriage, community property, child custody, child support and support calculations, adoptions, guardianships, state involvement in family and parent-child relationships, and statutes relating to families and family relationships. Prerequisite: LAW 100 and either ENG 101 or ENG 103. Three lecture.

**COURSE CONTENT:**

1. Legal terminology
2. Dissolution of marriage pleadings and procedure
3. Divorce process, statutes and forms applicable to dissolution of marriage
4. Annulment
5. Spousal support
6. Child custody, visitation and parenting time; child support and support calculations
7. Community property settlement
8. Adoption, termination of parent/child relationship, guardianship, conservatorship
9. Family Crimes
10. Family health/welfare issues
11. Children
  - a. Delinquent children and delinquency proceedings
  - b. Dependent children and dependency proceedings

**LEARNING OUTCOMES:**

1. Define and use legal terminology related to domestic relations and family law.
2. Conduct initial client interviews.
3. Prepare dissolution pleadings from petition through decree.
4. Explain the procedural process of a dissolution from filing to judgement.
5. Differentiate between legal separation, dissolution and annulment.
6. Distinguish between community property and separate property.
7. Draft forms relating to conservatorship, guardianship, adoption and parental terminations, health care and powers of attorney.
8. Relate the role, activities, and process of state in family and family relationships.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Paralegal Studies Department

**LAW 206 - Contracts****COURSE DESCRIPTION:**

LAW 206. Contracts (2). Legal requirements of corporations, partnerships, LLCs, and sole proprietorships. Prerequisite: LAW 100 and either ENG 101 or ENG 103. Two lecture.

**COURSE CONTENT:**

1. Corporate law
2. Partnerships, limited partnerships, LLCs
3. Uniform Partnership Act, Revised Uniform Limited Partnership Act
4. Sole proprietorships
5. Agency law
6. Ethical concerns

**LEARNING OUTCOMES:**

1. Apply business organization information and legalities. (1,2,3,4,5)
2. Analyze cases, statutes and uniform acts incorporate, partnership, LLC, sole proprietorship, and other business organizational structures. (1,2,3,4,5)
3. Identify concepts of agency law. (5)
4. Identify and explain ethical concerns relating to different business organizational structures. (6)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division

Paralegal Studies Department

### LAW 207 - Introduction to Legal Nurse Practice and Ethics

#### COURSE DESCRIPTION:

LAW 207. Introduction to Legal Nurse Practice and Ethics (3). A survey of legal nurse practice and a study of the most important ethical issues facing the medical and legal professions as defined by organizations such as the American Bar Association, the American Medical Association, the American Nurses Association and the American Association of Legal Nurse Consultants. Application of ethical principles to case studies. Analysis of issues including informed consent, euthanasia, assisted suicide, and standards of care. An overview of the legal nurse profession, issues, marketing strategies, and the role of the legal nurse in the litigation process. Three lecture.

#### COURSE CONTENT:

1. Introduction to legal nurse practice
2. Principles of legal and medical ethics
3. Litigation involving medical issues and/or medical malpractice
4. Paralegal's professional responsibilities (ABA, NALA, NFPA)
5. Issues of the legal nurse profession, including marketing
6. Application of ethical knowledge to case studies
7. Resolutions to ethical dilemmas

#### LEARNING OUTCOMES:

1. Identify the basic concepts and principles related to the study of ethics and legal nurse practice.
2. Synthesize specific ethical problems of the legal nurse profession.
3. Resolve ethical dilemmas using current codes and cases.
4. Describe and differentiate between the ethical codes written by the American Bar Association, the American Medical Association, the American Nurses Association, the American Association of Legal Consultants, the National Association of Legal Assistants, and the National Federation of Paralegal Associations.
5. Work through all aspects of a litigation involving medical issues and/or medical malpractice.
6. Analyze case studies involving ethical dilemmas.
7. Analyze issues of legal nurse profession, including marketing strategies.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Paralegal Studies Department

### LAW 208 - Business Organizations

#### COURSE DESCRIPTION:

LAW 208. Business Organizations (2). General principles of the law of contracts, negotiable instruments, and sales. Prerequisite: LAW 100 and either ENG 101 or ENG 103. Two lecture.

#### COURSE CONTENT:

1. Contract case and statutory law
2. Restatement of contracts
3. Contract terminology
4. Parole evidence rule
5. Statute of frauds
6. Uniform Commercial Code as it relates to sales, negotiable instruments and banking
7. Ethical considerations

#### LEARNING OUTCOMES:

1. Explain and apply the basics of contract formation, execution, breach and remedies. (1,2,3,4,5,6)
2. Define contract terminology. (3)
3. Explain the parole evidence rule and statute of frauds. (1,3, 4,5)
4. Analyze cases in contract law. (1)
5. Describe the functions of the Uniform Commercial Code in the areas of sales, negotiable instruments and banking. (6)
6. Identify and explain ethical concerns relating to contract law. (7)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Paralegal Studies Department

### LAW 210 - Bankruptcy Procedures

#### COURSE DESCRIPTION:

LAW 210. Bankruptcy Procedures (2). Procedures for individual and business bankruptcy proceedings. Preparation of basic bankruptcy documents and review of creditor/debtor remedies under the bankruptcy laws. Prerequisite: LAW 100 and either ENG 101 or ENG 103. Two lecture.

#### COURSE CONTENT:

1. Types of proceedings
  - a. Chapter 7--Liquidation
  - b. Chapter 13--Wage Earner Adjustment of Debts
  - c. Chapter 11--Business Reorganization
2. Bankruptcy Act
3. Bankruptcy Code of 1978
4. Terminology

#### LEARNING OUTCOMES:

1. Identify the three main types of bankruptcy proceedings.
2. Explain the basic concepts of federal bankruptcy law.
3. Identify the role and responsibilities of the paralegal in bankruptcy proceedings and document preparation.
4. Describe the Bankruptcy Code and its effectiveness in achieving its objectives.
5. Identify the procedures for preparing pleadings and processing a Chapter 7 bankruptcy.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Paralegal Studies Department

#### **LAW 215 - Legal Research and Writing I**

##### **COURSE DESCRIPTION:**

LAW 215. Legal Research & Writing I (4) (Fall). Principles and techniques for conducting legal research. Emphasis on sources of law, utilization of primary and secondary sources, and case briefing. Extensive practice in writing research memoranda. Prerequisite: LAW 100 and either ENG 101 or ENG 103. Four lecture.

##### **COURSE CONTENT:**

1. Grammar and sentence structure
2. Role of the paralegal in conducting legal research
3. Techniques of legal research
4. Statutes, digests, reporters, legal periodicals, and other sources
5. Facts and issues in legal analysis
6. Blue Book and/or ALWD citation form
7. Legal analysis and writing
8. Writing legal memoranda
9. Ethical concerns in legal research and writing

##### **LEARNING OUTCOMES:**

1. Identify parts of a sentence and use correct grammar in legal writing. (1,8)
2. Describe the role of the paralegal in conducting legal research and in legal writing. (2)
3. Research the law using appropriate legal resources and techniques. (3,4)
4. Locate federal, state and local statutes, ordinances, acts, and cases. (3,4)
5. Summarize, outline and explain the relevant facts and legal issues involved in a legal problem. (5)
6. Cite cases using Blue Book and/or ALWD citation form. (6)
7. Apply legal analysis in the writing process. (7,8)
8. Write legal memoranda. (8)
9. Identify and explain ethical concerns relating to legal research and writing. (9)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Paralegal Studies Department

#### **LAW 216 - Legal Research and Writing II**

##### **COURSE DESCRIPTION:**

LAW 216. Legal Research and Writing II (4) (Spring). Application of research and writing skills in responding to complex legal issues and preparing complex legal documents. Prerequisite: LAW 215. Four lecture.

##### **COURSE CONTENT:**

1. Legal research
2. Federal, state and local statutes, ordinances, acts, court rules and case law
3. Blue Book and/or ALWD citation form
4. Research analysis and writing strategy
5. Complex legal documents
6. Computer-assisted legal research
7. Ethical concerns relating to legal research and writing

##### **LEARNING OUTCOMES:**

1. Locate and apply federal, state and local statutes, ordinances and acts, court rules, and case law in the preparation of complex legal documents. (1,2,4,5,6)
2. Summarize and explain relevant facts and legal issues involved in complex legal problems. (4,5)
3. Cite relevant authority using Blue Book and/or ALWD citation form. (3)
4. Apply research analysis and develop strategies in the legal writing process. (1,2,4,5,6)
5. Draft complex legal documents. (1,2,3,4,5,6)
6. Use computer-assisted legal research. (6)
7. Identify and explain ethical concerns relating to legal research and writing. (7)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Paralegal Studies Department

#### **LAW 220 - Civil Tort Litigation I**

##### **COURSE DESCRIPTION:**

LAW 220. Civil Tort Litigation I (3) (Fall). Principles and procedures of civil litigation. Jurisdiction and venue, parties to action, and pleadings. Introduction to drafting of documents required from inception of civil action through the pleading stage, up to trial. Prerequisite: LAW 100 and either ENG 101 or ENG 103 and either CSA 130 or CSA 140. Two lecture. Two lab.

##### **COURSE CONTENT:**

1. Courts and court systems
2. Jurisdiction and venue

3. Parties to the actions
4. Client and witness interviewing
5. File organization and document control
6. Demand letters and settlement
7. Preparation of pleadings
  - a. Complaint
  - b. Summons
  - c. Certificate of Compulsory Arbitration
  - d. Answer
  - e. Disclosure statement
8. Elements of basic negligence actions
  - a. Duty and breach of duty
  - b. Causation
  - c. Damages
  - d. Defenses
  - e. Comparative negligence
  - f. Immunities
9. Terminology

**LEARNING OUTCOMES:**

1. Outline the litigation process from client interview through the pleading stage.
2. Interview clients and witnesses.
3. Draft basic litigation documents.
4. Describe the role of the paralegal in the litigation process.
5. Define legal terminology related to personal injury litigation.
6. Describe the key components of Arizona law related to personal injury litigation.

3.000 Credit hours  
 2.000 Lecture hours  
 2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
 Paralegal Studies Department

**LAW 221 - Civil Tort Litigation II**

**COURSE DESCRIPTION:**

LAW 221. Civil Tort Litigation II (3) (Spring). Study of the civil litigation process. Includes trial preparation, trial, evidence, and appeal. Prerequisite: LAW 220 and either ENG 101 or ENG 103. Two lecture. Two lab.

**COURSE CONTENT:**

1. Preparation of discovery and pretrial documents:
  - a. Interrogatories
  - b. Requests for production
  - c. Requests for Admission
  - d. Subpoenas
2. Depositions
3. Summary judgments
4. Arbitration
5. Pretrial motions
6. Preparation of witnesses
7. Trial Procedures
  - a. Jury selection
  - b. Courtroom observations
  - c. Trial notebooks
  - d. Note taking
  - e. Daily trial recapitulation
  - f. Demonstrative exhibits
  - g. Witnesses
8. Post trial and appellate procedures
9. Torts
  - a. Abuse of process
  - b. Product liability
  - c. Slander/libel
  - d. Employment torts
  - e. Malpractice
  - f. Fraud/misrepresentation
  - g. Emotional distress
10. Terminology

**LEARNING OUTCOMES:**

1. Outline the litigation process from pleading state through post trial.
2. Prepare a trial notebook.
3. Apply the Arizona Rules of Civil Procedure.
4. Assist in the process of witness preparation.
5. Draft discovery and trial pleadings.
6. Describe the role of the paralegal in the litigation process.
7. Identify elements of different tort causes for action.

3.000 Credit hours  
 2.000 Lecture hours  
 2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
 Paralegal Studies Department

**LAW 295 - Special Legal Topics****COURSE DESCRIPTION:**

LAW 295. Special Legal Topics (2). Introduction to a special legal topic and the role of the paralegal in the critical issues and requirements of the legal specialty area. The legal topic will change each semester. Prerequisite: LAW 100 and either ENG 101 or ENG 103. Two lecture. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Substantive law on the special legal topic
2. Role of paralegal in the specialized legal area
3. Pleadings, correspondence, documents in the specialized legal area
4. Research analysis of critical issues in the specialized legal area

**LEARNING OUTCOMES:**

1. Identify the legal sources regarding the special legal topic. (1)
2. Identify the duties required of a paralegal in the specialized legal area. (2)
3. Analyze and apply current case law to the specialized legal area in pleadings and legal memoranda. (3)
4. Conduct legal and factual research in the legal specialty area. (4)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Syllabus Available****Levels:** Credit**Schedule Types:** Lecture

Business & Computer ScienceOBS Division  
Paralegal Studies Department

**LAW 296 - Internship: Paralegal Studies****COURSE DESCRIPTION:**

LAW 296. Internship: Paralegal Studies (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit**Schedule Types:** Internship

Business & Computer ScienceOBS Division  
Paralegal Studies Department

**Course Attributes:**

Civic Engagement (CE), Creative Thinking (CR), Critical Thinking (CT), Diversity (DA), Digital Lit (DL), Info Literacy (IL), Oral Communication (OC), Quantitative Lit (QL), Scientific (SL), Written Comm (WC)

**LAW 299 - Independent Study Paralegal Studies****COURSE DESCRIPTION:**

LAW 299. Independent Study Paralegal Studies (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance



## LEARNING OUTCOMES:

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Business & Computer ScienceOBS Division  
 Paralegal Studies Department

**MAT 032 - Math Made Easy**

## COURSE DESCRIPTION:

MAT 032. Math Made Easy (1). Theory and practice in performing multiplication problems, in solving more difficult addition, subtraction, multiplication, and division problems without the use of a calculator, and in estimating the answer to an arithmetic problem of the type encountered in business and personal finance. One lecture.

## COURSE CONTENT:

1. The Trachtenberg speed system of mathematics for addition
2. The Trachtenberg speed system of mathematics for single-digit multipliers
3. The Trachtenberg speed system of mathematics for multi-digit multipliers
4. The Trachtenberg speed system of mathematics for division
5. Methods for performing addition and subtraction mentally
6. Methods for performing multiplication and division mentally
7. Methods of estimation

## LEARNING OUTCOMES:

1. Multiply any two numbers accurately without referring to a multiplication table.
2. Apply the Trachtenberg speed system when solving addition, subtraction, multiplication and division problems.
3. Check the answer to an addition problem using the "nines" method.
4. Add and subtract integers accurately without use of pencil and paper or a calculator.
5. Multiply and divide integers accurately without use of a calculator.
6. Estimate mentally the answer to an arithmetic problem involving percent.

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Foundation Studies Division  
 Mathematics Department

**MAT 082 - Fundamentals of Mathematics**

## COURSE DESCRIPTION:

MAT 082. Fundamentals of Mathematics (3). Review of basic arithmetic skills, introduction to geometric shapes and formulae, ratio and proportion, percents, measurement, and signed numbers. Three lecture.

## COURSE CONTENT:

1. Addition, subtraction, multiplication, and division of whole numbers
2. Addition, subtraction, multiplication, and division of fractions
3. Addition, subtraction, multiplication, and division of decimals
4. Conversion of fractions to decimals and decimals to fractions
5. Ratio and proportion
6. Percents
7. Measurement using U.S. and metric systems
8. Geometry
9. Addition, subtraction, multiplication, and division of signed numbers

## LEARNING OUTCOMES:

1. Add, multiply, subtract and divide whole numbers.
2. Add, multiply, subtract and divide positive rational numbers expressed in either fractional or decimal form.
3. Convert rational numbers from fractional to decimal form and decimal to fractional form.
4. Solve percent problems.
5. Solve ratio and proportion problems.
6. Work problems using units from the metric system and the U.S. system.
7. Recognize geometric shapes and formulae.
8. Compute areas, perimeters and volumes of basic geometric figures.
9. Add, subtract, multiply and divide signed rational numbers.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
 Mathematics Department

**MAT 092 - Beginning Algebra****COURSE DESCRIPTION:**

MAT 092. Beginning Algebra (3). Review of real number operations, solving linear equations, working with formulae and dimensional analysis, solving linear inequalities, graphs of linear equations, systems of linear equations and inequalities, exponents, basic operations on polynomials, and an introduction to mathematics technology. Note: Computer use and graphing calculator required (TI-83/84 recommended). Prerequisite: MAT 082, or one year of high school algebra completed within the last 4 years, or a satisfactory score on the mathematics skills assessment. Three lecture.

**COURSE CONTENT:**

1. Real number operations and their relationship to algebra
2. Linear equations in one variable
3. Formulae and literal equations
4. Geometric figures and formulae
5. Linear inequalities and interval notation
6. Linear equations and inequalities in two variables
7. Systems of linear equations and inequalities
8. Rules of exponents
9. Unit conversions using dimensional analysis
10. Basic operations with polynomial expressions
11. Factoring
12. Mathematics technology

**LEARNING OUTCOMES:**

1. Add, subtract, multiply, and divide real numbers and apply the ideas of real number arithmetic in algebraic settings. (1)
2. Use properties of equality to solve linear equations in one variable. (2)
3. Solve formulae for one variable in terms of other variables. (3)
4. Apply formulae for area, perimeter and volume of basic geometric shapes. (4)
5. Solve linear inequalities in one variable and give solutions both graphically and in interval notation. (5)
6. Graph linear equations in two variables by locating points and by using a point and a slope. (6)
7. Interpret and apply slope as a rate of change. (6)
8. Derive equations of lines from given information. (6)
9. Solve systems of linear equations using graphical and algebraic methods. (7)
10. Solve systems of linear inequalities. (7)
11. Combine expressions using the rules for exponents. (8)
12. Interpret and perform arithmetic using numbers written in scientific notation. (8)
13. Use dimensional analysis to perform unit conversions and to assign units to application problem results. (9)
14. Add, subtract, multiply and divide expressions involving polynomials. (10)
15. Factor binomials, trinomials and other polynomials using various methods. (11)
16. Use a graphing calculator to graph linear equations and inequalities in two variables, and to solve linear equations and inequalities in one variable. (12)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
 Mathematics Department

**MAT 100 - Technical Mathematics****COURSE DESCRIPTION:**

MAT 100. Technical Mathematics (3). Review of arithmetic skills, proportions, percentages, exponents, algebraic equations of the first degree, basic geometry, and literal equations with applications designed for the student's own field of study. Prerequisite: MAT 082, or one year of high school algebra completed within the last 4 years, or a satisfactory score on the mathematics skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Addition, subtraction, multiplication, and division of rational numbers
2. Ratio and Proportion
3. Percents
4. Rules of exponents
5. Fractional exponents and radicals
6. First degree equations
7. Literal equations
8. Geometry
9. Measurement including the metric system

**LEARNING OUTCOMES:**

1. Add, subtract, multiply, and divide signed rational numbers. (QL 1)
2. Apply whole number exponent laws to simplify expressions. (QL 1)
3. Convert fractional exponents to radical form and radicals to fractional exponents. (QL 1)
4. Solve problems involving ratios and proportions. (QL 1,2,4)
5. Solve problems involving percentages. (QL 1,2,4)
6. Solve basic algebraic linear equations including those containing literal terms. (QL 1-4)
7. Identify basic geometric shapes and formulae. (QL 1,3)
8. Solve problems involving geometric shapes and perimeter, area and volume of those shapes. (QL 1-4)
9. Use measurement systems including the metric system. (QL 1,2)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
 Mathematics Department

**Course Attributes:**

Quantitative Literacy, Quantitative Lit (QL)

**MAT 122 - Intermediate Algebra**

**COURSE DESCRIPTION:**

MAT 122. Intermediate Algebra (3). Simplifying polynomial, rational and radical expressions; solving quadratic, rational and radical equations; introducing functions and their representations; applying mathematics in real-world contexts; and using appropriate technology. Note: Computer use and graphing calculator required (TI-83/84 recommended). Prerequisite: MAT 092, or two years of high school algebra completed within the last 4 years, or a satisfactory score on the mathematics skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Factoring
2. Rational expressions and equations
3. Functions
4. Radical expressions and equations
5. Quadratic functions and equations
6. Inequalities
7. Technology

**LEARNING OUTCOMES:**

1. Perform basic operations with and reduce rational expressions. (1,2) (QL 1)
2. Perform basic operations with and simplify radical expressions. (4) (QL 1)
3. Apply the definition of and properties of functions and use function notation. (3) (QL 1)
4. Express functions numerically, algebraically, and graphically. (2,3,4,5) (QL 1,3)
5. Interpret functional relationships in various forms (numeric, algebraic, graphic). (2,3,4,5) (QL 1-3)
6. Solve rational, radical, and quadratic equations algebraically or graphically. (1,2,4,5) (QL 1,2,4)
7. Solve inequalities algebraically or graphically. (6) (QL 1,2,4)
8. Apply mathematics in real world contexts. (2,3,4,5) (QL 2-4)
9. Use technology to depict and interpret functional relationships. (2,3,4,5,7) (QL 3)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
Mathematics Department

**Course Attributes:**

Quantitative Literacy

**[MAT 142 - College Mathematics](#)****COURSE DESCRIPTION:**

MAT 142. College Mathematics (3). Survey of mathematical topics and applications. Includes statistics, probability, exponential functions, finance, dimensional analysis and other selected discrete math topics. Note: Computer use and graphing calculator required (TI-83/84 recommended). Prerequisite: MAT 122, or two years of high school algebra and one year of geometry completed within the last 4 years, or an ACT Math score of at least 22, or an SAT Math score of at least 530, or a satisfactory score on the mathematics skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Algebraic Models of Growth and Decay
2. Mathematics of Personal Finance
3. Counting and Probability
4. Descriptive Statistics and the Normal Distribution
5. Dimensional Analysis

**LEARNING OUTCOMES:**

1. Create and apply linear, quadratic and exponential models. (1) (QL 1-4)
2. Apply the mathematics of personal finance, including compound interest, annuities, and amortized loans. (2) (QL 1,2,4)
3. Apply the basic rules of counting: fundamental counting principle, permutations, and combinations to solve problems. (3) (QL 1,2,4)
4. Apply basic rules of probability including compound events, conditional probability, and expected value to solve problems. (3) (QL 1,2,4)
5. Calculate and interpret graphical and numerical summaries of data, including measures of central tendency and dispersion. (4) (QL 1-4)
6. Use the basic properties of the Normal curve to solve applied problems. (4) (QL 1-4)
7. Use dimensional analysis to make conversions with metric and U.S. measurement systems. (5) (QL 1-4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit


**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Foundation Studies Division  
Mathematics Department

**Course Attributes:**

Quantitative Literacy, Quantitative Lit (QL)

**[MAT 152 - College Algebra](#)****COURSE DESCRIPTION:**

MAT 152. College Algebra (3).  **MAT 1151.** Modeling of applications using linear, quadratic, exponential and logarithmic functions. Introduction to solving systems of equations using matrices. Note: Computer use and graphing calculator required (TI-83/84 recommended). Duplicate credit for MAT 152 and/or MAT 183 and MAT 187 will not be awarded. Prerequisite: MAT 122, or two years of high school algebra and one year of geometry completed within the last 4 years, or an ACT Math score of at least 22, or an SAT Math score of at least 530, or a satisfactory score on the mathematics skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Linear Functions
2. Quadratic and other nonlinear functions
3. Exponential and logarithmic functions
4. Polynomial functions
5. Systems of equations and matrices
6. Technology in mathematics

**LEARNING OUTCOMES:**

1. Use technology to recognize trends in data. (1,2,3,4,6) (QL1-4)
2. Create suitable functions that model data using technology. (1,2,3,4,6) (QL 1-3)
3. Analyze an application using a function developed from data. (1,2,3,4,6) (QL 1-4)
4. Add, subtract and multiply matrices in the context of an application. (5,6) (QL 1,2,4)
5. Solve a system of equations using matrices and technology. (5,6) (QL 1,2)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Foundation Studies Division  
Mathematics Department

**Course Attributes:**

Quantitative Literacy, Quantitative Lit (QL), SUN# MAT 1151

### **[MAT 156 - Mathematics for Elementary Teachers I](#)**

**COURSE DESCRIPTION:**

MAT 156. Mathematics for Elementary Teachers I (3). Mathematical principles and processes specifically for elementary teachers. Includes problem solving, set theory, properties and operations with number systems. Note: Computer use required. Prerequisite: MAT 142 or MAT 152 or satisfactory score on mathematics skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Problem solving strategies
2. Set theory and set operations.
3. Properties and operations with whole numbers
4. Properties and operations using other bases
5. Properties and operations with integers
6. Properties and operations with rational numbers
7. Properties and operations with decimal numbers
8. Number theory of primes, composites, and factors
9. Percents, ratios and proportions

**LEARNING OUTCOMES:**

1. Use Polya's Four Step Model when problem-solving. (1) (QL 2,4)
2. Use set notation and perform set operations using listed sets and Venn Diagrams. (2) (QL 1)
3. Solve whole number operations and explain the algorithms used. (3) (QL 1,4)
4. Solve problems in other number bases. (4) (QL 1)
5. Solve integer number operations and explain the algorithms used. (5) (QL 1,4)
6. Solve rational number operations and explain the algorithms used. (6) (QL 1,4)
7. Solve decimal number operations and explain the algorithms used. (7) (QL 1,4)
8. Categorize numbers as prime and composite and find GCD and LCM. (8) (QL 1)
9. Solve problems using percents, ratios and proportions. (9) (QL 2,4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
Mathematics Department

**Course Attributes:**

Quantitative Literacy, Quantitative Lit (QL)

### **[MAT 157 - Mathematics for Elementary Teachers II](#)**

**COURSE DESCRIPTION:**

MAT 157. Mathematics for Elementary Teachers II (3). Mathematical principles and processes specifically for elementary teachers. Includes geometry, measurement, statistics, and probability. Note: Computer use required. Prerequisite: MAT 142 or MAT 152 or satisfactory score on mathematics skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Geometric shapes and definitions
2. Symmetry
3. Similarity
4. Measurement using the U.S. system and the metric system
5. Perimeter, area, surface area and volume of geometric figures
6. Euclidean construction
7. Topics in Statistics including graphs and measures of central tendency and variability
8. Probability
9. Counting techniques including combinations and permutation

**LEARNING OUTCOMES:**

1. Recognize geometrical shapes and describe their properties. (1) (QL 1)
2. Observe symmetry in geometric shapes. (2) (QL 1)
3. Use similarity to solve problems. (3) (QL 1,2)
4. Use measuring units including metric units. (4) (QL 1,2,4)
5. Find perimeter, area, surface area, and volumes of geometric objects. (5) (QL 1,2,4)
6. Perform Euclidean constructions. (6) (QL 1)
7. Convert data from table format to graphical format. (7) (QL 3)
8. Analyze data statistically using basic measures of central tendency and measures of variability. (7) (QL 1-3)
9. Calculate the probability of the outcomes of simple experiments. (8) (QL 1-3)
10. Use counting techniques including permutations and combinations. (9) (QL 1,2)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit


**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
Mathematics Department

**Course Attributes:**  
Quantitative Literacy, Quantitative Lit (QL)

### **MAT 167 - Elementary Statistics**

**COURSE DESCRIPTION:**

MAT 167. Elementary Statistics (3).  **MAT 1160.** Statistical tools and techniques used in research and general applications. Description of sample data, probability and probability distributions, point and interval estimates of population parameters, hypothesis testing, and correlation and regression. Note: Computer use and graphing calculator required (TI-83/84 recommended). Prerequisite: MAT 142 or 152 or satisfactory score on mathematics skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Descriptive statistics
2. Probability
3. Normal distribution
4. Research design
5. Sampling strategies
6. Confidence intervals
7. Hypotheses testing of one population
8. Hypothesis testing of two population
9. Tests of categorical data
10. Goodness-of-Fit and Contingency Tables
11. Regression and correlation
12. Statistics technology

**LEARNING OUTCOMES:**

1. Use both numerical and graphical methods to describe data. (1) (QL 1,3)
2. Compute and interpret measures of central tendency and variability. (1) (QL 1-3)
3. Compute probabilities for both simple and compound events. (2) (QL 1,2,4)
4. Apply the normal distribution to probability problems and estimation of population parameters. (3) (QL 1,2,4)
5. Critique the research methods of others, and use research methodology. (4,5) (QL 1,3)
6. Produce representative random samples. (5) (QL 1,4)
7. Calculate and interpret confidence intervals as estimates of population parameters. (6) (QL 1-4)
8. Perform hypothesis tests about means and other parameters from large and small samples using one and multiple sample methods. (7,8) (QL 1-4)
9. Test hypothesis about categorical data. (9) (QL 1-4)
10. Recognize appropriate use of Goodness-of-Fit and Contingency Table tests. (10) (QL 1-3)
11. Use regression and correlation to test hypothesis and create models for bivariate data. (11) (QL 1-4)
12. Use both hand-held calculators and desktop computers to perform statistical analysis. (12) (QL 1)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)

Foundation Studies Division  
Mathematics Department

**Course Attributes:**  
Quantitative Literacy, Quantitative Lit (QL), SUN# MAT 1160

### **MAT 172 - Finite Mathematics**

**COURSE DESCRIPTION:**

MAT 172. Finite Mathematics (3). Various analytic methods employed in business, social and life sciences with an emphasis on applications. Topics include algebra review, linear programming, matrix operations, linear systems of equations, set theory, counting, probability and statistics. Note: Computer use and graphing calculator required (TI-83/84 recommended). Prerequisite: MAT 152 or satisfactory score on mathematics skills assessment. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Linear functions and their graphs
2. Matrices
3. Linear systems of equations
4. Linear programming
5. Set theory
6. Counting techniques
7. Probability theory
8. Statistics
9. Finance problems

**LEARNING OUTCOMES:**

1. Perform elementary matrix operations including addition, subtraction, multiplication and inversion. (2) (QL 1-3)
2. Solve n-by-m linear systems of equations using elementary row operations. (1,3) (QL 1,2,4)
3. Solve linear programming problems by graphical and algebraic techniques. (1,4) (QL 1,2,4)
4. Perform the basic operations of union, intersection and complement on sets. (5) (QL 1)
5. Use Venn diagrams, combinations and permutations in applications involving counting. (6) (QL 1)
6. Evaluate probabilities of simple, compound, independent and dependent events. (7) (QL 1-4)
7. Compute measures of central tendency and dispersion for a collection of statistical data. (8) (QL 1-4)
8. Apply the theory of normal and binomial probability distributions to statistics problems. (8) (QL 1-3)
9. Compute the present value of an annuity, interest on mortgages, and cash flow. (9) (QL 1,2,4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
Mathematics Department

**Course Attributes:**  
Quantitative Literacy, Quantitative Lit (QL)

### **MAT 183 - Trigonometry**

**COURSE DESCRIPTION:**

MAT 183. Trigonometry (2). Trigonometric functions, radian measure, right and oblique triangle solutions, trigonometric identities and equations, and inverse trigonometric functions.

Note: Computer use and graphing calculator required (TI-83/84 recommended). Duplicate credit for MAT 152 and/or MAT 183 and MAT 187 will not be awarded. Prerequisite: MAT 152 or satisfactory score on mathematics skills assessment. Reading Proficiency. Two lecture.

**COURSE CONTENT:**

1. Right angle trigonometry
2. Trigonometric functions on the unit circle
3. Radian and degree measures for angles
4. Graphs of trigonometric functions
5. The solution of oblique triangles
6. Trigonometric equations
7. Identities including composite angle identities
8. Inverse trigonometric functions
9. Introduction to Vectors

**LEARNING OUTCOMES:**

1. Use the unit circle to determine trigonometric functions and their graphs. (2,3,4) (QL 1-4)
2. Solve right triangles using trigonometric ratios. (1,3) (QL 1-4)
3. Solve oblique triangles using the law of sines and the law of cosines. (3,5) (QL 1,2,4)
4. Convert degree to radian measure and radian to degree measure. (3) (QL 1)
5. Prove trigonometric identities. (7) (QL 1)
6. Solve trigonometric equations involving both trig and inverse trig functions. (1,2,4,5) (QL 1,2,4)
7. Use vectors in applied problems (9) (QL 1,2,4)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours


**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
Mathematics Department

**Course Attributes:**  
Quantitative Literacy

### **MAT 187 - Precalculus**

**COURSE DESCRIPTION:**

MAT 187. Precalculus (5).  **MAT 1187.** Topics from college algebra and trigonometry essential to the study of calculus and analytic geometry. Includes linear, quadratic, polynomial, rational, exponential, circular, and trigonometric functions, trigonometry, systems of equations, and matrices. Note: Computer use and graphing calculator required (TI-83/84 recommended). Duplicate credit for MAT 152 and/or MAT 183 and MAT 187 will not be awarded. Prerequisite: MAT 122, or two years of high school algebra and one year of geometry completed within the last 4 years, or an ACT Math score of at least 22, or an SAT Math score of at least 530, or a satisfactory score on the mathematics skills assessment. Reading Proficiency. Five lecture.

**COURSE CONTENT:**

1. Functions: Definitions and Operations
  - a. linear
  - b. quadratic
  - c. polynomial
  - d. rational
  - e. exponential
  - f. logarithmic
  - g. circular
  - h. trigonometric
2. Trigonometry
3. Systems of equations
4. Matrices
5. Graphing calculators & computer software
6. Vectors

**LEARNING OUTCOMES:**

1. Use definitions and operations associated with functions, including inverses, combinations, and compositions. (1,2) (QL 1)
2. Represent and interpret functions in a variety of ways; numeric, symbolic, graphic, and verbal. (1-5) (QL 3,4)
3. Solve equations and systems using a variety of techniques including algebraic and graphical. (1-5) (QL 4)
4. Graph basic functions and use translations to reflect changes made to basic functions. (1-3) (QL 1,3)
5. Apply mathematics in context and model real situations using mathematics. (1-4,6) (QLO 2)
6. Use basic trigonometric properties and identities. (1,2,4) (QL 1)
7. Communicate findings both in writing and orally using mathematical language and symbolism with supporting data and graphs. (1-5) (QL 1,3)

5.000 Credit hours  
5.000 Lecture hours  
0.000 Lab hours


**Levels:** Credit  
**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lecture

Foundation Studies Division  
Mathematics Department

**Course Attributes:**  
Quantitative Literacy, Quantitative Lit (QL), SUN# MAT 1187

**MAT 212 - Survey of Calculus**

## COURSE DESCRIPTION:

MAT 212. Survey of Calculus (3).  **MAT 2212**. Introduction to the theory, techniques and applications of the differential and integral calculus of elementary functions with emphasis on applications in business, life, and social sciences. Note: Computer use and graphing calculator required (TI-83/84 recommended). Prerequisite: MAT 152 or satisfactory score on mathematics skills assessment. Reading Proficiency. Three lecture.

## COURSE CONTENT:

1. Limits and continuity
2. Derivatives
3. The laws of differentiation
4. Integration
5. The Fundamental Theorem of Calculus

## LEARNING OUTCOMES:

1. Evaluate, graph and define functions. (1) (QL 1-4)
2. Evaluate limits. (1) (QL 1-4)
3. Evaluate derivatives using the rules of differentiation. (2,3) (QL 1,4)
4. Determine maxima and minima of functions by applying differentiation. (2,3) (QL 1,2)
5. Use calculus to analyze and graph functions. (2,5) (QL 1,2,4)
6. Use basic integration techniques to evaluate integrals. (4,5) (QL 1,4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)


Foundation Studies Division  
Mathematics Department

## Course Attributes:

Quantitative Literacy, Quantitative Lit (QL)

**MAT 220 - Calculus and Analytic Geometry I**

## COURSE DESCRIPTION:

MAT 220. Calculus and Analytic Geometry I (5).  **MAT 2220**. Introduction to calculus of single variable functions. Includes limits, the fundamental principles of differentiation and integration, techniques for finding derivatives of algebraic and trigonometric functions and applications of derivatives. Note: Computer use and graphing calculator required (TI-83/84 recommended). Prerequisite: MAT 187 or (MAT 152 and MAT 183); or equivalent or satisfactory score on mathematics skills assessment. Reading Proficiency. Five lecture.

## COURSE CONTENT:

1. Functions and their applications
2. Limits and continuity
3. Definition and visualization of a derivative
4. The laws of differentiation
5. Applications of the derivative
6. Definition and visualization of an integral
7. The fundamental theorem of calculus
8. Basic integration techniques

## LEARNING OUTCOMES:

1. Evaluate, graph and define functions. (1) (QL 3)
2. Evaluate limits. (2) (QL 1)
3. Define continuity and determine whether a function is or is not continuous. (2) (QL 1)
4. Define derivative and evaluate derivatives using the definition. (3) (QL 1)
5. Evaluate derivatives using the rules of differentiation. (4) (QL 1)
6. Describe and define the geometric concept of a derivative. (3) (QL 1,3)
7. Use differentiation techniques to sketch curves. (4,5) (QL 1,3)
8. Use differentiation to solve applied problems. (4,5) (QL 2,4)
9. Define the definite integral and integration. (6,7) (QL 1)
10. Use basic integration techniques to evaluate integrals. (8) (QL 1)

5.000 Credit hours  
5.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), [Lecture](#)


Foundation Studies Division  
Mathematics Department

## Course Attributes:

Quantitative Literacy, Quantitative Lit (QL), SUN# MAT 2220

**MAT 230 - Calculus and Analytic Geometry II**

## COURSE DESCRIPTION:

MAT 230. Calculus and Analytic Geometry II (5).  **MAT 2230**. Concepts, techniques and applications of integration, infinite series, and introduction to differential equations. Note: Computer use and graphing calculator required (TI-83/84 recommended). Prerequisite: MAT 220. Reading Proficiency. Five lecture.

## COURSE CONTENT:

1. Techniques of integration including substitution, integration by parts, and integration tables
2. Numerical methods for integration
3. Applications of integration
4. Infinite Series
5. Taylor series and polynomials
6. Separable differential equations
7. Parametric and Polar Curves

## LEARNING OUTCOMES:

1. Use integration techniques to solve both definite and indefinite integrals. (1) (QL 1)
2. Find definite integrals numerically. (2) (QL 1,3)
3. Use integration to solve applied problems. (3) (QL2)
4. Determine the convergence of infinite series (4) (QL 1,3,4)
5. Use Taylor series and polynomials to approximate functions. (5) (QL 1,3)
6. Solve separable differential equations. (6) (QL 2,4)
7. Solve problems using parametric and polar equations (7) (QL 2-4)

5.000 Credit hours  
5.000 Lecture hours  
0.000 Lab hours

## Levels: Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lecture


Foundation Studies Division  
Mathematics Department

## Course Attributes:

Quantitative Literacy, Quantitative Lit (QL), SUN# MAT 2230

**MAT 241 - Calculus III**

## COURSE DESCRIPTION:

MAT 241. Calculus III (4) (Fall).  **MAT 2241**. Multivariable calculus. Includes multiple integration, partial differentiation, optimization, vector calculus, line integrals, and parametric curves. Note: Computer use and graphing calculator required (TI-83/84 recommended). Prerequisite: MAT 230. Reading Proficiency. Four lecture.

## COURSE CONTENT:

1. Vectors
2. Planes and surfaces
3. Cylindrical and spherical coordinates
4. Functions of several variables
5. Partial differentiation
6. Optimization
7. Multiple integration
8. Integration techniques
9. Vector calculus

## LEARNING OUTCOMES:

1. Solve problems using vectors in 3-space. (1) (QL 1,2,4)
2. Use equations of planes and surfaces to solve problems. (2) (QL 1, 2,4)
3. Solve problems using cylindrical and spherical coordinate systems. (3) (QL 1,2,4)
4. Find partial derivatives. (4,5) (QL 1)
5. Find extremes of functions of two variables. (4-6) (QL 1-4)
6. Find differentials, directional derivatives, gradients, and tangent planes. (4-6) (QL 1,2)
7. Integrate multiple integrals. (7,8) (QL 1)
8. Solve applied problems requiring multiple integrals. (8,9) (QL 1,2)
9. Define and identify vector fields. (9) (QL 1,2)
10. Find line and surface integrals. (9) (QL 1,2)
11. Use Divergence, Curl, Green's Theorem, Stokes' Theorem, and the Divergence Theorem. (9) (QL 1,2)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

## Levels: Credit

**Schedule Types:** Additional Activity, [Lecture](#)


Foundation Studies Division  
Mathematics Department

## Course Attributes:

Quantitative Literacy, Quantitative Lit (QL), SUN# MAT 2241

**MAT 262 - Elementary Differential Equations**

## COURSE DESCRIPTION:

MAT 262. Elementary Differential Equations (3) (Spring).  **MAT 2262**. Introduction to ordinary differential equations. Includes first order linear equations, higher order linear equations, applications of first and second order equations, Laplace transforms, and systems of linear differential equations. Prerequisite: MAT 241. Reading Proficiency. Three lecture.

## COURSE CONTENT:

1. First order linear differential equations
2. Linear differential equations of higher order
3. Laplace transforms
4. Systems of linear equations
5. Numerical methods
6. Qualitative techniques
7. Applications of first and second order equations

## LEARNING OUTCOMES:

1. Solve first order differential equations that are separable or linear. (QL 1,2,4)
2. Solve second order linear differential equations. (QL 1,2,4)
3. Use Laplace transforms to solve differential equations. (QL 1,2,4)
4. Solve systems of linear differential equations using matrices. (QL 1,2,4)
5. Use qualitative techniques to graph solutions of differential equations. (QL 1-4)
6. Use numerical methods to solve differential equations. (QL 1-4)
7. Solve applied problems involving differential equations. (QL 1-4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours



**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
Mathematics Department

**Course Attributes:**

Quantitative Literacy, Quantitative Lit (QL), SUN# MAT 2262

#### **MAT 296 - Internship: Math**

**COURSE DESCRIPTION:**

MAT 296. Internship: Math (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours

0.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Foundation Studies Division  
Mathematics Department

#### **MAT 299 - Independent Study Math**

**COURSE DESCRIPTION:**

MAT 299. Independent Study Mathematics (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours

0.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Foundation Studies Division  
Mathematics Department

#### **MET 100 - Introduction to Manufacturing Technology**

**COURSE DESCRIPTION:**

MET 100. Introduction to Manufacturing Technology (4) (Fall). Introduction to Manufacturing Technology including safe practices, tools and mathematics. Emphasis on problem solving, computer-aided design, blueprint reading, fabrication, assembly, and control systems. Preparedness recommendations: Two years of high school math and general computer literacy. Three lecture. Three lab.

**COURSE CONTENT:**

1. Safety Protocol
2. Introduction to LEAN manufacturing
3. Professional conduct and teamwork
4. Blueprint reading
5. Computer Aided Design
6. Quality control
7. Computer Aided Machining
8. Mechanical assembly
9. Manufacturing processes

**LEARNING OUTCOMES:**

1. Apply standard safety practices in a manufacturing environment. (1)
2. Integrate workplace skills, including ethics, interviewing and teambuilding. (2, 3)
3. Interpret blueprints and describe tolerances and features of a part. (4)
4. Interpret documentation of products and processes to accomplish manufacturing tasks with application of Statistical Process Control, ISO 9000 and Total Quality Control. (6)
5. Manipulate a drawing in a CAM (Computer Aided Manufacturing) system to produce an actual part. (5)
6. Operate and complete simple setup on Computer Numerically Controlled (CNC) machine tools. (7)
7. Interpret a top-level drawing and bill of materials to construct an assembly. (8)
8. Identify different types of manufacturing processes from engineering to product shipment. (9)
9. Interpret and apply fundamentals of LEAN manufacturing. (2)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Machining & Manufacturing Tech Department

**MET 116 - Rigging****COURSE DESCRIPTION:**

MET 116. Rigging (1) (Spring). Basic rigging techniques, hitch configurations, safe loading practices, load inspection, and American National Standards Institute (ANSI) approved hand signals. Use of slings and common rigging hardware. One lecture.

**COURSE CONTENT:**

1. Slings and rigging hardware
2. Inspection techniques
3. Hitches configurations
4. Load handling safety
5. ANSI hand signals

**LEARNING OUTCOMES:**

1. Select and inspect synthetic, alloy, chain, and wire rope slings for a given task. (1)
2. Determine the proper hitch to be used for a given operation including vertical, choker, and basket. (2)
3. Identify the characteristics of sound and unsound rigging including slings, shackles, eyebolts, lifting clamps, and rigging hooks. (2)
4. Identify correct load handling configurations. (2,3)
5. Describe pre-lift safety checks. (4)
6. Identify capacity ratings. (3,4)
7. Simulate level load lifting. (1-4)
8. Describe loading and disconnecting safety precautions. (4)
9. Interpret ANSI hand signals. (5)
10. Perform ANSI hand signals. (5)

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Machining & Manufacturing Tech Department

**MET 150 - Surface Mine Safety Training****COURSE DESCRIPTION:**

MET 150. Surface Mine Safety Training (1) (Fall). U.S. Mine Safety and Health Administration requirements for new miner training for individuals, contractors, and mine employees. One lecture.

**COURSE CONTENT:**

1. Health and safety in mine settings
2. Rules governing mine site work
3. Hazards related to mine activities
4. Health issues on mine sites
5. Fire dangers
6. Safe equipment operation
7. Mine traffic dangers
8. First aide and CPR
9. Mine high wall dangers

**LEARNING OUTCOMES:**

1. Blasting hazards and proceduresList mandatory health and safety standards. (1)
2. Explain the role and purpose of MSHA. (1)
3. Interpret the rights and obligations of miners. (2)

4. Use locking out and tagging procedures. (2,3)
5. Explain confined space entry procedures. (2,3)
6. Explain safety issues around conveyors and bins. (1,2,6)
7. Describe personal safety when using equipment. (1-4,6)
8. Describe use of various types of fire extinguishers. (5)
9. Explain safe worker habits. (1,8-9)
10. Explain drug and alcohol regulations on mine sites. (1)

**REQUIRED ASSESSMENT:**

1. 25 question pre and post test passing with minimum 70%.

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Machining & Manufacturing Tech Department

**MET 160 - Basic Machine Hydraulics and Pneumatics****COURSE DESCRIPTION:**

MET 160. Basic Machine Hydraulics and Pneumatics (2). Operational theory and testing techniques related to hydraulic and pneumatic components and circuits on mobile diesel equipment. Includes fluid power principles and investigates the functional characteristic of hydraulic pumps, flow valves, pressure valves, directional valves, motors, cylinders and accumulators. Emphasis on the student's ability to test, service, and repair diesel equipment hydraulic systems and system components. One lecture. Two lab.

**COURSE CONTENT:**

1. Safety procedures and processes
2. Machine specific hydraulic components (valves, pumps, and cylinders)
3. Machine specific hydraulic circuits/systems and their functional characteristics
4. Machine specific hydraulic/pneumatic components (pumps, motors, valves, cylinders, accumulators) and their functional characteristics.
5. Machine specific maintenance
6. Service and repair information to perform needed maintenance, service, testing, and repairs
7. Hydraulic/pneumatic graphic symbols

**LEARNING OUTCOMES:**

1. Assembly, operation, and testing (pressure and or flow) various machine hydraulic/pneumatic circuits that includes pumps, motors, valves, cylinders, and accumulators. Identify shop environment and hazards. (1)
2. Utilize emergency procedures and policy. (1)
3. Implement physical well-being and practice by following safety guidelines. (1)
4. Utilize material safety data sheets and chemicals in the shop environment. (1)
5. Remove and reinstall hydraulic and pneumatic components. (2)
6. Disassemble, inspect, and reassemble hydraulic/pneumatic cylinder, pump, flow valve, pressure valve, directional valve. (2)
7. Diagram the operational features and functions of machine specific hydraulic/pneumatic circuits. (3)
8. Describe how (collectively) hydraulic/pneumatic pumps, valves, motors, accumulators, cylinders, and the fluid function to operation the machine's hydraulic system. (4)
9. Determine which hydraulic/pneumatic components are utilized in various mobile equipment. (4)
10. Analyze oil sample information to determine condition of various hydraulic circuits. (5)
11. Obtain oil sample from hydraulic system. (5)
12. Perform maintenance procedures to ensure hydraulic/pneumatic systems operate as designed. (5)
13. Find and apply service and repair information. (6)
14. Identify "on equipment" hydraulic and pneumatic component types using graphic symbol. (7)
15. Describe operational features of hydraulic/pneumatic components and circuits using hydraulic/pneumatic graphic symbols and diagrams. (7)
16. Install various hydraulic/pneumatic components on diesel equipment, bleed or adjust system as needed. (8)
17. Perform hydraulic/pneumatic pressure and or flow testing procedures as outlined in the equipment manual. (8)

2.000 Credit hours  
 1.000 Lecture hours  
 2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Machining & Manufacturing Tech Department

**Course Attributes:**

Diversity (DA)

**MET 296 - Internship: Manufacturing Engineering Technology****COURSE DESCRIPTION:**

MET 296. Internship: Manufacturing Engineering Technology (3) (Fall). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.

6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit**Schedule Types:** Internship

Career & Technical Education Division  
Machining & Manufacturing Tech Department

**MET 299 - Independent Study Industrial Technology/Manufacturing****COURSE DESCRIPTION:**

MET 299. Independent Study Industrial Technology/Manufacturing (1-6) (Fall). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit**Schedule Types:** Independent Study

Career & Technical Education Division  
Machining & Manufacturing Tech Department

**MTC 105 - Introduction to Motorcycle Technology****COURSE DESCRIPTION:**

MTC 105. Introduction to Motorcycle Technology (3). Basic theory and fundamentals of motorcycle maintenance and minor repair. Includes two- and four-stroke theory, brakes, frames, drive trains, electrical, suspension, fuel systems, and wheels. Two lecture. Three lab.

**COURSE CONTENT:**

1. Two- and four-stroke engines.
2. Brakes and controls
3. Frames and drive trains
4. Fuel systems
5. Electrical systems
6. Suspension systems
7. Wheels and tires

**LEARNING OUTCOMES:**

1. Identify and articulate all components related to two-stroke and four-stroke engines. (1)
2. Inspect and adjust brake cables, pads, rotors, and related brake components. (2)
3. Inspect and evaluate frame integrity and welds. (3)
4. Inspect and adjust belt or chain drive systems. (3)
5. Inspect fuel lines and connections. (4)
6. Adjust carbureted systems. (4)
7. Determine fuel mixture for two stroke engines. (4)
8. Inspect, clean, and diagnose electrical storage unit. (5)
9. Inspect and test the ignition system. (5)
10. Inspect and test the charging system. (5)
11. Inspect and test the starting system. (5)
12. Identify major components of a suspension system. (6)
13. Inspect and diagnose shock absorbers. (6)
14. Inspect and diagnose forks. (6)
15. Adjust and tune spoke wheels. (7)
16. Remove, repair and replace tires. (7)
17. Balance wheel and tire chasse. (7)

3.000 Credit hours  
2.000 Lecture hours

3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

#### **MTC 110 - Motorcycle Brakes Suspension Wheels and Tires**

**COURSE DESCRIPTION:**

MTC 110. Motorcycle Brakes, Suspension, Wheels and Tires (3). Theory and fundamentals of basic motorcycle brakes, suspension systems, wheels and tires. Two lecture. Two lab.

**COURSE CONTENT:**

1. Brake systems
2. Wheels and tires
3. Suspension system

**LEARNING OUTCOMES:**

1. Identify, adjust or replace components of both hydraulic and mechanical brake systems. (1)
2. Inspect, diagnose, repair, and true spoked wheels. (2)
3. Mount and balance tires. (2)
4. Identify, inspect or repair basic motorcycle suspensions. (3)

3.000 Credit hours

2.000 Lecture hours

2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

#### **MTC 140 - Introduction to Motorcycle Electrical Systems**

**COURSE DESCRIPTION:**

MTC 140. Introduction to Motorcycle Electrical Systems (2). Basic motorcycle electrical theory, system maintenance, testing and diagnostic methods for repairing ignition, charging, and starting systems. One lecture. Two lab.

**COURSE CONTENT:**

1. Electrical theory
2. Motorcycle electrical systems
3. Electrical testing equipment and operation
4. Diagnostic and troubleshooting procedures
5. Motorcycle electrical system repair
6. Electrical schematics, symbols, and electrical diagnostic manuals

**LEARNING OUTCOMES:**

1. Apply basic electrical theory for motorcycle systems. (1)
2. Identify motorcycle electrical systems and their use: charging, starting, ignition, accessory and switches. (2)
3. Operate a multimeter and battery load tester. (3)
4. Perform diagnostic and troubleshooting procedures. (4)
5. Repair or replace motorcycle electrical system components and wiring. (5)
6. Read, interpret and use motorcycle wiring schematics, symbols, and diagnostic manuals. (6)

2.000 Credit hours

1.000 Lecture hours

2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

#### **MTC 210 - American Motorcycle Service Procedures**

**COURSE DESCRIPTION:**

MTC 210. American Motorcycle Service Procedures (2). Procedures and techniques of regular service intervals for the American motorcycle enthusiast, with emphasis on Harley Davidson and aftermarket brands. Includes diagnosis and service of motorcycles. One lecture. Two lab.

**COURSE CONTENT:**

1. Shop equipment and tool use
2. Inspection procedures
3. Service needs and procedures

**LEARNING OUTCOMES:**

1. Use shop equipment and tools. (1)
2. Complete 25 point inspection procedures. (2,3)
3. Check tires, spokes and wheel bearings. (2,3)
4. Replace front fork fluid and seals, and adjust front fork. (2,3)
5. Service and adjust handlebar, bushings and handlebar controls. (2,3)
6. Inspect electrical system and lighting and service battery. (2,3)
7. Service air cleaner, inspect fuel system and adjust carburetor. (2,3)
8. Adjust primary chain and clutch and service clutch cable. (2,3)
9. Inspect brake system and replace brake pads and fluids. (2,3)
10. Adjust and service secondary belt and chain. (2,3)
11. Change oil and oil filter. (2,3)
12. Service shift and brake foot controls and make adjustments. (2,3)
13. Adjust headlights. (2,3)
14. Test ride motorcycle. (2,3)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Automotive Technology Department

#### **MUS 100 - Elements of Music**

**COURSE DESCRIPTION:**

MUS 100. Elements of Music (2). Basic elements of music. Study of the staff, clefs, signatures, notes, rhythms, definitions, ear training, sight singing and dictation. Designed for those with little or no knowledge of music. Two lecture.

**COURSE CONTENT:**

1. Notation of pitch
2. Time classification
3. Note and rest values
4. Time signatures
5. Intervals
6. Scales
7. Key signatures
8. Triads

**LEARNING OUTCOMES:**

1. Read notes of the treble, bass and c-clefs, as well as the grand staff, including notes on ledger lines.
2. Identify and construct half and whole steps, accidentals, bar lines, inharmonic notes, a chromatic scale, and the ottava sign.
3. Identify patterns of strong and weak beats and the divisions of the beat in simple and compound time.
4. Recognize, write, and interpret the basic signs that represent the rhythmic elements of music.
5. Interpret the numbers that comprise the time signatures in simple and compound time.
6. Identify and write intervals, and explain the inversion of intervals.
7. Recognize and write major, minor, and modal scales, and play them on the piano.
8. Identify and write key signatures for all major and minor keys.
9. Identify and write major, minor, diminished, and augmented triads.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Performing Arts Department

#### **MUS 101 - Private Music**

**COURSE DESCRIPTION:**

MUS 101. Private Music I (1). Individual, self-paced instruction in piano, organ, voice, guitar, band or orchestra instruments. Open to all students in the college.

**COURSE CONTENT:**

1. Pitch and rhythmic notation
2. Tone production
3. Technical facility
4. Performance of selected studies and compositions

**LEARNING OUTCOMES:**

1. Read and apply pitch and rhythmic notation. (1)
2. Produce the quality of tone appropriate for genre and level of study. (2)
3. Play or sing with technical facility appropriate for genre and level of study. (3)
4. Apply styles, phrasing, and performances practices appropriate for the various periods, genre, and level of music studied. (1-4)

1.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, [Private Music](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

#### **MUS 102 - Private Music II**

**COURSE DESCRIPTION:**

MUS 102. Private Music II (1). Individual, self-paced instruction in piano, organ, voice, guitar, band or orchestra instruments. Open to all students in the college. Prerequisite: MUS 101.

**COURSE CONTENT:**

1. Sight-reading techniques
2. Tone production
3. Technical facility
4. Performance of selected studies and compositions

**LEARNING OUTCOMES:**

1. Sight read using techniques appropriate to level of music studied and/or performed. (1)
2. Produce the quality of tone appropriate for genre and level of study. (2)
3. Play or sing with technical facility appropriate for genre and level of study. (3)
4. Apply styles, phrasing, and performances practices appropriate for the various periods, genre, and level of music studied. (1-4)

1.000 Credit hours  
0.000 Lecture hours

0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, [Private Music](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### **MUS 103 - Piano Class I**

#### COURSE DESCRIPTION:

MUS 103. Piano Class I (1). A skill-building piano lab with an emphasis on piano playing and music reading. Three lab.

#### COURSE CONTENT:

1. Technical skill in playing the piano
2. Reading beginning-level piano literature
3. Beginning-level music theory

#### LEARNING OUTCOMES:

1. Play on the piano beginning-level literature in the keys of C and G major.
2. Count and play on the piano beginning-level rhythms in duple, triple and quadruple meters in both simple and compound division of the beat.
3. Play on the piano all major, minor, diminished and augmented chords in root position.
4. Play on the piano scales and I, IV and V7 chord progressions in C and G major.
5. Assign names on a written test to pitches, chords, intervals and key signatures.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lab](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### **MUS 104 - Piano Class II**

#### COURSE DESCRIPTION:

MUS 104. Piano Class II (1). Skill-building piano lab for students with limited piano experience. Emphasis on piano playing, music reading, and music theory. Prerequisite: MUS 103. Three lab.

#### COURSE CONTENT:

1. Technical skill in playing the piano.
2. Playing beginning-level piano literature in five keys.
3. Beginning-level music theory.
4. Beginning-level key transposition.

#### LEARNING OUTCOMES:

1. Play on the piano beginning-level literature in the keys of G and F major, and A and D minor.
2. Count and play on the piano intermediate-level rhythms in duple, triple, and quadruple meters in both simple and compound division of the beat.
3. Write on staff paper:
  - a. pitch names in bass and treble clef
  - b. major, minor, diminished and augmented chords in root position
  - c. interval names of 3rd and 5ths
  - d. key signatures.
4. Play on the piano scales and I, IV, and V7 chord progressions in the major keys of C, G, and F, and the minor keys of A and D.
5. Transpose beginning-level songs into the keys of C, G, and F major.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lab](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### **MUS 105 - Voice Class I**

#### COURSE DESCRIPTION:

MUS 105. Voice Class I (1). Fundamentals of singing. Includes breath support and articulation while singing and introductory-level music reading. Three lab.

#### COURSE CONTENT:

1. Technical skill in singing.
2. Reading vocal solo literature.
3. In-class performance.
4. Introductory-level music reading.

#### LEARNING OUTCOMES:

1. Use standard postures while singing.
2. Use standard breath support while singing.
3. Articulate (vowel and consonant formation) while singing.
4. Perform selected examples of solo literature.
5. Model professional stage deportment.
6. Sight-read melodies in the key of C major and clap rhythms in duple, triple, and quadruple meters (using both simple and compound division of the beat).
7. Identify an assigned set of music vocabulary words.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

**Schedule Types:** Additional Activity, [Lab](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### **MUS 106 - Voice Class II**

**COURSE DESCRIPTION:**

MUS 106. Voice Class II (1). Intermediate voice class designed to advance individual singing skills by study and training in singing technique, musicianship, diction, performance and in repertoire. Prerequisite: MUS 105. Three lab.

**COURSE CONTENT:**

1. The voice
  - a. Physiology and function of the vocal mechanism
  - b. Coordination of breathing, relaxation and phonation to produce a tension-free, resonant, pleasant, even-scaled singing voice.
  - c. Building an accurate keyboard in the voice
  - d. The energy and physical health necessary for singing
  - e. Blending techniques for singers in ensembles and choral singing
2. Musicianship
  - a. Knowing scales
  - b. Singing intervals accurately
  - c. Rhythm, tempos, the beat
  - d. Phrasing
  - e. Musical terms and their application
3. Performance techniques
  - a. Study and use of good diction
  - b. Study of styles of songs
  - c. Study of styles of songs
  - d. Techniques of memorization
  - e. Understanding and overcoming stage fright
  - f. Study and practice of effective stage presence
4. Literature
  - a. Song literature, its composers and performers
  - b. Singing a variety of examples in class
  - c. The use of singing voices in music literature

**LEARNING OUTCOMES:**

1. Understand the functions of vocal mechanism, learn to coordinate breathing and relaxation in order to produce tension-free singing sounds and an even singing scale through the voice; improve resonance and projection of the voice for solo performance and blending techniques of the singing voice for ensemble and choral singing.
2. Improve level of musicianship by learning musical terms and their application, by demonstrating improvement in intonation, rhythm skills, interval skips, phrasing, and flexibility of voice.
3. Learn to perform successfully in public through the study and practice of clear diction in singing, study of style and interpretation of songs, and experience in effective stage presence.
4. Demonstrate knowledge of repertoire through the study of song literature, the facets of the use of voices in music literature and awareness of composers and performers.
5. Demonstrate improvement in public performance by presenting a recital of songs at the close of the semester. Besides performing individually students will each write critique of the other performances demonstrating ability to recognize aspects of technique, musicianship and performance.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### **MUS 107 - Guitar Class I**

**COURSE DESCRIPTION:**

MUS 107. Guitar Class I (1). Beginning instruction on acoustic guitar. Chords and chord strumming, note reading, finger styles and basic music theory. Opportunities to explore classical, folk, and blues styles of playing. No guitars provided. Two lab.

**COURSE CONTENT:**

1. Introduction to the guitar
2. Introduction to the musical terms and notations
3. Two tuning methods
4. Note reading performance skills; duets in the classical style
5. Chord studies and strumming in the folk style
6. Right and left hand skill studies--scales arpeggios
7. Repertoire--melodic and chord style music

**LEARNING OUTCOMES:**

1. Identify parts of guitar.
2. Know guitar terms.
3. Know musical terms.
4. Demonstrate tuning.
5. Demonstrate note reading--pitch and rhythm
6. Identify chords--symbols and fingering positions.
7. Develop finger dexterity--right and left hand.

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### **MUS 108 - Guitar Class II**



**COURSE DESCRIPTION:**

MUS 108. Guitar Class II (1). Emphasis on bar chords, note reading through the ninth position, double notes, and solos from classical, flamenco, or folk styles of playing. Prerequisite: MUS 107. Two lab. (Repeatable for a total of 4 credit hours towards degree/certificate requirements.) S/U grading only.

**COURSE CONTENT:**

1. Playing position
2. Right-hand technique
3. Left-hand technique
4. Rest strokes
5. Free strokes
6. Arpeggios
7. Chords
8. Bar chords, forms I-II
9. Sight reading
10. Note reading through the ninth position
11. Warm-up exercises
12. Stretching exercises
13. Scales
14. Ascending legados
15. Descending legados
16. Strums
17. Guitar styles
18. Harmonic tuning

**LEARNING OUTCOMES:**

1. Read and play chord structures. (7, 8, 12-15)
2. Identify and use different guitar styles. (16-17)
3. Use developed skills in harmonic tuning. (18)
4. Read music in basic position. (1)
5. Play to the ninth position. (10-12)
6. Use basic right and left hand techniques. (2, 3)
7. Read and play music with individual style and music selection with instructor supervision. (1-12, 14-16)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**MUS 109 - Guitar Class III****COURSE DESCRIPTION:**

MUS 109. Guitar Class III (1). Emphasis on repertoire, ensemble, sight reading, and performance. Prerequisite: MUS 108. Two lab. (Repeatable for a total of 4 credit hours towards degree/certificate requirements.)

**COURSE CONTENT:**

1. Playing position
2. Right-hand techniques
3. Left-hand techniques
4. Rest strokes
5. Free strokes
6. Arpeggios
7. Chords
8. Bar chords forms I-V
9. Note reading in all positions
10. Warm-up exercises
11. Stretching exercises
12. Scales (Sagreras-Segovia)
13. Ascending legados
14. Descending legados
15. Advanced strums
16. Finger-picking styles
17. Guitar styles
18. Harmonic tuning

**LEARNING OUTCOMES:**

1. Read and play using concepts of complex chord structures. (7, 8, 12)
2. Identify and use different guitar styles. (15-17)
3. Use harmonic tuning skills from one string. (18)
4. Sight read in all positions. (9)
5. Use advanced right and left hand techniques. (2, 3)
6. Read and play music with individual style and music selection. (1-18)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**MUS 110 - Concert Band****COURSE DESCRIPTION:**

MUS 110. Concert Band (1). Instruction and performance of concert band literature in a group setting. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Holding position of instruments
2. Breathing technique for wind instruments
3. Articulation technique for wind instruments
4. Stick and mallet grips for percussion instruments
5. Musical notation and musical terms
6. Major scales
7. Group rehearsal of concert band literature

**LEARNING OUTCOMES:**

1. Read and perform major scales. (1-7)
2. Read and perform common rhythms. (1-7)
3. Read and perform common rudiments (percussionists). (1-5, 7)
4. Perform concert band literature within a group. (1-7).

1.000 Credit hours  
 0.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

**MUS 111 - Symphonic Band****COURSE DESCRIPTION:**

MUS 111. Symphonic Band (1). Open to all students in the College. Attendance at all rehearsals and participation in all public performances is required. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. The Ab, Bb, C, Db, Eb, F concert scales
2. Division of the beat through 16th notes in simple and compound meters
3. Selected band literature with emphasis on interpretation of symbols, terms, control of pitch, balance tone quality, style, articulation and precision

**LEARNING OUTCOMES:**

1. Perform scales in the common band keys.
2. Perform musical notational symbols and terms.
3. Demonstrate rhythmic patterns in common meters.
4. Develop concepts of correct pitch, balance, tone quality, style, articulation and precision.
5. Determine concepts of the individual's roll in preparation and performance of band music.

1.000 Credit hours  
 0.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

**MUS 112 - Jazz/Rock Ensemble****COURSE DESCRIPTION:**

MUS 112. Jazz/Rock Ensemble (1). Study and performance of a wide range of jazz, rock, and popular music. Audition required. Three lab. (Repeatable for a total of 4 credit hours towards degree/certificate requirements.)

**COURSE CONTENT:**

1. Rehearsal and performance of music specifically written for the jazz/rock ensemble or jazz combo
2. Jazz/rock articulation, phrasing, improvisation and musical styles
3. Articulation and rhythm drills
4. Pitch for exact intonation

**LEARNING OUTCOMES:**

1. Perform jazz, rock, and popular music styles. (1-4)
2. Develop and perform music articulation and phrase patterns. (1-4)
3. Recognize and perform rhythmic alteration (syncopation), improvisation, and melodic alteration (blue notes). (1-4)

1.000 Credit hours  
 0.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

**MUS 113 - Big Band I****COURSE DESCRIPTION:**

MUS 113. Big Band I (1). Rehearsal and performance of selected intermediate level jazz literature. Audition required. Additional required performances. Three lab. [Repeatable for a total of 2 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Scales required of selected intermediate level jazz music
2. Division and subdivision of the beat in simple, common and mixed meters
3. Intermediate level jazz literature with emphasis on interpretation of symbols, terms, control of pitch, balance, tone quality, style, articulation and precision

**LEARNING OUTCOMES:**

1. Perform common intermediate level big band keys. (1)

2. Perform intermediate level rhythmic patterns in various meters. (2)
3. Perform with correct pitch, tone quality, style and articulation. (3)
4. Perform intermediate level jazz music. (1-3)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

#### **MUS 114 - Big Band II**

**COURSE DESCRIPTION:**

MUS 114. Big Band II (1). Rehearsal and performance of selected advanced level jazz literature. Audition required Additional required performances. Three lab. [Repeatable for a total of 2 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Scales required of selected advanced level jazz music
2. Division and subdivision of the beat in simple, common and mixed meters
3. Advanced level jazz literature with emphasis on interpretation of symbols, terms, control of pitch, balance, tone quality, style, articulation and precision

**LEARNING OUTCOMES:**

1. Perform common advanced level big band keys. (1)
2. Perform advanced level rhythmic patterns in various meters. (2)
3. Perform with correct pitch, tone quality, style and articulation. (3)
4. Perform advanced level jazz music. (1-3)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

#### **MUS 115 - Instrumental Ensemble:**

**COURSE DESCRIPTION:**

MUS 115. Instrumental Ensemble (1). Music reading skills, playing techniques, ensemble playing. Performance participation required. Audition required. Three lab.

**COURSE CONTENT:**

1. Critical analysis of music
2. Vocabulary and language of music
3. Transpositions, clefs and standard notational symbols
4. Performance

**LEARNING OUTCOMES:**

1. Use transpositions, different clefs and standard notational symbols while performing music. (2, 4)
2. Identify, analyze, and perform different pieces of music within the same genre. (1-4)
3. Identify elements of music from diverse genres and cultures. (1-3)
4. Sight-read music accurately and with expression. (4)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

#### **MUS 116 - Jazz Combo**

**COURSE DESCRIPTION:**

MUS 116. Jazz Combo (1). Jazz music reading skills, playing techniques, ensemble playing. Performance participation required. Three Lab. (Repeatable for a total of 4 credit hours towards degree/certificate requirements.)

**COURSE CONTENT:**

1. Critical analysis of jazz and popular music
2. Vocabulary and language of jazz and popular music
3. Jazz and popular music memorization
4. Performance

**LEARNING OUTCOMES:**

1. Use jazz notation symbols while performing music. (1-4)
2. Memorize and perform jazz and popular music in a small group setting. (1-4)
3. Identify elements of music from diverse genres and culture. (1,2)
4. Improvise music with expression. (1-4)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### MUS 117 - Symphony Orchestra

#### COURSE DESCRIPTION:

MUS 117. Symphony Orchestra (1). Symphony orchestra rehearsal and performance. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

#### COURSE CONTENT:

1. Scales required of selected music
2. Division and subdivision of the beat in simple and compound meters
3. Selected orchestral literature with emphasis on interpretation of symbols, terms, control of pitch, balance, tone quality, style, articulation and precision

#### LEARNING OUTCOMES:

1. Perform common orchestral keys.
2. Perform rhythmic patterns in various meters.
3. Perform with correct pitch, tone quality, style and articulation.
4. Perform orchestral music.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### MUS 129 - Theory Preparation

#### COURSE DESCRIPTION:

MUS 129. Theory Preparation (2). Review and the extensive drilling of the basic elements of music: reading, notation, rhythm, scales, intervals, triads, sight singing, and dictation. Preparation for enrollment in MUS 131. Two lecture.

#### COURSE CONTENT:

1. Notation of pitch
2. Time classifications
3. Note and rest values
4. Time signatures
5. Intervals
6. Scales
7. Key signatures
8. Triads

#### LEARNING OUTCOMES:

1. Aurally compare the pitches between a major and a minor scale.
2. Aurally identify and notate all simple intervals.
3. Compare the difference between a slur and a tie.
4. Define compound meters.
5. Define the four triad types.
6. Place barlines in a line of music.
7. Describe how a scale may be transposed to any pitch level.
8. Describe how intervals are identified.
9. Describe how intervals are used to construct triads.
10. Describe the accumulative effect of dot(s) on note value.
11. Explain concepts used in determining consonance and dissonance among intervals.
12. Explain the role of the leading tone note in the harmonic minor scale.
13. Explain the significance of the top and bottom number in a meter signature.
14. Identify and notate a major scale.
15. Identify and notate an open position triad.
16. Identify and notate any given interval.
17. Identify and notate given modal scales.
18. Identify and notate the clef symbols.
19. Identify aurally and notate root position triads.
20. Identify each tone placement name (member) of a triad.
21. Identify pitch names of notes on ledger lines.
22. Identify pitch names on the grand staff.
23. Identify the primary triads in a given key, labeling each with the appropriate Roman numeral.
24. Identify, by sight and sound, simple and compound metered music.
25. List five song associations with interval names.
26. List structural characteristics of a melody.
27. List the modal scale names.
28. List two aids used in identifying intervals.
29. Notate a chromatic scale.
30. Perform rhythmic exercises in simple and compound meters.
31. Sight sing simple melodies.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### MUS 131 - Basic Integrated Theory I

**COURSE DESCRIPTION:**

MUS 131. Basic Integrated Theory I (4). Basic theory of music including part writing, ear training, sight singing, dictation and keyboard harmony. Review of musical notation, intervals, triads and scales. Part writing skills for root position, first and second inversion triads; sight singing and dictation skills through scale passages including intervals of 3rd and 4ths and simple beat divisions. Required of music majors. Prerequisite: MUS 129. Four lecture. One lab.

**COURSE CONTENT:**

1. The structure of tonality
2. Part writing of triads in root position: doubling and spacing
3. Part writing of triads in root position: voice leading
4. Part writing of triads in first and second inversions
5. Ear training: identifying and constructing intervals and triads
6. Tonal and rhythmic memory through dictation: notating rhythmic patterns and melodic passages
7. From sight to sound, the inner hearing of written music by sight singing melodies in major and minor keys

**LEARNING OUTCOMES:**

1. Categorize and list in order from tonic to leading tone the correct Roman numeral and write all the major, minor, augmented and diminished triads in any major or minor key.
2. Select the correct chords and illustrate on staff paper the proper doubling and spacing of each triad in a four-part choral.
3. Determine the correct interval number and quality and the correct triad quality; the interval and triad on staff paper.
4. Develop tonal and rhythmic memory and write simple and compound rhythmic patterns and short melodic passages.
5. Recite or sing from a printed manuscript a melody never before heard or sung.

4.000 Credit hours  
4.000 Lecture hours  
1.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**MUS 132 - Basic Integrated Theory II****COURSE DESCRIPTION:**

MUS 132. Basic Integrated Theory II (4). Correlating part writing, ear training, sight singing, dictation and keyboard harmony. Part writing skills in phrase structure and cadences, harmony progression, harmonization techniques and use of non-harmonic tones; sight singing and dictation skills through minor scale passages, intervals of 5ths through the octave and 16th note beat divisions. Required of music majors. Prerequisite: MUS 131. Four lecture. One lab.

**COURSE CONTENT:**

1. Four part vocal harmonic concepts including inversions, 7th chords, non-harmonic tones, modulation to related keys, secondary dominants and basic song forms
2. Composition and performance of music in basic piano styles
3. Analysis techniques in vocal chorale and piano styles
4. Realization of vocal chorale and piano styles at the keyboard
5. Aural dictation and vocal sight reading

**LEARNING OUTCOMES:**

1. Demonstrate the structure of tonality; doubling, spacing and voice leading of 1st and 2nd version triads and dominant 7th chords with piano application.
2. Compose and perform basic piano styles.
3. Demonstrate harmonic analysis of chorale and piano styles.
4. Demonstrate other dominant function 7th chords.
5. Demonstrate modulation to related keys.
6. Demonstrate non-dominant 7th chords and compounds meters.
7. Demonstrate secondary dominants.
8. Identify basic song forms and subdivided rhythmic patterns.
9. Analyze and use non-harmonic tones.
10. Exercise keyboard skills sufficient to perform class assignments.
11. Demonstrate vocal interpretation of music through sight singing.

4.000 Credit hours  
4.000 Lecture hours  
1.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**MUS 151 - Applied Music I****COURSE DESCRIPTION:**

MUS 151. Applied Music (2). Individual instruction in piano, organ, voice, guitar, band or orchestra instruments for music majors.

**COURSE CONTENT:**

1. Applied music fundamentals
2. Theory and development of tone production
3. Technical facility
4. Development of musicianship through performance of selected studies and compositions in the various musical periods

**LEARNING OUTCOMES:**

1. Apply music fundamentals appropriate to level and area of study. (1)
2. Apply theory and development of tone production for level and genre of study. (2)
3. Play or sing with technical facility appropriate for genre and level of study. (3)
4. Play or sing using styles and performance practices of the various musical periods. (4)
5. Perform progressively advanced compositions in lessons, recitals, juries, and concerts. (1-4)

2.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Applied Music](#), Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### MUS 152 - Applied Music II

**COURSE DESCRIPTION:**

MUS 152. Applied Music II (2). Individual instruction in piano, organ, voice, guitar, band or orchestra instruments for music majors. Prerequisite: MUS 151.

**COURSE CONTENT:**

1. Applied music fundamentals
2. Theory and development of tone production
3. Technical facility
4. Development of musicianship through performance of selected studies and compositions in the various musical periods

**LEARNING OUTCOMES:**

1. Apply music fundamentals appropriate to level and area of study. (1)
2. Apply theory and development of tone production for level and genre of study. (2)
3. Play or sing with technical facility appropriate for genre and level of study. (3)
4. Perform progressively advanced compositions in lessons, recitals, juries, and concerts. (1-4)

2.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Applied Music, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### MUS 161 - Diction for Singers I

**COURSE DESCRIPTION:**

MUS 161. Diction for Singers I (1). International Phonetic Alphabet (IPA) as an aid in the pronunciation of English and Italian for singing performance. Application of IPA sounds and symbols to texts in songs. Two lab.

**COURSE CONTENT:**

1. Sounds, symbols and pronunciation rules of the International Phonetic Alphabet (IPA) in English and Italian
2. Transcription, pronunciation and performance of English and Italian texts using the IPA

**LEARNING OUTCOMES:**

1. Pronounce English and Italian song literature. (1,2)
2. Transcribe and perform English and Italian text using the International Phonetic Alphabet (IPA). (2)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### MUS 162 - Diction for Singers II

**COURSE DESCRIPTION:**

MUS 162. Diction for Singers II (1). International Phonetic Alphabet (IPA) as an aid in the pronunciation of German and French for singing performance. Application of IPA sounds and symbols to texts in songs. Prerequisite: MUS 161. Two lab.

**COURSE CONTENT:**

1. Sounds, symbols and pronunciation rules of the International Phonetic Alphabet (IPA) in German and French
2. Transcription, pronunciation and performance of German and French texts using the IPA

**LEARNING OUTCOMES:**

1. Pronounce German and French song literature. (1,2)
2. Transcribe and perform German and French text using the International Phonetic Alphabet (IPA). (2)

1.000 Credit hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### MUS 190 - Oratorio:

**COURSE DESCRIPTION:**

MUS 190. Oratorio: (1) (Fall). Rehearsal and performance of selected choral selections from major choral works. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Phonation
2. Posture
3. Articulation
4. Choruses from major choral works
5. Public performance

**LEARNING OUTCOMES:**

1. Sing with accurate tempo, pitch, rhythm, dynamic levels and phrasing. (1)

2. Sing using correct posture and breathing techniques. (2)
3. Sing with clear enunciation, pronunciation and proper vowel and consonant formation. (3)
4. Sing chorus selections from major choral works. (4)
5. Apply learned rehearsal techniques and perform with appropriate department in public venues. (5)

1.000 Credit hours  
 0.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

#### **MUS 198 - Music Topics:**

##### **COURSE DESCRIPTION:**

MUS 198. Music Topics: (1). Exploration of music techniques and expression. One lecture. [Repeatable for a total of 2 credit hours towards degree/certificate requirements.]

##### **COURSE CONTENT:**

1. Music techniques and processes
2. Personalized expression
3. Performance of musical works
4. Critique
5. Historical and/or contemporary musical examples

##### **LEARNING OUTCOMES:**

1. Explore music techniques and processes (1)
2. Apply techniques to personal expression (2)
3. Perform musical works (3)
4. Critique musical works (4)
5. Identify musical examples (5)

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

#### **MUS 201 - Private Music III**

##### **COURSE DESCRIPTION:**

MUS 201. Private Music III (1). Individual, self-paced instruction in piano, organ, guitar, voice, band or orchestra instruments. Open to all students in the college. Prerequisite: MUS 102.

##### **COURSE CONTENT:**

1. Sight-reading techniques
2. Tone production
3. Technical facility
4. Performance of selected studies and compositions

##### **LEARNING OUTCOMES:**

1. Sight read using techniques appropriate to level of music studied and/or performed. (1)
2. Produce the quality of tone appropriate for genre and level of study. (2)
3. Play or sing with technical facility appropriate for genre and level of study. (3)
4. Apply styles, phrasing, and performance practices appropriate for the various periods, genre, and level of music studied. (1-4)

1.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab, Private Music

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

#### **MUS 202 - Private Music IV**

##### **COURSE DESCRIPTION:**

MUS 202. Private Music IV (1). Individual, self paced instruction in piano, organ, guitar, voice, band or orchestral instruments. Open to all students in the college. Prerequisite: MUS 201. (Repeatable for a total of 4 credit hours towards degree/certificate requirements.)

##### **COURSE CONTENT:**

1. Sight-reading techniques
2. Tone production
3. Technical facility
4. Performance of selected studies and compositions

##### **LEARNING OUTCOMES:**

1. Use notation at level of music studied and/or performed. (1)
2. Produce the quality of tone appropriate for genre and level of study. (2-4)
3. Play or sing with technical facility for genre and level of study. (2-4)
4. Use styles, phrasing, and performance practices appropriate for the various periods, genre, and level of music studied. (1-4)

1.000 Credit hours  
 0.000 Lecture hours  
 1.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, [Private Music](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### **MUS 203 - Piano Class III**

**COURSE DESCRIPTION:**

MUS 203. Piano Class III (1). Designed for students with some piano experience. Emphasis on advanced accompaniment skills. Prerequisite: MUS 104. Three lab.

**COURSE CONTENT:**

1. Sight reading: progressively more difficult compositions
2. Technique: variety of fingering patterns and chord shapes; interpretation of dynamics and melody/accompaniment balance
3. Theory: all major and harmonic minor scales, two or more octaves; all dominant seventh chords in all positions
4. Repertoire: early level intermediate literature, ensemble pieces
5. Functional skills: transposition of melodies extending beyond 5-finger positions; harmonization of melodies using more diverse harmonies; improvisation of melodies with various accompaniment styles

**LEARNING OUTCOMES:**

1. Demonstrate sight-reading skills in upper level elementary piano compositions.
2. Demonstrate technical skills in playing fingering patterns, scales, and chords.
3. Demonstrate ability to perform lower level intermediate piano literature.
4. Develop more advanced skills in transposition, harmonization, and improvisation.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### **MUS 204 - Piano Class IV**

**COURSE DESCRIPTION:**

MUS 204. Piano Class IV (1). Designed for students with some piano experience. Emphasis on interpretation. Prerequisite: MUS 203. Three lab.

**COURSE CONTENT:**

1. Sight reading: progressively more difficult compositions
2. Technique: fluency in tempos of performed literature; scale studies and arpeggios; chromatic scale fingering
3. Theory: five kinds of seventh chords
4. Repertoire: upper level intermediate literature; ensemble pieces
5. Functional skills: transposition of folk-type melodies with various accompaniment figures; harmonization of melodies using nay chords within a key and borrowed, or altered, chords; improvisation of melodies and accompaniments using acquired harmonization skills

**LEARNING OUTCOMES:**

1. Demonstrate sight reading skills in lower level intermediate piano literature.
2. Demonstrate more advanced skills in playing various finger patterns, scales, and chords.
3. Demonstrate ability to perform upper level intermediate piano literature.
4. Develop intermediate level skills in transposition, harmonization, and improvisation.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### **MUS 222 - Chamber Singers**

**COURSE DESCRIPTION:**

MUS 222. Chamber Singers (1). Rehearsal and performance of selected choral literature. Membership by audition. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Technical skill in singing
2. Reading choral literature
3. Public performance

**LEARNING OUTCOMES:**

1. Use standard postures while singing. (1)
2. Articulate (vowel and consonant formation) while singing. (1)
3. Sing assigned voice part while in a group. (2)
4. Perform selected examples of choral literature in public. (3)
5. Model professional stage deportment during public performance. (3)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Visual/Performing/LiberalOBS Division  
Performing Arts Department



**MUS 223 - Vocal Ensemble**

## COURSE DESCRIPTION:

MUS 223. Vocal Ensemble (1). Rehearsal and performance of selected choral literature. No audition required. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

## COURSE CONTENT:

1. Technical skill in singing
2. Singing choral literature
3. Public performance

## LEARNING OUTCOMES:

1. Use standard postures while singing. (1)
2. Articulate (vowel and consonant formation) while singing. (1)
3. Sing assigned voice part while in a group. (2)
4. Perform selected examples of choral literature in public.(3)
5. Model professional stage deportment during public performance. (3)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**MUS 224 - Master Chorale**

## COURSE DESCRIPTION:

MUS 224. Master Chorale (1). Rehearsal and performance of selected major choral literature. Membership by audition. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

## COURSE CONTENT:

1. Technical skill in singing
2. Singing choral literature
3. Public performance

## LEARNING OUTCOMES:

1. Use standard postures while singing. (1)
2. Articulate (vowel and consonant formation) while singing. (1)
3. Sing assigned voice part while in a group. (2)
4. Perform selected examples of choral literature in public.(3)
5. Model professional stage deportment during public performance. (3)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**MUS 225 - Community Chorale**

## COURSE DESCRIPTION:

MUS 225. Community Chorale (1). Rehearsal and performance of selected choral literature. No audition required. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

## COURSE CONTENT:

1. Technical skill in singing
2. Reading choral literature
3. Public performance

## LEARNING OUTCOMES:

1. Use standard postures while singing. (1)
2. Articulate (vowel and consonant formation) while singing. (1)
3. Sing assigned voice part while in a group. (2)
4. Perform selected examples of choral literature in public.(3)
5. Model professional stage deportment during public performance. (3)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**MUS 226 - Chamber Choir**

## COURSE DESCRIPTION:

MUS 226. Chamber Choir (1). Rehearsal and performance of selected choral literature. Membership by audition. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

## COURSE CONTENT:

1. Technical skill in singing
2. Singing choral literature

## 3. Public performance

## LEARNING OUTCOMES:

1. Use standard postures while singing. (1)
2. Articulate (vowel and consonant formation) while singing. (1)
3. Sing assigned voice part while in a group. (2)
4. Perform selected examples of choral literature in public.(3)
5. Model professional stage deportment during public performance. (3)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**MUS 227 - Women's Chorale**

## COURSE DESCRIPTION:

MUS 227. Women's Chorale (1). Rehearsal and performance of selected choral literature. Audition required. Three lab. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.]

## COURSE CONTENT:

1. Technical skill in singing
2. Singing choral literature
3. Public performance

## LEARNING OUTCOMES:

1. Use standard postures while singing. (1)
2. Articulate (vowel and consonant formation) while singing. (1)
3. Sing assigned voice part while in a group. (2)
4. Perform selected examples of choral literature in public.(3)
5. Model professional stage deportment during public performance. (3)

## REQUIRED ASSESSMENT:

1. In-class video/audio performance, public performance.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**MUS 228 - Gospel Choir**

## COURSE DESCRIPTION:

MUS 228. Gospel Choir (1). Rehearsal and performance of selected choral literature. Membership open with no audition required. [Repeatable for a total of 4 credit hours towards degree/certificate requirements.] Three lab.

## COURSE CONTENT:

1. Technical skill in singing
2. Reading choral literature
3. Public performance

## LEARNING OUTCOMES:

1. Use standard postures while singing. (1)
2. Articulate (vowel and consonant formation) while singing. (1)
3. Sing assigned voice part while in a group. (2)
4. Perform selected examples of choral literature in public.(3)
5. Model professional stage deportment during public performance. (3)

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours


**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**MUS 231 - Advanced Integrated Theory I**

## COURSE DESCRIPTION:

MUS 231. Advanced Integrated Theory I (4).  **MUS 2222.** Advanced theory of music correlating concepts of part writing, sight singing, ear training, dictation and keyboard harmony. Part writing skills using 7th chords, secondary dominants and altered non-harmonic tones, modulation and borrowed chords; sight singing and dictation skills through altered intervals and syncopated rhythms; keyboard skills realizing a figured bass. Required of music majors. Prerequisite: MUS 132. Four lecture. One lab.

## COURSE CONTENT:

1. The common 7th chords in all inversions
2. Altered non-harmonic tones and chords
3. Borrowed dominants and leading tone chords
4. Altered non-harmonic tones and altered chords in modulation to closely related keys 9th, 11th and 13th chords
5. Neapolitan and Augmented 6th chords
6. Musical form analysis

## LEARNING OUTCOMES:

1. Aural identification of above concepts through dictation
2. Analytical techniques for above concepts in chorale and piano styles
3. Keyboard application in chorale and piano styles of above concepts Identify the common 7th chords.
4. Identify altered non-harmonic tones and chords.
5. Identify borrowed dominants and leading tone chords.
6. Use modulation using the above concepts.
7. Identify other borrowed chords.
8. Identify 9th, 11th and 13th chords.
9. Identify Neopolitan and augmented 6th chords.
10. Develop form and analysis.
11. Develop vocal interpretation of music through sight singing.

4.000 Credit hours  
4.000 Lecture hours  
1.000 Lab hours

Levels: Credit


Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

Course Attributes:  
SUN# MUS 2222

**MUS 232 - Advanced Integrated Theory II**

## COURSE DESCRIPTION:

MUS 232. Advanced Integrated Theory II (4).  MUS 2223. Correlating advanced concepts of part writing, sight singing, ear training, dictation and keyboard harmony. Part writing skills using augmented 6th chords, chromatic mediants and modulations to foreign keys, sight singing and dictation skills through two, three and four parts; keyboard skills realizing a figured bass. Required of music majors. Prerequisite: MUS 231. Four lecture. One lab.

## COURSE CONTENT:

1. Contemporary compositional devices and techniques
2. Aural and analytical identification and sight singing of materials employing the above concepts

## LEARNING OUTCOMES:

1. Identify 9th, 11th, and 13th chords.
2. Identify exotic scales.
3. Identify chords of addition and omission.
4. Identify quartal harmonies and planning.
5. Identify contemporary cadences.
6. Identify 12 tone technics.
7. Identify interval sets and other technics.
8. Identify aural and analytical identification of above concepts.
9. Identify vocal chorale style and piano applications of above concept.

4.000 Credit hours  
4.000 Lecture hours  
1.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

Course Attributes:  
SUN# MUS 2223

**MUS 240 - Music Appreciation**

## COURSE DESCRIPTION:

MUS 240. Music Appreciation (3). Explores the common elements of rhythm, melody, harmony, and form as they connect with the heritage of human understanding. Examines issues of universal human concern that are reflected in all styles of music from folk to classical. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

## COURSE CONTENT:

1. Elements of music: rhythm, melody, harmony, timbre, form
2. Styles of music: folk, popular, jazz, and classical art music
3. Influences within major historic periods (i.e. medieval, renaissance, baroque, classical, romantic, and contemporary)
4. Representative composers and their compositions from the major periods and styles
5. Cultural issues expressed through the production of music in Western societies

## LEARNING OUTCOMES:

1. Apply a designated vocabulary of terms to describe common elements of music. (1) (AH 3)
2. Use listening skills essential for perception of music by comparing and differentiating numerous musical examples taken from standard music literature. (2-4)
3. Describe the stylistic differences between music of the major historical musical periods of Western culture. (2,3) (AH 1)
4. Identify music of the folk and popular traditions, and compare these styles with classical art music. (2)
5. Identify and classify major composers of both classical literature and music of the popular traditions. (3,4) (AH 5)
6. Discuss and analyze the connection between musical aesthetic principles and the cultural and historical context from which musical compositions derive. (3,5) (AH 2)
7. Examine and discuss universal (moral, spiritual, intellectual, and aesthetic) issues expressed through the production of music in Western societies. (3,5)
8. Identify, interpret, evaluate and synthesize stylistic characteristics as they apply to contrasting world views through musical compositions. (2,4,5) (AH 4)

## REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of evaluated writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**Course Attributes:**  
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

### MUS 245 - Music of World Cultures

**COURSE DESCRIPTION:**

MUS 245. Music of World Cultures (3). Cultural and historical ethnic music contributions throughout the world. Social, cultural and spiritual factors affecting music. Emphasis on listening skills, style characteristics, properties of sound and elements of music on various instruments. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Development of aural (listening skills)
2. Properties of sound and elements of music
3. Classification and methods of producing sound on various instruments
4. Cultural contributions to music from around the world
5. Style characteristics of different ethnic cultures
6. Social, cultural and spiritual value of music in world

**LEARNING OUTCOMES:**

1. Recognize and classify cultural and ethnic music examples. (1) (AH 5)
2. Describe properties of sound. (2) (AH 3)
3. Identify, compare and contrast use of various instruments to achieve characteristic sounds. (3) (AH 5)
4. Research and discuss the value of music in world cultures. (4) (AH 4)
5. Identify basic patterns of style for specific cultures or historical time periods. (5) (AH 1)
6. Analyze social, cultural, and spiritual environmental factors influencing the development of music in specific cultures. (6) (AH 2)

**REQUIRED ASSESSMENT:**

1. Employ thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**Course Attributes:**  
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

### MUS 251 - Applied Music III

**COURSE DESCRIPTION:**

MUS 251. Applied Music III (2). Individual instruction in piano, organ, voice, guitar, band or orchestra instruments. For music majors. Prerequisite: MUS 152.

**COURSE CONTENT:**

1. Applied music fundamentals
2. Theory and development of tone production
3. Technical facility
4. Studies and compositions for sight reading and/or transposition
5. Development of musicianship through performance of selected studies and compositions in the various musical periods

**LEARNING OUTCOMES:**

1. Apply music fundamentals appropriate to level and area of study. (1)
2. Apply theory and development of tone production for level and genre of study. (2)
3. Play or sing with technical facility appropriate for genre and level of study. (3)
4. Sight read and/or transpose studies and compositions of appropriate difficulty for genre and level of study. (4)
5. Apply styles and performance practices of the various musical periods. (5)
6. Perform advanced compositions in lessons, recitals, juries, and concerts. (1-5)

2.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Applied Music, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

### MUS 252 - Applied Music IV

**COURSE DESCRIPTION:**

MUS 252. Applied Music IV (2). Individual instruction in piano, organ, voice, guitar, band or orchestra instruments. For music majors. Prerequisite: MUS 251. (Repeatable for a total of 4 credit hours towards degree/certificate requirements.)

**COURSE CONTENT:**

1. Applied music fundamentals
2. Theory and development of tone production
3. Development of technical facility
4. Sight-reading and/or transposition for studies and compositions
5. Development of musicianship through performance of selected studies and compositions in the various musical periods

**LEARNING OUTCOMES:**

1. Apply music fundamentals appropriate to area of study. (1)
2. Apply theory and development of tone production for genre and level of study. (2)
3. Play or sing with technical facility appropriate for genre and level of study. (3)

4. Use styles and performance practices of the various musical periods. (5)
5. Perform advanced compositions in lessons, recitals, and juries. (5)
6. Sight-read and/or transpose studies and compositions of appropriate difficulty for genre and level of study. (4)

2.000 Credit hours  
0.000 Lecture hours  
1.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Applied Music, Lab

Visual/Performing/LiberalOBS Division  
Performing Arts Department

#### **MUS 296 - Internship: Music**

##### **COURSE DESCRIPTION:**

MUS 296. Internship: Music (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. Three lecture. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

##### **COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

##### **LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

##### **REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
Performing Arts Department

#### **MUS 299 - Independent Study Music**

##### **COURSE DESCRIPTION:**

MUS 299. Independent Study Music (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

##### **COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

##### **LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
Performing Arts Department

**NSG 124 - Intravenous Therapy and Medication Administration for Lpn's****COURSE DESCRIPTION:**

NSG 124. Intravenous Therapy and Medication Administration for LPNs (3). Meets Arizona State Board of Nursing requirements for preparing a Licensed Practical Nurse to initiate, maintain, and discontinue intravenous therapy and administer selected medications by the IV route within the scope of LPN practice in Arizona. Includes legal aspects, complications of IV therapy, age-specific modifications, and nursing implications for administration of selected IV fluids and medications Prerequisite: NSG 132 or Active license as Licensed Practical Nurse or Registered Nurse. Three lecture. A-F grading only.

**COURSE CONTENT:**

1. Arizona State Board of Nursing statutes, rules, advisory opinions, and policies and procedures, including delegation/ supervision responsibilities related to IV therapy;
2. Purposes, advantages, and complications of IV therapy;
3. Anatomy and physiology of skin and vascular systems;
4. Fluid and electrolytes/homeostasis;
5. Diagnostic tests and values related to IV therapy;
6. IV equipment (use, malfunctions, and problem solving);
7. Infection control/standard precautions/needle safety devices;
8. Technique for peripheral-short site selection, venipuncture, and discontinuation;
9. Technique for flushing all types of intravenous lines;
10. Principles of IV therapy, including peripheral-short and peripheral-midline, PICC, and central line catheter site care and cap changes;
11. Complications of IV therapy, local, mechanical and systemic.;
12. Nursing care responsibilities and documentation related to IV therapy;
13. Pharmacology, calculations, and nursing implications for administration of selected IV fluids and medications via peripheral-short and peripheral-midline IV catheters;
14. Age-specific modifications of IV therapy;
15. Learning needs of clients receiving IV therapy;
16. Emotional needs of clients receiving IV therapy;
17. Client evaluation.

**LEARNING OUTCOMES:**

1. Identify the Arizona State Board of Nursing statutes, rules, and advisory opinion related to the role of the LPN in IV therapy, including delegation and supervision responsibilities.
2. Discuss the purposes, advantages, and disadvantages of IV therapy.
3. Describe the anatomy of the skin, the location of veins in the upper extremity and torso, and appropriate sites for peripheral IV therapy.
4. Explain homeostasis and the function of organs that control homeostasis.
5. Identify the signs and symptoms of fluid and electrolyte imbalances.
6. Identify the differences and nursing implications for selected IV fluids.
7. Identify the application of Standard Precautions and infection control to IV therapy.
8. Select appropriate equipment for IV therapy, including needle safety devices.
9. Identify the signs and symptoms of local and systemic complications of short, midline, and central line IV therapy and related nursing interventions.
10. Identify requirements for documentation of IV therapy.
11. Identify the principles of maintaining IV therapy including client data collection and evaluation, standards for changing site and equipment, flushes, cap changes, and dressing changes.
12. Calculate correct infusion rates, medication dosages, and fluid intake amounts.
13. Describe modifications for IV therapy for pediatric and geriatric clients.
14. Discuss ways to meet learning and emotional needs of clients receiving IV therapy.
15. Define the pharmacological principles of drug absorption, distribution, metabolism, and excretion.
16. Identify principles of continuous and intermittent administration of selected IV drugs via peripheral-short and peripheral-midline catheters.
17. Interpret the use of compatibility charts for IV medication administration.
18. Identify the nursing responsibilities for premixed IV medications, including antimicrobials and other selected medications.
19. Use technical skills including:
  - a. Set-up IV therapy equipment for infusion and piggy-back medication administration.
  - b. Perform peripheral-short venipuncture for infusion or laboratory specimen collection.
  - c. Regulate infusion flow for fluids and medications.
  - d. Change bags of IV fluids.
  - e. Cap a primary line for intermittent use.
  - f. Change the cap on a peripheral or central IV catheter.
  - g. Flush a peripheral or central IV catheter with saline or heparin.
  - h. Provide site care for a peripheral and central IV catheter.
  - i. Discontinue a peripheral-short IV catheter.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Nursing Department

**NSG 130 - Basic Nutrition for Nurses****COURSE DESCRIPTION:**

NSG 130. Basic Nutrition for Nurses (1). Introduction to the basic concepts of nutrition. Includes a healthy balanced diet, factors that influence nutrition, and diet therapy for certain disease states. One lecture. A-F grading only.

**COURSE CONTENT:**

1. Factors influencing nutrition: culture, religion, socio-economic, fads, superstitions
2. Nutrients
3. Dietary guidelines: Four food groups, food guide pyramid, food labeling, recommended dietary allowances, and dietary reference intakes
4. Nutrition and health: nursing assessment, weight management, and diet therapy

**LEARNING OUTCOMES:**

1. Identify factors that positively and negatively affect nutrition.
2. Explain the significance of each of the six classes of nutrients.
3. Use established dietary guidelines to promote healthy nutrition.
4. Describe diet therapies used in the treatment of selected diseases or nutritional disorders.
5. Identify nursing actions to help clients achieve their nutritional goals.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
Nursing Department

### **NSG 131 - Foundations in Nursing I**

**COURSE DESCRIPTION:**

NSG 131. Foundations in Nursing I (8). Introduction to concepts of nursing roles, holistic approach to care, critical thinking and nursing process, pharmacology, nursing skill development, effective communication techniques, learning/teaching and legal, ethical, spiritual, and diversity/culture concepts. Physiological and psychological needs in health and illness including loss, grief and dying, and peri-operative care. Clinical experiences focus on holistic assessment and other selected skills in well defined practice settings. Prerequisite: Admission to nursing program. . Five lecture. Nine lab. A-F grading only.

**COURSE CONTENT:**

1. Introduction to nursing and the Yavapai College Nursing Program
2. Critical thinking skills/Nursing Process
3. Data collection/Gordon's Functional Health Problems
4. Medication administration
5. Therapeutic communication
6. Infection control/Safety
7. Legal/ethical issues
8. Concepts of holistic care
  - a. Diversity/culture/spirituality
  - b. Self concept/sexuality
  - c. Stress and adaptation
9. Learning/teaching principles
10. Expected changes with aging
11. Care of the client experiencing:
  - a. Limited mobility
  - b. Pain
  - c. Loss, grief, and dying
  - d. Surgery and diagnostic tests
  - e. Sensory/Perceptual alterations
  - f. Altered integument
  - g. Altered elimination
  - h. Sleep alterations

**LEARNING OUTCOMES:**

1. Explain fundamental concepts of nursing practice. (1,2,5,6,9,10)
  2. Perform basic holistic assessments and safe care of adult clients. (3,5,6,8bc,10)
  3. Identify legal, ethical, and professional issues for nursing practice. (7)
  4. Describe cultural values, cultural diversity and spirituality in relationship to nursing practice. (8a)
  5. Safely administer medications to adult clients. (4)
- Caring:
6. Differentiate between caring as an emotional response and a knowledgeable deliberative intervention.
- Diversity/Culture:
7. Verbalize personal cultural values and biases.
- Communication:
8. Identify therapeutic communication techniques and barriers to communicating.
- Learning/Teaching:
9. Identify components of the learning/teaching process.
- Accountability:
10. Identify ethical, professional, and legal frameworks for nursing practice.
- Management/Leadership:
11. Work cooperatively with members of the healthcare team in the management of nursing care.
  12. Complete assigned responsibilities in a timely manner.

8.000 Credit hours  
5.000 Lecture hours  
9.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
Nursing Department

**Course Attributes:**

Written Comm (WC)

### **NSG 132 - Concepts in Nursing II**

**COURSE DESCRIPTION:**

NSG 132. Concepts in Nursing II (9). Introduction to commonly occurring health care concerns. Includes oncology overview, alterations in oxygenation and perfusion, endocrine, musculoskeletal, and gastrointestinal functions, and an introduction to management concepts. Prerequisite: NSG 131 and BIO 202 and NSG 130 or NTR 135. Five lecture. Twelve lab. A-F grading only.

**COURSE CONTENT:**

1. Beginning leadership and management principles
  - a. delegation
  - b. leadership/organization
  - c. supervision
  - d. time management
2. Nursing considerations
  - a. age-related considerations
  - b. care planning and nursing process
  - c. legal and ethical considerations
  - d. nurse/client relationship
3. Nursing management of adult clients with alterations in:
  - a. acid base balance
  - b. cell growth
  - c. endocrine function
  - d. fluid/electrolyte balance

- e. renal function
- f. gastrointestinal function
- g. musculo-skeletal function
- h. oxygenation/perfusion
- i. organ donation

**LEARNING OUTCOMES:**

1. Investigate the etiology, pathophysiology, clinical manifestations, diagnostic studies, collaborative care, and nursing management of clients with selected alterations. (2a-d) (3a-i)
2. Use the nursing process as a framework for care of clients with selected alterations. (1-3)
3. Explain nursing considerations when caring for clients with selected alterations. (2a-d) (3a-i)
4. Apply basic management skills while providing nursing care. (1a-d)

9.000 Credit hours  
5.000 Lecture hours  
12.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
Nursing Department

**Course Attributes:**  
Scientific (SL)

### **NSG 210 - Pharmacology and Nursing Practice**

**COURSE DESCRIPTION:**

NSG 210. Pharmacology and Nursing Practice (3). Overview of pharmacological concepts and their relationship to nursing practice. Survey of selected drug classifications including drug actions, effects in maintaining or restoring homeostasis, side effects, adverse reactions, and application of critical thinking, including the nursing process, in the administration of medication and client teaching. Basic knowledge of chemistry, physiology and nursing recommended. Prerequisite: NSG 131. Three lecture. A-F grading only.

**COURSE CONTENT:**

1. Principles of pharmacology
  - a. Clinical pharmacy
  - b. Drug families
  - c. Pharmacokinetics
  - d. Pharmacodynamics
  - e. Age specific considerations
2. Nursing considerations
  - a. Nurse-client relationships
  - b. Legal/ethical considerations
  - c. Applying the nursing process to drug therapy
  - d. Managing delivery of prescribed dosages
3. Selected drug families
  - a. CNS drugs
  - b. Cardiac related drugs
  - c. Antimicrobial drugs
  - d. Anti-inflammatory drugs
  - e. Endocrine drugs
  - f. Digestive drugs
  - g. Analgesic drugs
  - h. Enteral and parenteral support drugs

**LEARNING OUTCOMES:**

1. Explain characteristics of selected drug families including direct and adverse actions, pharmacokinetics, pharmacodynamics, interactions and implications for patient monitoring and teaching.
2. Calculate appropriate dosages for delivery of prescribed medications in metric, apothecary and household measures in a variety of routes across the lifespan.
3. Apply principles of priority setting and administering medications to individuals and groups of clients.
4. Describe current legal and ethical responsibilities of the nurse in drug therapy.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
Nursing Department

**Course Attributes:**  
Quantitative Lit (QL)

### **NSG 231 - Concepts in Nursing III**

**COURSE DESCRIPTION:**

NSG 231. Concepts in Nursing III (7). Concepts of nursing care for clients with commonly occurring health care concerns with an emphasis on the developmental periods of infancy through adolescence. Advanced intravenous therapy. Uses nursing process format and integrates learning/teaching, psychosocial, diversity/cultural, spiritual, nutritional, pharmacological, legal, and ethical aspects. Clinical practicum includes management experience in well defined practice settings. Prerequisite: ENG 102 and NSG 132 and PSY 245. Corequisite: NSG 233. Three lecture. Twelve lab. A-F grading only.

**COURSE CONTENT:**

1. Review of nursing process
2. Advanced management of IV therapy:
  - a. TPN.
  - b. Blood administration.
  - c. Intravenous medication administration (piggyback and push).
3. Adaptation of nursing care based on developmental needs.
4. Holistic assessment of children and adolescents
5. Concepts of care of children and their families with physical developmental disorders and chronic illness.
6. Nursing care of clients experiencing common healthcare problems related to childhood and adolescence.
  - a. Immunizations.



- b. Cerebral palsy.
  - c. Cystic fibrosis.
  - d. Respiratory syncytial virus.
  - e. Laryngotracheobronchitis.
  - f. Meningitis.
7. Nursing care of the client experiencing alterations in integumentary function.
  8. Nursing care of the client experiencing alterations in hematological function:
    - a. Anemia and polycythemia.
    - b. Leukemia.
    - c. Lymphoma and multiple myeloma.
    - d. Bleeding disorders.
  9. Nursing care of the client experiencing alterations in immunologic function:
    - a. HIV infection and AIDS.
    - b. Rheumatic disease.
    - c. Diffuse connective tissue diseases.
  10. Nursing care of the client experiencing alterations in hepatic and biliary function:
    - a. Hepatitis.
    - b. Cirrhosis.
    - c. Cholecystitis/cholelithiasis.
    - d. Cancer.
  11. Nursing care of the client experiencing alterations in vision and hearing:
    - a. Assessment of vision and hearing
    - b. Impaired vision and hearing
    - c. Infections of the eye and ear
    - d. Problems of the inner ear

**LEARNING OUTCOMES:****Clinical Competence:**

1. Analyze data to individualize the nursing care of clients of all ages with multiple health care needs and problems.
2. Safely prioritize and manage nursing care for groups of clients.

**Critical Thinking:**

3. Use critical thinking skills to formulate and implement decision making in nursing practice.
4. Evaluate client's progress toward achievement of expected outcomes and revise plan of care as needed.

**Caring:**

5. Employ therapeutic use of self in nursing practice.

**Diversity/Culture:**

6. Modify nursing care based on a client's diversity/culture.

**Communication:**

7. Use effective communication skills when collaborating with clients, families, peers, faculty, and other members of the health care team.

**Learning/Teaching:**

8. Use the nursing process to meet the learning needs of individuals, families, and groups.

**Accountability:**

9. Take responsibility for appropriate delegation and supervision of others within the current scope of practice and established standards of care.
10. Take responsibility and accountability for personal actions.

**Management/Leadership:**

11. Collaborate with nursing staff for supervision, delegation and coordination in the management of nursing care.

7.000 Credit hours  
 3.000 Lecture hours  
 12.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
 Nursing Department

**Course Attributes:**

Creative Thinking (CR)

**NSG 232 - Concepts in Nursing IV****COURSE DESCRIPTION:**

NSG 232. Concepts in Nursing IV (5). Concepts of nursing care for clients with commonly occurring health care concerns: Alterations in cardiac and neurological functioning and multisystem problems including shock and burns. Includes concepts of critical care and emergency/disaster nursing. Uses nursing process format and integrates learning/teaching, psychosocial, diversity/cultural, spiritual, nutritional, pharmacological, management, legal, and ethical aspects. Clinical practicum includes preceptorship experience in well defined practice settings. Use of Health Education Systems, Inc. (HESI) Exit Exam as a progression benchmark and remediation guide. Prerequisite: BIO 205 and NSG 231 and NSG 233. Corequisite: NSG 234 and NSG 235. Two lecture. Nine lab. A-F grading only.

**COURSE CONTENT:**

1. Nursing care of the client experiencing critical alterations
2. Nursing care of the client experiencing alterations in cardiac function
3. Nursing care of the client experiencing alterations in neurologic function
4. Nursing responsibilities in disasters and emergency nursing

**LEARNING OUTCOMES:**

1. Use the nursing process as a framework for care of the critically ill patient and for the patient with commonly occurring health care needs and problems. (1-4)
2. Analyze the etiology, pathophysiology, clinical manifestations, diagnostic studies, collaborative care, and nursing management of patients with commonly occurring health care disorders. (1-4)
3. Examine ethical, legal, and political issues within the healthcare system. (1-4)
4. Specify pharmacological measures to prevent or minimize complications of selected acute-care disorders. (1-4)
5. Independently provide nursing care for groups of clients with multiple health care needs and problems in complex nursing practice situations. (1-4)

**REQUIRED ASSESSMENT:**

1. Health Education Systems, Inc. (HESI) Exit Exam.

5.000 Credit hours  
 2.000 Lecture hours  
 9.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division

Nursing Department

**Course Attributes:**  
Digital Lit (DL)

### NSG 233 - Perinatal and Women's Health Nursing

**COURSE DESCRIPTION:**

NSG 233. Perinatal and Women's Health Nursing (2). Concepts of nursing care for the preconception, perinatal and postpartum family and neonate. Includes sexually transmitted diseases, men's reproductive and women's health issues. Prerequisite: NSG 132. Corequisite: NSG 231. Two lecture. A-F grading only.

**COURSE CONTENT:**

1. Nursing care of the childbearing family
  - a. Preconception
  - b. Prenatal care
  - c. Care during labor and birth
  - d. Neonatal care
  - e. Postpartum care
2. Nursing care of the childbearing family at risk for complications
  - a. High risk pregnancy
  - b. High risk labor and delivery
  - c. High risk newborn
  - d. Physical/developmental disorders
  - e. High risk postpartum
3. Women's health issues
  - a. Abortions and contraception
  - b. Cancer
  - c. Menopause
  - d. Sexually transmitted diseases
4. Men's reproductive health issues

**LEARNING OUTCOMES:**

1. Analyze data to individualize the nursing care of women and members of childbearing family. (1-4)
2. Safely prioritize the nursing care for women and members of childbearing family. (1-4)
3. Perform a complete postpartum and newborn assessment. (1c-e, 2b-e)
4. Incorporate therapeutic communication and critical thinking when evaluating the dynamics related to women and the childbearing family. (1-4)
5. Evaluate client's progress toward achievement of expected outcomes and revise the plan of care as needed. (1-4)
6. Apply the therapeutic use of self in nursing practice. (1-4)
7. Modify nursing care for women and members of the childbearing family based on their diversity/culture. (1-4)
8. Use effective communication skills when collaborating with clients, families, peers and other members of the health care team. (1-4)
9. Use the nursing process to identify the learning needs of women and childbearing families. (1-4)
10. Apply the Arizona Board of Nursing Scope of Practice standards when caring for the childbearing family. (1-4)
11. Collaborate with nursing staff to coordinate nursing care for clients. (1-4)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Nursing Department

**Course Attributes:**  
Diversity (DA), Oral Communication (OC)

### NSG 234 - Psychiatric/Mental Health Nursing

**COURSE DESCRIPTION:**

NSG 234. Psychiatric/Mental Health Nursing (3). Concepts of nursing care for clients throughout the life span with maladaptive psychosocial and physiological responses related to mental disorders. Uses nursing process format and integrates complex communication techniques, learning/teaching, psychosocial, diversity/cultural, spiritual, nutritional, pharmacological, legal and ethical aspects. Clinical practicum occurs in well-defined settings. Prerequisite: NSG 132. Two lecture. Three lab. A-F grading only.

**COURSE CONTENT:**

1. Psychiatric/mental health nursing standards of care
2. Psychosocial and mental status assessment
3. Nurse-client relationship
  - a. Therapeutic use of self
  - b. Complex therapeutic communication techniques
4. Nursing care of clients with selected psychiatric/mental health needs and problems
5. Specialized interventions for clients with psychiatric/mental health needs and problems
6. Legal/ethical aspects related to clients with psychiatric/mental health needs and problems

**LEARNING OUTCOMES:**

1. Apply current psychiatric standards of care, including clinical competence, critical thinking, caring, diversity/culture, effective communication, accountability, and collaborating with the health care team. (1-6)
2. Name components of the mental status assessment and perform a mental status assessment on a client with a psychiatric disorder. (2,3a,3b)
3. Identify the role of a psychiatric nurse and care for selected psychiatric/mental health clients, addressing special needs and problems in a variety of psychiatric settings. (2,3a,3b,4)
4. Identify the role of a psychiatric nurse and care for selected psychiatric/mental health clients, addressing special needs and problems in a variety of psychiatric settings. (3a, 3b, 4-6)
5. Employ specialized interventions for clients with psychiatric/mental health needs and problems in a variety of psychiatric settings. (3a, 3b, 5,6)
6. Practice according to applicable legal/ethical concepts in psychiatric nursing. (3a,3b, 5,6)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Nursing Department

**Course Attributes:**  
Critical Thinking (CT)

### NSG 235 - Nursing Management and Leadership

**COURSE DESCRIPTION:**

NSG 235. Nursing Management and Leadership (2). Exploration of healthcare and professional organizations, current trends in healthcare and effects of the political process on decision making. Emphasis on leadership and management skills required for collaboration with others on the healthcare team and how to incorporate research into an evidence-based practice. Prerequisite: NSG 231. Two lecture. A-F grading only.

**COURSE CONTENT:**

1. Licensure and employment
2. Avenues of higher and continuing education
3. Healthcare organizational structures
4. The political process and its impact on healthcare
5. Legal and ethical aspects of healthcare
6. Role of regulatory agencies and nursing organizations
7. Nursing research and evidence-based practice
8. Leadership styles and management skills including conflict management
9. Quality management and risk management
10. Managing change
11. Professional and client advocacy
12. Resource management
13. Professionalism

**LEARNING OUTCOMES:**

1. Describe the influence of healthcare agencies and professional organizations on nursing practice. (3, 6)
2. Incorporate the principles of leadership and management (supervision, delegation and coordination) in providing nursing care. (8-13)
3. Discuss political, legal and ethical issues related to healthcare and within the various healthcare systems. (3-5)
4. Deliver nursing care utilizing available resources. (12)
5. Incorporate the use of nursing research and evidence-based practice into nursing care. (7, 9, 10)
6. Apply for licensure and employment. (1)
7. Explain the importance of higher, and continuing, education on the advancement of the nursing profession. (2, 13)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Nursing Department

**Course Attributes:**

Civic Engagement (CE), Info Literacy (IL)

### NSG 236 - Clinical Refresher

**COURSE DESCRIPTION:**

NSG 236. Clinical Refresher (2). Clinical practicum including management experience in well-defined practice settings. Prerequisite: NSG 231 and NSG 233 and BIO 205. Six lab. A-F grading only.

**COURSE CONTENT:**

1. Clinical competency
2. Critical thinking
3. Caring
4. Diversity/culture
5. Communication
6. Learning/teaching
7. Accountability
8. Management/leadership

**LEARNING OUTCOMES:**

1. Analyze data to individualize the nursing care of clients of all ages with multiple health care needs and problems. Safely prioritize and manage nursing care for groups of clients. (1)
2. Use critical thinking skills to formulate and implement decision making in nursing practice. Evaluate client's progress toward achievement of expected outcomes and revise plan of care as needed. (2)
3. Employ "therapeutic use of self" in nursing practice. (3)
4. Modify nursing care based on a client's diversity/culture. (4)
5. Use effective communication skills when collaborating with clients, families, peers, faculty, and other members of the health care team. (5)
6. Use the nursing process to meet the learning needs of individuals, families, and groups. (6)
7. Delegate and supervise others within the current scope of practice and established standards of care. Take responsibility and accountability for personal actions. (7)
8. Collaborate with nursing staff for supervision, delegation and coordination in the management of nursing care. (8)

**REQUIRED ASSESSMENT MEASURES:**

Clinical practicum and skills check-offs.

2.000 Credit hours  
0.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab

Sciences, Health & Public Safe Division  
Nursing Department

### NSG 237 - Practical Nurse Completion Course

**COURSE DESCRIPTION:**

NSG 237. Practical Nurse Completion Course (2). Scope of practice issues for the Licensed Practical Nurse (LPN), including care of individuals and families experiencing selected psychosocial adaptation and acute health-illness problems. Includes concepts of management and supervision. Prerequisite: NSG 231 and NSG 233. Reading Proficiency. Two lecture. (A-F grading only.)

**COURSE CONTENT:**

1. Scope of practice for LPN's
2. Caring for clients with Renal disease
3. Care and management of clients with a spinal cord injury
4. LPN's role in leadership and management in an extended care facility
5. Caring for clients under emergency and disaster situations
6. Managing and monitoring clients in a psychiatric crisis

**LEARNING OUTCOMES:**

1. Compare the scope of practice for the Licensed Practical Nurse with that of the Registered Nurse (RN). (1)
2. Assess, prioritize and monitor the nursing care for clients with acute renal disease. (2)
3. Assess and report to RN any abnormal findings of a client with a spinal cord injury. (3)
4. Apply basic management concepts within the scope of practice for a Practical Nurse. (4)
5. Identify risks, perform assessments and initiate the appropriate response to various emergencies. (5)
6. Assist clients who are coping with stress and behavior problems including psychiatric crisis intervention. (6)

2.000 Credit hours  
2.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Nursing Department

**NSG 296 - Internship: Nursing****COURSE DESCRIPTION:**

NSG 296. Internship: Nursing (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Sciences, Health & Public Safe Division  
Nursing Department

**NSG 299 - Independent Study Nursing****COURSE DESCRIPTION:**

NSG 299. Independent Study Nursing (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required. A-F grading only.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.

6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Independent Study

Sciences, Health & Public Safe Division  
 Nursing Department

#### **NTR 135 - Human Nutrition**

##### **COURSE DESCRIPTION:**

NTR 135. Human Nutrition (3). Principles of human nutrition including nutrient sources and physiological needs throughout the life cycle. Emphasis on role of nutrition in health and disease. Prerequisite: Reading Proficiency. Three lecture.

##### **COURSE CONTENT:**

1. Nutrition and food and their relation to health
2. Food Nutrients
  - a. Carbohydrates
  - b. Fat
  - c. Proteins
  - d. Fat soluble vitamins
  - e. Water soluble vitamins
  - f. Minerals
  - g. Water
3. Energy metabolism
4. Digestion, absorption and metabolism
5. Ecology of food
6. Nutrition and the life cycle
7. Diet in disease

##### **LEARNING OUTCOMES:**

1. Identify, value, and use a nutritional intake of food.
2. To recognize the importance of sound nutritional habits during the human life cycle.
3. Understand the interrelationships among the nutrients and their influence on human nutrition.
4. Apply sound nutrition concepts to critical periods throughout the life cycle.
5. Understand the influence of nutrition on the special health problems of an individual.
6. Relate nutrition to specific diseases and the importance of special diets in the management of those diseases.
7. Evaluate current nutrition information for reliability and usefulness.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
 Nutrition Department

#### **NTR 296 - Internship: Human Nutrition**

##### **COURSE DESCRIPTION:**

NTR 296. Internship: Human Nutrition (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

##### **COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

##### **LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

##### **REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours

0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Internship

Sciences, Health & Public Safe Division  
Nutrition Department

#### **NTR 299 - Independent Study Human Nutrition**

##### **COURSE DESCRIPTION:**

NTR 299. Independent Study Human Nutrition (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

##### **COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

##### **LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Independent Study

Sciences, Health & Public Safe Division  
Nutrition Department

#### **PHE 100A - Aikido**

##### **COURSE DESCRIPTION:**

PHE 100A. Aikido (1). Traditional Japanese martial art using non-violent self-defense techniques. Emphasis on relaxed movement and mind-body balance. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. Self-defense techniques
2. Power, strength and flexibility
3. Partnership principles
4. Attitudes and philosophy
5. Exercise adherence

##### **LEARNING OUTCOMES:**

1. Use self-defense techniques. (1)
2. Apply partnership principles for attitude and philosophical development. (2,3)
3. Apply strategies for exercise adherence for healthy lifestyle behaviors. (5)
4. Use attitudes and philosophy to develop power, strength and flexibility. (2,4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 100B - Karate**

##### **COURSE DESCRIPTION:**

PHE 100B. Karate (1). Fundamentals of karate. Emphasis on self defense techniques, fitness and wellness. Includes individualized progression through degrees/belts. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. Philosophy of oriental martial arts
2. Blocks
3. Hand techniques
4. Leg techniques
5. Kata
6. Kumite
7. Techniques of self defense
8. Techniques of reflexes, concentration and martial arts

##### **LEARNING OUTCOMES:**

1. Articulate historical and philosophical bases of martial arts. (1)
2. Perform fundamental karate moves. (2-6)
3. Apply techniques for self defense, concentration and martial arts. (7,8)
4. Use karate techniques progressively through established degrees/belts. (2-8)

1.000 Credit hours  
0.000 Lecture hours

2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 100C - Tae Kwon Do**

##### **COURSE DESCRIPTION:**

PHE 100C. Tae Kwon Do (1). Fundamental techniques and philosophy of Korean martial art. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. Self-defense techniques and forms
2. Mind/body connection
3. Attitude and philosophy
4. Exercise adherence

##### **LEARNING OUTCOMES:**

1. Use self-defense techniques and forms. (1)
2. Use mind/body connection to improve/maintain techniques and form. (1,2)
3. Apply attitude and philosophy to perform Tae Kwon Do. (3)
4. Apply strategies for exercise adherence for healthy lifestyle behaviors. (4)

1.000 Credit hours

0.000 Lecture hours

2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 100D - Tai Chi Chih**

##### **COURSE DESCRIPTION:**

PHE 100D. Tai Chi Chih (1). Gentle movements practiced for health, self-awareness and relaxation. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. 19 movements and one posture
2. Principles and philosophy of Tai Chi Chih
3. Breathing
4. Visualization and meditation techniques
5. Concentration and focus
6. Strategies for exercise adherence

##### **LEARNING OUTCOMES:**

1. Perform the 19 movements and one posture. (1,6)
2. Apply Tai Chi Chih principles and philosophy to 19 movements and one posture. (1,2,6)
3. Use focusing techniques and apply breathing, visualization, meditation and body awareness to 19 movements and one posture. (1,3-6)

1.000 Credit hours

0.000 Lecture hours

2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 100E - Tai Chi Ch'uan**

##### **COURSE DESCRIPTION:**

PHE 100E. Tai Chi Ch'uan (1). Tai Chi Ch'uan, ancient Chinese martial movement art form practiced for health, relaxation, meditation, self-cultivation and self-defense. Wu-family form consisting of 94 postures. System of rounded, fluid and balanced movements, played slowly in a continuous manner. Suitable for all fitness levels. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. Wu-Family form of Tai Chi Ch'uan
2. Origins of Tai Chi Ch'uan
3. Cultural perspectives and mind-body fitness
4. Health benefits of Tai Chi Ch'uan
5. Tai Chi Ch'i-kung
6. Tai Chi push hands
7. Complete body warm-up

##### **LEARNING OUTCOMES:**

1. Perform complete Wu-Family form of Tai Chi Ch'uan. (1)
2. Critique historical and cultural perspectives of mind-body fitness. (2,3)
3. Articulate health benefits of Tai Chi Ch'uan. (4)
4. Perform Tai Chi Ch'i-kung. (5)
5. Perform/play push hands. (6)
6. Perform complete body warm-up. (7)

1.000 Credit hours

0.000 Lecture hours

2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Sciences, Health & Public Safe Division  
Physical Education Department

### **PHE 100F - Hatha Yoga**

#### **COURSE DESCRIPTION:**

PHE 100F. Hatha Yoga (1). Introduction to Yoga and Meditation. Explore Hatha Yoga, practice breathing exercises, yoga poses and relaxation techniques. Two lab. S/U grading only.

#### **COURSE CONTENT:**

1. Basic asanas (postures)
2. Basic pranayama (breathing techniques)
3. Relaxation techniques
4. Safety and precautions of yoga practice
5. Historical and philosophical perspectives
6. Exercise adherence

#### **LEARNING OUTCOMES:**

1. Use basic asanas and pranayama to improve and maintain flexibility, strength and balance. (1,2)
2. Use relaxation techniques to reduce stress. (3)
3. Use safety and precautions in yoga practice. (4)
4. Critique historical and philosophical perspectives. (5)
5. Apply strategies for exercise adherence for healthy lifestyle behaviors. (6)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Sciences, Health & Public Safe Division  
Physical Education Department

### **PHE 100G - Intermediate Yoga**

#### **COURSE DESCRIPTION:**

PHE 100G. Intermediate Yoga (1). Hatha Yoga to increase strength, flexibility, focusing ability, balance and relaxation. Two lab. S/U grading only.

#### **COURSE CONTENT:**

1. Asanas (postures); emphasis on holding postures with intention
2. Pranayama; building on basic breathing techniques
3. Relaxation techniques
4. Safety and precautions of yoga practice
5. Injury prevention as yoga relates to other activities
6. Meditation practice
7. Exercise adherence

#### **LEARNING OUTCOMES:**

1. Practice intentional asanas and pranayama to improve/maintain: (1,2,3,6)
  - a. Flexibility
  - b. Strength
  - c. Balance
  - d. Focusing ability
2. Use basic foundations of meditation (6)
3. Apply relaxation techniques to reduce stress and relieve chronic maladies (3)
4. Apply yoga to injuries and injury prevention (1,2,4,5)
5. Integrate yoga practice to other physical activities ( 1,2,3,5)
6. Apply strategies for exercise adherence for healthy lifestyle behaviors (7)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Sciences, Health & Public Safe Division  
Physical Education Department

### **PHE 100H - Introduction to Hot Yoga**

#### **COURSE DESCRIPTION:**

PHE 100H. Introduction to Hot Yoga (1). Physically demanding workout combining static and actively sequenced poses in a heated room to improve circulation, muscular strength and endurance, balance and flexibility. Two lab. S/U grading only.

#### **COURSE CONTENT:**

1. Principles of alignment and posture
2. Muscular strength and endurance training
3. Balance and flexibility techniques
4. Hydration requirements and guidelines for exercise in a heated environment
5. Exercise adherence

#### **LEARNING OUTCOMES:**

1. Apply strategies and techniques to improve and maintain: physical alignment, optimal joint range of motion, muscular strength and endurance, and balance. (1-3, 5)
2. Identify and apply proper personal hydration for safe and effective exercise in a heated environment. (4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)



Sciences, Health & Public Safe Division  
Physical Education Department

### **PHE 100K - Introduction to Vinyasa Flow**

#### **COURSE DESCRIPTION:**

PHE 100K. Introduction to Vinyasa Flow (1). Development of fitness components through Vinyasa yoga with emphasis on proper form, alignment, transitions, use of props, self pacing techniques in a heated environment and linking breath to movement. This practice progresses from slow flowing to fast aerobic and is appropriate for experienced yoga students who want to focus on fundamentals. Two lab. S/U grading only.

#### **COURSE CONTENT:**

1. Principles and strategies for proper form, alignment and transitions related to the physical postures of Vinyasa flow sequence
2. Principles of Vinyasa yoga
3. Self pacing techniques for exercise in a heated environment
4. Use of props
5. Breathing techniques and cardiovascular endurance principles
6. Muscle strength, endurance, and flexibility fitness training principles

#### **LEARNING OUTCOMES:**

1. Apply Vinyasa flow principles and strategies to safely practice sequences in a heated environment. (1-4)
2. Apply breathing techniques to support transitions within sequence and improve or maintain cardiovascular endurance. (5)
3. Apply fitness training principles to improve and maintain muscle strength, endurance and joint range of motion. (6)

1.000 Credit hours  
2.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

### **PHE 102 - Back to Basics**

#### **COURSE DESCRIPTION:**

PHE 102. Back to Basics (1). Fitness training and health-related principles with emphasis on cardio endurance and strength training. Two lab. S/U grading only.

#### **COURSE CONTENT:**

1. Fitness training principles
2. Health related principles
3. Exercise adherence
4. Rate of perceived exertion (RPE)

#### **LEARNING OUTCOMES:**

1. Apply training and health related principles to improve/maintain: (1, 2)
  - a. Muscular endurance
  - b. Flexibility
  - c. Aerobic capacity
  - d. Balance
2. Apply exercise adherence strategies for healthy lifestyle behaviors. (3)
3. Use RPE to monitor aerobic workload. (4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

### **PHE 105 - Fitness Workshop**

#### **COURSE DESCRIPTION:**

PHE 105. Fitness Workshop (.5). Fitness Workshop. Application of fitness principles, adherence strategies and safety principles. One lab. S/U grading only.

#### **COURSE CONTENT:**

1. Aerobic conditioning principles
2. Flexibility principles
3. Daily activity function and balance principles
4. Strength conditioning principles
5. Exercise adherence strategies
6. Safety principles

#### **LEARNING OUTCOMES:**

1. Apply training principles to enhance:
  - a. Aerobic capacity
  - b. Muscular strength
  - c. Flexibility
  - d. Functional daily living activities
  - e. Balance
2. Use safety principles.
3. Apply exercise adherence strategies.

0.500 Credit hours  
0.000 Lecture hours  
1.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 110A - Stretch and Flex**

##### **COURSE DESCRIPTION:**

PHE 110A. Stretch and Flex (1). Flexibility and stretching exercises to improve posture, increase joint flexibility, and reduce stress reactions. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. Flexibility mechanics and exercises
2. Relaxation
3. Stress reduction techniques
4. Safety
5. Exercise adherence

##### **LEARNING OUTCOMES:**

1. Apply mechanics and exercises to improve joint range of motion and functional daily activities safely. (1,4)
2. Use stress reduction and relaxation techniques. (2,3)
3. Use mechanics to improve posture, core and back strength. (1,4)
4. Apply strategies for exercise adherence for healthy lifestyle behaviors. (5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 110C - Pilates, Mat Flex and Ball**

##### **COURSE DESCRIPTION:**

PHE 110C. Pilates, Mat Flex & Ball (1). Group exercise activities using stability and medicine balls, flat bands, body bars, mat and floor exercises and Pilates movements. Emphasis on improving core stabilization, strengthening major muscle groups and increasing flexibility. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. Core stabilization training
2. Muscular endurance principles
3. Flexibility principles
4. Balance principles
5. Safe use of equipment
6. Exercise adherence

##### **LEARNING OUTCOMES:**

1. Apply training principles to improve and maintain: core stabilization, flexibility, muscular strength and endurance, balance, and functional daily movements. (1-4)
2. Use safe exercise techniques. (5)
3. Apply strategies for exercise adherence. (6)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 110D - Aerobic Kickboxing**

##### **COURSE DESCRIPTION:**

PHE 110D. Aerobic Kickboxing (1). High intensity cardio and muscular strengthening workout. Combination of martial art style Tae Kwon Do with kicking and boxing moves. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. Boxing techniques
2. Kicking techniques
3. Principles of stability
4. Safety and movement execution
5. Exercise adherence

##### **LEARNING OUTCOMES:**

1. Apply strategies or techniques to improve/maintain
  - a. Flexibility
  - b. Cardiorespiratory endurance
  - c. Strength
  - d. Balance
2. Use ranges of motion specific to kickboxing.
3. Perform movements safely.
4. Apply strategies for exercise adherence for healthy lifestyle behaviors.

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 110E - Cardio Mix****COURSE DESCRIPTION:**

PHE 110E. Cardio Mix (1). Aerobic program for all fitness components. Emphasis on cross training activities. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Cross training principles
2. Rate of perceived exertion (RPE)
3. Fitness training principles
4. Exercise adherence

**LEARNING OUTCOMES:**

1. Apply principles of cross training to improve/maintain:
  - a. Muscular endurance
  - b. Flexibility
  - c. Aerobic capacity
  - d. Functional daily activities
  - e. Balance
2. Use RPE to monitor workload.
3. Apply strategies for exercise adherence for healthy lifestyle behaviors.

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 110G - Soft Aerobics: Low Impact****COURSE DESCRIPTION:**

PHE 110G. Soft Aerobics: Low Impact (1). Aerobic conditioning program using impact reduction exercises and activities. Emphasis on low intensity cardiorespiratory training, muscular strength and endurance development, flexibility training, balance and functional training. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Cardiovascular training principles
2. Methods to determine target heart rates
3. Individualizing target heart rates
4. Flexibility training
5. Resistive exercises
6. Procedures for low impact activities

**LEARNING OUTCOMES:**

1. Apply strategies for exercise adherence. (1,3)
2. Identify and establish personal fitness goals. (1,6)
3. Apply training principles to improve and maintain: flexibility, muscular strength and endurance, aerobic capacity, balance, and functional daily movements. (1-5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 110H - Step Aerobics****COURSE DESCRIPTION:**

PHE 110H. Step Aerobics (1). Aerobic conditioning using steps. Resistance training for upper-body toning. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Aerobic conditioning principles
2. Fitness training principles specific for step equipment
3. Use of resistance equipment
4. Safety considerations
5. Rate of perceived exertion (RPE)
6. Exercise adherence

**LEARNING OUTCOMES:**

1. Apply strategies and techniques to improve and maintain: aerobic capacity, flexibility, and muscular strength and endurance. (1)
2. Use safe training principles. (1,2,4)
3. Use RPE to monitor workload. (5)
4. Apply strategies for exercise adherence for healthy lifestyle behaviors. (6)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 110I - Total Body Conditioning**

**COURSE DESCRIPTION:**

PHE 110I. Total Body Conditioning (1). Ultimate training program using resistive and balance tools: bars, balls, and bosu balls. Emphasis on cardio, muscle sculpting and flexibility. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Aerobic and anaerobic training and rate of perceived exertion (RPE)
2. Muscular strength and endurance training
3. Flexibility training
4. Safe and proper use of equipment
5. Exercise adherence

**LEARNING OUTCOMES:**

1. Apply strategies and techniques to improve and maintain: aerobic capacity, flexibility, and muscular strength and endurance. (1-3)
2. Use safe exercise techniques. (4)
3. Use RPE to monitor workload. (1)
4. Apply strategies for exercise adherence for healthy lifestyle behaviors. (5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 110K - Indoor Cycling****COURSE DESCRIPTION:**

PHE 110K. Indoor Cycling (1). High intensity cardio training using interval and cross training principles. Emphasis on increasing aerobic capacity and muscular endurance. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Cycling techniques
2. Principles of aerobic training
3. Principles of anaerobic training
4. Rate of perceived exertion
5. Goal setting techniques

**LEARNING OUTCOMES:**

1. Apply cycling techniques. (1)
2. Apply principles of aerobic and anaerobic training to improve and maintain: aerobic capacity, muscular endurance, and stress reduction. (1-4)
3. Identify and establish fitness goals. (5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 110L - Neuromuscular Integrative Action (NIA)****COURSE DESCRIPTION:**

PHE 110L. Neuromuscular Integrative Action (NIA) (1). Sensory-based movement practice that blends the dynamic power of the martial arts, the creative expression of the dance arts and the inner awareness of the healing arts. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Health related and skill components
  - a. Cardiovascular fitness
  - b. Mobility, stability, agility, flexibility and strength
  - c. Intensity
2. Movement forms
  - a. Dance arts
  - b. Martial arts
  - c. Healing arts
3. Integrative body movements
  - a. Base steps and stances
  - b. Core work
  - c. Upper body work
  - d. Body awareness
  - e. Relaxation
4. Exercise adherence

**LEARNING OUTCOMES:**

1. Apply health related components to improve/maintain: (1)
  - a. Aerobic capacity
  - b. Mobility, stability, agility, flexibility and strength
  - c. Intensity
2. Apply movement forms to NIA workouts. (2)
3. Perform integrative body movements to NIA workouts. (3)
4. Apply strategies for exercise adherence for a healthy way of life. (4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 110Q - Zumba**

##### **COURSE DESCRIPTION:**

PHE 110Q. Zumba (1). High energy Latin dance inspired exercise utilizing principles of aerobic, interval and resistance training. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. Basic Latin, African and Eastern dance techniques
2. Cardiovascular fitness, interval training, resistance training, flexibility
3. Core work
4. Exercise adherence

##### **LEARNING OUTCOMES:**

1. Apply Zumba techniques to improve/maintain: cardiorespiratory endurance, muscular endurance, and flexibility. (1-3)
2. Perform basic Zumba steps and combinations. (1,3)
3. Apply strategies for exercise adherence for a healthy lifestyle. (4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 110R - Pumping Iron**

##### **COURSE DESCRIPTION:**

PHE 110R. Pumping Iron (1). Weight training choreographed to music using free weights and body bars. Emphasis on muscle definition, strength and endurance. All muscle groups challenged. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. Concepts of lean mass versus fat mass
2. Weight training techniques and principles
3. Safety principles
4. Exercise adherence principles

##### **LEARNING OUTCOMES:**

1. Apply weight training principles and techniques. (2,3)
2. Use movements to experience muscle/joint actions. (2,3)
3. Use assessment tools to calculate healthy body mass versus body fat. (1)
4. Apply strategies for exercise adherence. (4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 110S - Cardio Core**

##### **COURSE DESCRIPTION:**

PHE 110S. Cardio Core (1). High energy class combining a variety of aerobic activities for cardiovascular training coupled with exercises designed to increase core strength. Two lab. S/U grading only.

##### **COURSE CONTENT:**

1. Training principles for aerobic conditioning
2. Training principles to develop core strength
3. Personal fitness goals
4. Strategies for exercise adherence

##### **LEARNING OUTCOMES:**

1. Apply training principles to enhance/maintain cardiovascular endurance and core strength. (1,2)
2. Identify and establish personal fitness goals. (3)
3. Apply strategies for exercise adherence. (4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 110U - Power Pilates and Barre Fitness**

##### **COURSE DESCRIPTION:**

PHE 110U. Power Pilates and Barre Fitness (.5). Pilates, ballet barre and fitness training exercises to strengthen and lengthen muscles for improved posture, tighter abs, stronger arms and a toned backside. One lab. S/U grading only.

##### **COURSE CONTENT:**

1. Pilates, ballet barre and stability training principles and exercises
2. Flexibility training principles and exercises
3. Muscle strength and endurance training principles and exercises
4. Strategies for safety, injury prevention and exercise adherence

## LEARNING OUTCOMES:

1. Apply Pilates, barre and stability principles and exercises to improve and maintain core strength and stability. (1,4)
2. Apply flexibility training principles and exercises to improve or maintain joint range for motion and postural control. (2,4)
3. Apply fitness training principles and exercises to improve and maintain muscle strength and endurance. (3,4)

0.500 Credit hours  
 0.000 Lecture hours  
 1.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 120A - Aqua Fit**

## COURSE DESCRIPTION:

PHE 120A. Aqua Fit (1). Water training program, works all fitness components: Cardiovascular endurance, muscular strength and endurance, and flexibility. All fitness levels, swimmers, and non-swimmers. Two lab. S/U grading only.

## COURSE CONTENT:

1. Fitness training principles
2. Rate of perceived exertion (RPE)
3. Positive and negative effects of water exercise
4. Safety
5. Exercise adherence

## LEARNING OUTCOMES:

1. Apply training principles to improve and maintain: aerobic capacity, muscular strength and endurance, and flexibility. (1)
2. Use resistance and water tools to develop strength and aerobic capacity. (1,3)
3. Use rate of perceived exertion (RPE) to monitor workload. (2)
4. Use safe techniques to maximize work. (4)
5. Apply strategies and techniques for exercise adherence for healthy lifestyle behaviors. (5)

1.000 Credit hours  
 0.000 Lecture hours  
 2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 120B - Water Cross Training**

## COURSE DESCRIPTION:

PHE 120B. Water Cross Training (1). Variable water training methods developing strength and aerobic capacity. Use of water training equipment to enhance muscular strength and endurance and aerobic capacity. For all fitness levels, swimmers and non-swimmers. Two lab. S/U grading only.

## COURSE CONTENT:

1. Water cross training principles
2. Interval training principles
3. Exercise adherence

## LEARNING OUTCOMES:

1. Apply water cross training and interval training principles to enhance aerobic capacity, and strength and endurance. (1,2)
2. Apply strategies and techniques for exercise adherence for healthy lifestyle behaviors. (3)

1.000 Credit hours  
 0.000 Lecture hours  
 2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 120C - Swimming Fitness**

## COURSE DESCRIPTION:

PHE 120C. Swimming Fitness (1). Swim activities using fitness principles. Emphasis on improving fitness level. Two lab. S/U grading only.

## COURSE CONTENT:

1. F.I.T. (Frequency, Intensity, Time) principles
2. Health fitness components
3. Assessment methods
4. Fitness benefits
5. Exercise adherence

## LEARNING OUTCOMES:

1. Apply F.I.T principles to maintain and improve: aerobic capacity, muscular strength and endurance, stroke count, and speed per pool length. (1,2)
2. Use assessments to gauge fitness levels and improvement. (3)
3. Articulate fitness benefits of swimming. (4)
4. Apply strategies for exercise adherence for healthy lifestyle behaviors. (5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 120D - Beginning Swimming**

**COURSE DESCRIPTION:**  
PHE 120D. Beginning Swimming (1). Fundamentals of swimming. Emphasis on fundamental stroke techniques, personal life saving skills and water as a conditioning medium. Designed for non-swimmers. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Physical and mental adjustments to water
2. Body position
3. Fundamental stroke techniques
  - a. Front crawl
  - b. Back crawl
  - c. Elementary backstroke
  - d. Breaststroke
  - e. Sidestroke
4. Front dive techniques
5. Personal life saving skills
  - a. Change directions
  - b. Tread water
  - c. Turning over
  - d. Leveling off
6. Conditioning

**LEARNING OUTCOMES:**

1. Apply strategies and techniques to enhance and maintain: fundamental strokes. aerobic capacity, muscular endurance and strength, front driving techniques. (1-4, 6)
2. Use water safety skills. (1,2,5)
3. Apply strategies for personal life saving skills. (5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 120F - Warm Water Exercise**

**COURSE DESCRIPTION:**  
PHE 120F. Warm Water Exercise (1). Water exercise for students with conditions requiring warm water. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Principles of training
2. Safety considerations

**LEARNING OUTCOMES:**

1. Apply training principles to improve and maintain functional daily tasks, flexibility, and aerobic capacity. (1)
2. Use training principles and equipment safely. (2)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 130A - Fitness, Machine and Free Weight Training**

**COURSE DESCRIPTION:**  
PHE 130A. Fitness, Machine and Free Weight Training (1). Introduction to cardiorespiratory fitness, strength training exercises, and flexibility training. Two lab. S/U grading only.

**COURSE CONTENT:**

1. The F.I.T. formula (Frequency, Intensity, Time)
2. Training principles
3. Safe exercise postures
4. Cardio exercise, machine and free weight use
5. Flexibility
6. Exercise adherence

**LEARNING OUTCOMES:**

1. Apply training principles to create individual exercise plan. (1,2)
2. Use safe exercise postures to prevent injuries (3)
3. Use cardio equipment, weight machines and/or free weights to maintain/improve strength and aerobic capacity.(4)
4. Use stretching exercises to maintain/improve flexibility (5)
5. Apply exercise adherence strategies for healthy lifestyle behaviors (6)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 130C - Senior Fitness and Weight Training**

**COURSE DESCRIPTION:**

PHE 130C. Senior Fitness/Weight Training (1). Senior fitness with emphasis on principles and techniques of cardiorespiratory, muscular strength and endurance and flexibility training. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Equipment use
2. Safe exercise postures
3. Flexibility
4. Individual program design
5. Benefits of exercise adherence

**LEARNING OUTCOMES:**

1. Use equipment to maintain and improve: aerobic capacity, muscular strength and endurance, and flexibility. (1,3)
2. Use lifting postures for safe movement. (2)
3. Create a program to meet individual goals and needs. (4)
4. Apply exercise adherence strategies for healthy lifestyle behaviors. (5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 130E - Sport Enhancement and Conditioning**

**COURSE DESCRIPTION:**

PHE 130E. Sport Enhancement and Conditioning (2). Training program targeting athletic performance. Designed for athletes. One lecture. Two lab.

**COURSE CONTENT:**

1. Training principles
  - a. strength
  - b. aerobic/anaerobic
  - c. power
  - d. flexibility
  - e. agility
2. Nutrition
3. Environment and training
4. Prevention and care of injuries
5. Program design

**LEARNING OUTCOMES:**

1. Apply training principles to maintain/improve:
  - a. Strength
  - b. Aerobic capacity
  - c. Power
  - d. Flexibility
  - e. Agility
2. Formulate nutritional habits for performance.
3. Use principles of injury prevention and care specific to sports.
4. Apply environmental training principles to maintain/improve performance.
5. Design a program to meet individual goals and needs.

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 130H - Weight Management**

**COURSE DESCRIPTION:**

PHE 130H. Weight Management (3). Weight control through nutrition and exercise. Application of principles of nutrition, and exercise for weight management programming. Two lecture. Two lab.

**COURSE CONTENT:**

1. Concepts in weight management
2. Basic nutrition
3. Eating behavior techniques
4. Strategies for changing eating habits
5. Lifestyle modification and behavior change
6. Exercise programming for weight loss, weight gain and weight maintenance

**LEARNING OUTCOMES:**

1. Explain the physiology of weight loss, weight gain, and weight maintenance. (1,2,6)
2. Identify behavior techniques and strategies that assist weight loss, weight gain, and weight maintenance. (3-5)
3. Identify the role of a lifetime exercise program as the key to a successful weight loss and weight maintenance program. (5)

3.000 Credit hours



2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Sciences, Health & Public Safe Division  
Physical Education Department

#### [PHE 130J - Weight Loss and Health with Whole Food](#)

**COURSE DESCRIPTION:**

PHE 130J. Weight Loss and Health with Whole Food (2). Weight loss and health benefits through lifestyle improvements in plant based nutrition with the study of food addiction and recovery. Two lecture.

**COURSE CONTENT:**

1. Basic nutrition of functional foods
2. Principles and components of exercise for weight loss
3. Lifestyle choices that affect weight loss
4. Menu planning and food preparation techniques
5. Food addiction theories and recovery strategies

**LEARNING OUTCOMES:**

1. Identify food choices resulting in weight loss and improved health. (1)
2. Identify exercise components for weight loss. (2)
3. Plan menus for nutritional and health benefits. (1,4)
4. Select and modify recipes for weight loss and health benefits. (1,3,4)
5. Identify food choices that may result in food addiction and apply techniques for recovery. (5)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, [Lecture](#), Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### [PHE 130K - Therapeutic Exercise for Post Injury Fitness](#)

**COURSE DESCRIPTION:**

PHE 130K. Therapeutic Exercise for Post Injury Fitness (1). Exercises and pain management strategies designed to aid individuals with recent and/or old injuries or illnesses. Emphasis on strength training, range of motion, and balance techniques in order to return to an active lifestyle and physical activity. Not intended to replace physical therapy. Two lab.

**COURSE CONTENT:**

1. Introduction to cardiovascular equipment, machine weight equipment, and free weight equipment
2. Principles of safe and proper lifting postures and movement patterns
3. Pain management strategies
4. Range of motion and flexibility training
5. Proprioceptive and balance training

**LEARNING OUTCOMES:**

1. Use machine weights, free weights and cardiovascular fitness machines to return to normal activities of daily living. (1,2)
2. Apply safe rehabilitative and therapeutic exercises to decrease pain, increase strength, increase range of motion and proprioceptive balance. (2-5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#), Lecture

Sciences, Health & Public Safe Division  
Physical Education Department

#### [PHE 140A - Beginning Volleyball](#)

**COURSE DESCRIPTION:**

PHE 140A. Beginning Volleyball (1). Fundamentals of volleyball. Emphasis on rules, basic offensive and defensive techniques, and tactics. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Fundamental skills
2. Rules
3. Tactics

**LEARNING OUTCOMES:**

1. Apply basic rules to play the game. (1,2)
2. Use fundamental skills to play the game. (1)
3. Apply tactics to strategize playing the game. (3)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lab](#)

Sciences, Health & Public Safe Division  
Physical Education Department

#### [PHE 140B - Basketball](#)

**COURSE DESCRIPTION:**

PHE 140B. Basketball (1). Fundamentals of basketball. Emphasis on basic rules, offensive and defensive techniques and tactics, and sportsmanship. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Individual offensive and defensive techniques
2. Team offensive and defensive tactics
3. Rules and sportsmanship

**LEARNING OUTCOMES:**

1. Use individual techniques for developing consistency and accuracy. (1)
2. Use offensive and defensive tactics to build a team unit. (2)
3. Apply basic rules of the game. (3)
4. Use sportsmanship behaviors for safe and fair play. (3)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 140C - Softball****COURSE DESCRIPTION:**

PHE 140C. Softball (1). Fundamentals of softball. Emphasis on rules, offensive and defensive techniques and tactics. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Fielding techniques
2. Throwing mechanics
3. Batting techniques
4. Base running
5. Individual positions
6. Offensive tactics
7. Defensive tactics
8. Rules

**LEARNING OUTCOMES:**

1. Apply techniques to execute fundamental skills for consistency and accuracy. (1-5)
2. Use offensive and defensive team tactical skills. (6,7)
3. Apply game rules. (8)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 140D - Bowling****COURSE DESCRIPTION:**

PHE 140D. Bowling (1). Fundamentals of bowling. Emphasis on techniques, scoring, etiquette and handicapping. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Bowling equipment
2. Techniques:
  - a. Grip
  - b. Stance
  - c. Approach
  - d. Delivery
  - e. Follow through
3. Scoring
4. Etiquette
5. League and handicapping

**LEARNING OUTCOMES:**

1. Select and care for equipment. (1)
2. Use techniques to develop fundamental skills for consistency and accuracy. (2,3)
3. Apply scoring and handicapping procedures. (3)
4. Use etiquette behaviors. (4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 140E - Badminton****COURSE DESCRIPTION:**

PHE 140E. Badminton (1). Fundamentals of badminton. Emphasis on footwork, stroke production, rules and tactics. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Stroke production: clear, drop, smash, drive
2. Tactics

## 3. Rules and scoring

## LEARNING OUTCOMES:

1. Use stroke production to play badminton. (1)
2. Use tactics and strategy to play the game. (2)
3. Apply rules and scoring. (3)

1.000 Credit hours  
 0.000 Lecture hours  
 2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 140F - Golf**

## COURSE DESCRIPTION:

PHE 140F. Skills for Golf (1). Skill building emphasizing etiquette, rules, equipment, putting, chipping, pitching and full swing necessary to play a regulation golf course. Includes identification and correction of swing flaws as well as designing drills to develop an efficient and effective swing. Students pay for range balls. Two lab. S/U grading only.

## COURSE CONTENT:

1. Etiquette, terminology, common rules
2. Equipment selection, use and care
3. Pre and in-swing fundamental skills and practice
4. Putting
5. Chipping
6. Pitching
7. Full swing
8. Ball flight laws and common swing faults

## LEARNING OUTCOMES:

1. Show golf etiquette and identify common rules. (1)
2. Select appropriate equipment and swing for a variety of distances and situations. (2-8)
3. Apply pre/in-swing techniques to improve partial and full swing. (2-8)
4. Identify and design drills to correct swing faults. (2-8)

1.000 Credit hours  
 0.000 Lecture hours  
 2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 140G - Tennis**

## COURSE DESCRIPTION:

PHE 140G. Tennis (1). Fundamentals of tennis. Emphasis on basic stroke production, rules and tactics. Two lab. S/U grading only.

## COURSE CONTENT:

1. Stroke production: forehand, backhand, serve, volley, lob, overhead
2. Rules and scoring
3. Etiquette
4. Historical events

## LEARNING OUTCOMES:

1. Apply techniques to stroke production. (1)
2. Use rules and scoring to play the game. (2)
3. Use etiquette on the court. (3)
4. Identify major historical events affecting the game. (4)

1.000 Credit hours  
 0.000 Lecture hours  
 2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 140H - Racquetball**

## COURSE DESCRIPTION:

PHE 140H. Racquetball (1). Fundamentals of racquetball. Emphasis on stroke production, rules, tactics, scoring and safety. Two lab. S/U grading only.

## COURSE CONTENT:

1. Stroke production: forehand, backhand and serves:
  - a. Drives
  - b. Kills
  - c. Pinch shots
  - d. Ceiling shots
  - e. Lobs
  - f. Overhead shots
  - g. Z shots
2. Tactics
3. Court positioning and safety

## 4. Rules and officiating

## LEARNING OUTCOMES:

1. Use stroke production to play the game. (1,3)
2. Apply tactics to play the game. (2,3)
3. Apply rules to officiate and play the game safely. (3,4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 140K - Squash (The Game)**

## COURSE DESCRIPTION:

PHE 140K. Squash (1). Fundamentals of squash. Emphasis on skills, tactics, shots, rules, history and exercise. Two lab. S/U grading only.

## COURSE CONTENT:

1. History
2. Rules
3. Shots/skills
4. Practice drills
5. Competitive games
6. Conditioning
7. Gamesmanship and sportsmanship
8. Safety

## LEARNING OUTCOMES:

1. Describe significant events in the history of squash. (1)
2. Interpret and apply game rules. (2)
3. Execute shots and implement game skills. (3-5)
4. Apply drills to real game. (5)
5. Apply principles of conditioning to a personal fitness plan. (6)
6. Use court etiquette. (7)
7. Use equipment safely and apply safe play practices. (8)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 150 - Prevention of Athletic Injuries and Emergency Care**

## COURSE DESCRIPTION:

PHE 150. Prevention of Athletic Injuries and Emergency Care (3). Introduction to prevention of athletic injuries and conditions. Includes use of protective equipment, taping, nutrition, exercise, First Aid principles, legal implications, research and practical considerations. Three lecture.

## COURSE CONTENT:

1. Role of the athletic trainer and other related athletic personnel
2. Prevention of injuries including physical conditioning, physical exams and screening, nutrition, and protective devices
3. Injury management and rehabilitation
4. Basic anatomy and physiology
5. Injury taping and wrapping procedures
6. Professional considerations including supplies, communication and documentation, licensure, and legal liability

## LEARNING OUTCOMES:

1. Discuss roles of personnel in the sports medicine team. (1)
2. Apply preventative techniques and injury management. (2-4)
3. Identify responsibilities to avoid undue liability. (3,6)
4. Identify basic anatomical structures and physiology as they pertain to the prevention and management of athletic injuries. (4)
5. Apply protective taping, bracing, wrapping and padding for the prevention and management of athletic injuries. (5)
6. Prescribe physical conditioning activities and nutritional counseling appropriate for athletes. (2)
7. Perform basic business operations as they apply to athletic training such as supply procurement and maintenance of inventory and training kit components. (6)
8. Document and communicate injury treatment information. (6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 151 - Introduction to Exercise Science and Physical Education**

## COURSE DESCRIPTION:

PHE 151. Introduction to Exercise Science and Physical Education (3). Survey of the disciplines of exercise science, physical education and kinesiology. Includes historical perspective of the integrative nature of the disciplines, the importance of physical activity, qualifications and careers. Three lecture.

## COURSE CONTENT:

1. History, principles and definitions of physical activity, physical fitness, exercise, leisure, lifestyle behaviors and sport

2. Need for the disciplines of exercise science, physical education and kinesiology
3. Interdisciplinary structure of the disciplines, research methods and application to professional practice
4. Societal objectives for exercise science, physical education and sport
5. Careers, preparation and qualifications
6. Professional organizations
7. Issues, challenges and future of exercise science, physical education and kinesiology

## LEARNING OUTCOMES:

1. Explain the importance of physical activity and its implications for the disciplines of exercise science, physical education and kinesiology. (1,2)
2. Describe discipline structures, types of knowledge studied by its scholars and how knowledge is applied in professional practice. (3)
3. Defend the integrative nature of the field of exercise science, physical education and kinesiology. (1-3)
4. Identify the demands of professional occupations, current career options and the qualifications required, within the area of exercise science and physical education. (4-7)
5. Develop a professional philosophy statement. (1-7)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 152 - Personal Health and Wellness**

## COURSE DESCRIPTION:

PHE 152. Personal Health and Wellness (3). Explore issues related to health and wellness. Emphasis on current topics and individual choices affected by psychological, sociological and environmental factors. Pre-requisite: Reading Proficiency. Three lecture.

## COURSE CONTENT:

1. Introduction to personal health and wellness
2. Factors that affect personal health and wellness
3. Personal health and wellness research methods
4. Personal health and wellness assessment techniques
5. Societal and environmental health issues

## LEARNING OUTCOMES:

1. Define personal health and the 7 dimensions of wellness (physical, mental, emotional, social, environmental, occupational, and spiritual). (1) (BS 3)
2. Evaluate the components of personal health and wellness promoting positive behavior. (1,2,5) (BS 2)
3. Explain and apply research methods and assessment techniques for establishing cause and effect of personal health and wellness related issues and treatment. (3,4) (BS 1, 3)
4. Evaluate extrinsic and intrinsic factors that impact personal health and wellness. (1-5) (BS 2)
5. Analyze societal and environmental influences on personal health and wellness. (5) (BS 4)

## REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
 Physical Education Department

## Course Attributes:

Behavioral Science (AGEC)

**PHE 153 - First Aid/CPR/AED and Safety**

## COURSE DESCRIPTION:

PHE 153. First Aid/CPR/AED and Safety (2). Instruction, theory and practice in first aid/CPR/AED and safety. Upon successful completion, students receive certification from the American Heart Association or American Red Cross. Two lecture.

## COURSE CONTENT:

1. First aid basics and legal issues
2. Medical emergencies
3. Injury emergencies
4. Environmental emergencies
5. Adult, Child and Infant CPR and AED for the lay rescuer or health care provider
6. Safety around the home

## LEARNING OUTCOMES:

1. Identify and discuss legal issues of first aid. (1)
2. Analyze and prioritize first aid problems. (1-4)
3. Perform first aid. (1-4)
4. Administer CPR. (5)
5. Utilize AED. (5)
6. Identify and reduce safety hazards around the home. (6)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 153A - American Red Cross CPR****COURSE DESCRIPTION:**

PHE 153A. American Red Cross CPR (1). Basic Cardiopulmonary Resuscitation CPR. Emphasis on skills for adult, child and infant CPR including Automatic External Defibrillator. Preparation for the American Red Cross Certification requirements. One lecture.

**COURSE CONTENT:**

1. Emergency recognition
2. Emergency Medical System (EMS) activation
3. Check an unconscious victim
4. Check a conscious victim
5. Breathing emergencies in adults, children and infants
6. Cardiopulmonary resuscitation for adults, children and infants
7. Two person CPR
8. Automatic External Defibrillator (AED)
9. Coronary Heart Disease prevention
10. Good Samaritan Laws

**LEARNING OUTCOMES:**

1. Identify emergencies. (1)
2. Employ and use the EMS system (2)
3. Administer appropriate protocols including primary surveys and the identification of breathing and circulatory emergencies. (3-7)
4. Use Automatic External Defibrillator (AED) in cardiac emergencies. (8)
5. Describe coronary heart disease prevention methods. (9)
6. Articulate Good Samaritan Laws. (10)

**REQUIRED ASSESSMENT:**

1. American Red Cross written exam and skills checklist

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 153B - CPR & AED Recertification****COURSE DESCRIPTION:**

PHE 153B. CPR & AED Recertification (.5). Designed for individuals already certified or previously certified in professional rescuer cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED). Provides updated standards and guidelines for recertification testing. One-half lecture.

**COURSE CONTENT:**

1. Primary assessment
2. Airway obstruction
3. Respiratory and cardiac arrest
4. One and two-person cardiopulmonary resuscitation (CPR)
5. Automated external defibrillation (AED)

**LEARNING OUTCOMES:**

1. Employ updated guidelines when performing the steps of primary assessment. (1)
2. Apply new standards to patients with obstructed airways. (2)
3. Manage respiratory and cardiac arrest in adults, children and infants. (3,4)
4. Manage cardiac arrest using one & two-person CPR. (4)
5. Use an AED to defibrillate patients as needed. (5)
6. Re-certify in CPR and AED through the American Red Cross. (1-5)

0.500 Credit hours  
0.500 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 154 - Theory of Coaching/ASEP Certification Prep****COURSE DESCRIPTION:**

PHE 154. Theory of Coaching/ASEP Certification Prep (3). Comprehensive introduction to the coaching profession and preparation for the American Sports Education Program (ASEP) Coaching Certificate exam. Emphasis on the breadth of knowledge, theories and techniques of coaching and their application to achieving objectives in working with athletes. Three lecture.

**COURSE CONTENT:**

1. Coaching philosophy, objectives, roles and styles
2. Character and diversity
3. Fundamental communication skills
4. Motivational theories and techniques
5. Games approach
6. Planning for teaching technical and tactical skills
7. Principles of training
8. Performance nutrition, hydration and drug abuse issues
9. Team relations/management, media relations, game management and risk management

**LEARNING OUTCOMES:**

1. Develop a coaching philosophy. (1)
2. Identify and discuss the roles of a coach, the major objectives of coaching and factors that influence coaching style. (1)
3. Describe principles for coaching with character, developing character and sportsmanship in athletes, and coaching athletes with diverse backgrounds, characteristics and abilities. (2)

4. List psychological and sociological principles for effective communication and apply to various situations such as listening to athletes, motivating athletes, and managing behavior problems. (3,4)
5. Use the games approach for teaching technical and tactical skills. (5,6)
6. Develop a physical training program. (6,7)
7. Define basic systems of the body and principles of nutrition for performance. (8)
8. Apply methods for effective team management, for managing interpersonal relationships in coaching, and for protecting athletes from risk and coaches from liability issues. (9)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
 Physical Education Department

#### **PHE 155 - Sport Safety Training**

**COURSE DESCRIPTION:**

PHE 155. Sport Safety Training (2). Principles of First Aid and Safety specific to injuries and conditions resulting from sports participation. Emphasis on recognition and basic care of common sport injuries. Two lecture.

**COURSE CONTENT:**

1. Principles of first aid and safety
2. Injury prevention
3. Injuries to soft tissue
4. Injuries to bones and joints
5. Sudden illnesses
6. Emergency action plan

**LEARNING OUTCOMES:**

1. Select strategies for managing sport injuries. (1-5)
2. Apply basic first aid skills and techniques. (1)
3. Use prevention techniques to minimize sports injuries. (2)
4. Establish an emergency action plan for sporting events. (6)
5. Evaluate severity of common sports injuries and administer emergency treatment. (1-5)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
 Physical Education Department

#### **PHE 157 - Nutrition for Health, Fitness and Sport**

**COURSE DESCRIPTION:**

PHE 157. Nutrition for Health, Fitness and Sport (3). Basic nutritional concepts for overall health and wellness. Includes practical application to fitness and sport performance. Three lecture.

**COURSE CONTENT:**

1. Basic nutrition
2. Human energy systems
3. Dietary analysis
4. Carbohydrates, protein, and fats
5. Vitamins and minerals
6. Water and electrolytes
7. Body weight and composition
8. Training pyramid and food pyramids
9. Weight management

**LEARNING OUTCOMES:**

1. List basic nutrients, vitamins and minerals. (1,5)
2. Describe how carbohydrates, protein and fats nourish the body. (4)
3. Explain the energy demands of exercise. (2)
4. Recognize warning signs of dehydration and explain steps to maintain optimal hydration. (6)
5. Identify training diets for wellness, fitness and sport. (8)
6. Define dietary challenges of special populations. (3,7)
7. Create a personal dietary plan based on personal wellness, fitness or athletic goals. (1-9)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** [Lecture](#)

Sciences, Health & Public Safe Division  
 Physical Education Department

#### **PHE 167 - ACE Group Fitness Instructor Preparation**

**COURSE DESCRIPTION:**

PHE 167. ACE Group Fitness Instructor Preparation (3). Preparation for the ACE (American Council on Exercise) Group Fitness Instructor Certification Exam. Review of applied sciences; exercise programming and class design; group instructional methods; group leadership methods; and professional responsibility. Three lecture.

**COURSE CONTENT:**

1. Exercise science and human anatomy in exercise instruction
2. Training methods for cardiorespiratory fitness, flexibility, muscle strength and endurance

3. Teaching techniques, interpersonal communication skills, assessment and exercise programming in a group fitness setting
4. Leadership skills, legal issues and professional responsibility

## LEARNING OUTCOMES:

1. Explain concepts of exercise science, human anatomy, and biomechanics as applied to movement design and exercise instruction. (1)
2. Identify principles and methods of training for cardiorespiratory fitness, muscular strength and endurance, and flexibility. (2)
3. Apply various teaching techniques and strategies to enhance exercise instruction in a group fitness setting. (3)
4. Apply leadership skills in a group setting. (3,4)
5. Define the role of a fitness instructor as it relates to legal issues and professional responsibility. (4)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 200 - Introduction to Mindfulness Meditation**

## COURSE DESCRIPTION:

PHE 200. Introduction to Mindfulness Meditation (1). Introduction to the theory, practice, techniques and benefits of mindfulness meditation. Includes science-based evidence supporting practice techniques and benefits, body scan, awareness, informal and formal mindfulness techniques, and personal practice. One lecture.

## COURSE CONTENT:

1. Common meditation theories, practices, benefits and contraindications
2. Components and techniques of mindfulness meditation
3. Relaxation and concentration techniques vs. meditation

## LEARNING OUTCOMES:

1. Identify various types of meditation theories and practices. (1)
2. Describe mindfulness meditation techniques and define components. (2)
3. Design an independent meditation practice by applying mindfulness in formal meditation and daily life. (2, 3)

1.000 Credit hours  
 1.000 Lecture hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 200F - Path of Yoga**

## COURSE DESCRIPTION:

PHE 200F. The Path of Yoga (3). Introduction to Yoga philosophy, history, Ayurveda, and meditation. Asana practice to complement mind-body emphasis. Two lecture. Two lab. S/U grading only.

## COURSE CONTENT:

1. History of Yoga
2. Yoga philosophy
3. Four paths of Yoga
4. Ashtanga- 8 Limbs of Raja Yoga
5. Ayurveda- Science of Life
6. Hatha Yoga and Meditation

## LEARNING OUTCOMES:

1. Trace Yoga origins and historical development. (1)
2. Discuss Yoga purpose and philosophies. (2)
3. Apply strategies and techniques to enhance experiences in:
  - a. Four paths of Yoga (3)
  - b. 8 Limbs of Raja Yoga (4)
  - c. Ayurveda- diet, nutrition and health (5)
  - d. Hatha Yoga (6)
  - e. Meditation (6)

3.000 Credit hours  
 2.000 Lecture hours  
 2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Physical Education Department

**PHE 200G - Ayurveda and Yoga**

## COURSE DESCRIPTION:

PHE 200G. Ayurveda and Yoga (2). Introduction to Ayurveda (Science of Life) and relationship to Hatha Yoga practice. One lecture. Two lab. S/U grading only.

## COURSE CONTENT:

1. Ayurveda and Hatha Yoga- Sister sciences
2. Principles of Ayurveda
3. Food Sadhana
4. Diet, nutrition, health
5. Meditation yoga and pranayama practice

## LEARNING OUTCOMES:

1. Describe the relationship between Ayurveda and Yoga. (1)



2. Apply Ayurveda principles to Hatha Yoga practice. (3)
3. Use food Sadhana for general health. (3)
4. Apply meditation and pranayama to yoga practice. (4)
5. Adapt diet, exercise and routine to maximize health. (5)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Education Department

### **PHE 205 - Stress Management**

#### **COURSE DESCRIPTION:**

PHE 205. Stress Management (3). Theories and principles of stress with an emphasis on interventions and techniques to manage stress. Application and practice of various stress management techniques to lifestyle, occupational, personal, and age-related issues. Prerequisite: Reading Proficiency. Three lecture.

#### **COURSE CONTENT:**

1. Theories of stress
2. Terminology
3. Cross disciplinary issues and research methods
4. Dimensions of health - mental, emotional, social, physical, occupational, spiritual and environmental
5. Stress psychophysiology
6. Stress and illness/disease
7. General, situational and specific interventions and techniques to manage stress: theory and practice (perception, relaxation, sociological, physiological, psychological, lifestyle behavior)
8. Strategies for decreasing stressful behaviors: theory and practice (behavior change theory and application)
9. Diversity and stress
10. Stress management adherence

#### **LEARNING OUTCOMES:**

1. Appraise research methods used in the study and development of stress management techniques and theories. (1-3,6) (BS 1,2)
2. Evaluate theories of stress: life-events; hardiness; social support. (1) (BS 2)
3. Define the stress process and its relationship to the dimensions of health and illness/disease. (1-4,6)
4. Identify how mental processes and personality type impact the physiological processes. (4,5,8)
5. Analyze issues relating to stress, stress reactivity and dimensions of health of diverse populations. (1,4-6,9) (BS 3,4)
6. Describe common health conditions related to stress and associated interventions: therapies, medical treatment and/or lifestyle behavior modification. (6-9) (BS 4)
7. Explain the impact of exercise, nutrition and lifestyle on stress. (7,8) (BS 4)
8. Identify personal stressors and apply interventions and strategies for decreasing stressful behavior in the development of a personal stress management plan. (1-10)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Physical Education Department

#### **Course Attributes:**

Behavioral Science (AGEC)

### **PHE 220E - Competitive Swimming**

#### **COURSE DESCRIPTION:**

PHE 220E. Competitive Swimming (1). Fundamentals of competitive swimming. Emphasis on training for competition. Two lab. S/U grading only.

#### **COURSE CONTENT:**

1. Competitive techniques:
  - a. Front crawl
  - b. Backstroke
  - c. Breaststroke
  - d. Butterfly
  - e. Turns and starts
2. Conditioning and training principles:
  - a. Repeats and interval training
  - b. Sprints for speed work
  - c. Long slow distance (LSD)

#### **LEARNING OUTCOMES:**

1. Apply training techniques to enhance: stroke efficiency, max distance per stroke, stroke count, and speed per pool length. (1,2)
2. Use conditioning and training principles to maximize competitive edge. (2)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

### **PHE 225 - Competitive Golf**

**COURSE DESCRIPTION:**

PHE 225. Competitive Golf (1). Play of a nine or 18-hole course using a variety of competitive formats such as scramble, four-club, or best ball. Emphasis on golf course management, pre-shot routine, shot selection, green reading and rules application. Designed for those with previous golf experience. Students pay green fee and provide personal equipment. Two lab.

**COURSE CONTENT:**

1. Competitive etiquette, forms, rules and pace of play, local rules
2. Planning and playing a round of golf
3. Pre-shot routine
4. Equipment and shot selection
5. Green reading and continuous putting
6. Strategy and score card
7. Mental focus and physical conditioning
8. Environmental conditions

**LEARNING OUTCOMES:**

1. Apply skills and strategies to play nine holes in two hours or less and/or 18-holes in four hours or less. (1-8)
2. Apply etiquette, skills and rules of golf to a variety of formats of play. (1-8)

1.000 Credit hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 228 - Life Guard Training****COURSE DESCRIPTION:**

PHE 228. Lifeguard Training (2). Lifeguarding techniques. Meets American Red Cross standards. Two lecture. S/U grading only.

**COURSE CONTENT:**

1. Surveillance skills
2. Rescue skills on water and land
3. First Aid and CPR training
4. Professional lifeguard responsibilities

**LEARNING OUTCOMES:**

1. Apply surveillance skills to prevent injury and accidents. (1)
2. Use rescue skills in water and on land. (2)
3. Use first aid and CPR training for any emergency. (3)
4. Apply lifeguard responsibilities for appropriate interaction with public. (1, 2, 3, 4)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 229 - Water Safety Instructor****COURSE DESCRIPTION:**

PHE 229. Water Safety Instructor (2). Training to teach courses in the American Red Cross Swimming and Water Safety Program. Prerequisite: Minimum of 16 years old and pass swim test. One lecture. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Overview of Red Cross Swimming and Water Safety
2. Skill practice, swimmer strokes and buddy coaching
3. Job of instructor
4. Teaching techniques and basic water safety

**LEARNING OUTCOMES:**

1. Use American Red Cross teaching materials (1,2,3,4)
2. Apply swim teaching techniques, per Red Cross methods (2,4)
3. Identify instructor criteria and responsibilities (3)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 230B - Advanced Weight Training****COURSE DESCRIPTION:**

PHE 230B. Advanced Weight Training (1). Resistive exercises for specific muscles and muscle groups. Emphasis on program design, implementation and evaluation. Prerequisite: PHE 130A. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Advanced exercise principles and techniques
2. Flexibility
3. Spotting
4. Program progression/periodization

**LEARNING OUTCOMES:**

1. Perform lifting postures, spotting and techniques safely. (1,3)

2. Use sport specific stretching exercises to maintain and improve flexibility. (2)
3. Use program progressions to maintain and improve sport specific exercises. (4)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 240A - Advanced Volleyball**

**COURSE DESCRIPTION:**

PHE 240A. Advanced Volleyball (1). Advanced and fundamentals of volleyball. Emphasis on advanced tactics and skills. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Fundamental skills
2. Advanced skills:
  - a. Double block
  - b. Individual defense
  - c. Tip
  - d. Back row attack
3. Offensive and defensive tactics

**LEARNING OUTCOMES:**

1. Use basic and advanced skills to play the game. (1,2)
2. Apply advanced offensive and defensive tactics to team systems. (3)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 251 - Integrated and Applied Exercise Sciences**

**COURSE DESCRIPTION:**

PHE 251. Integrated and Applied Exercise Sciences (3). Study of Exercise Sciences and related topics as they impact exercise. Emphasis on anatomy, physiology, kinesiology, and nutrition. Designed for students preparing to become personal trainers, fitness instructors, coaches or Physical Education majors. Three lecture.

**COURSE CONTENT:**

1. Functional anatomy
2. Physiology as it relates to exercise
3. Introduction to biomechanics
4. Basic nutrition as it relates to exercise

**LEARNING OUTCOMES:**

1. Identify location of muscles, tendons, bones and other major anatomical structures using correct terminology. (1)
2. Describe processes of various body systems producing movement, balance, activity and recovery. (2)
3. Describe the physiology of a muscle contraction and the energy pathways associated with exercise. (2)
4. Identify body movements and the anatomical structures that cause these movements. (3)
5. Identify nutritional concepts that impact fitness and exercise. (4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Sciences, Health & Public Safe Division  
Physical Education Department

#### **PHE 252 - ACE Personal Trainer Preparation**

**COURSE DESCRIPTION:**

PHE 252. ACE Personal Trainer Preparation (3) (Fall). Comprehensive system for designing individualized programs based on individual client health, fitness level and goals. Includes methods to facilitate rapport, adherence and self-efficacy in clients as well as design programs to help clients to improve posture, movement, flexibility, balance, core function, cardiorespiratory fitness, and muscular endurance and strength. Preparation for the ACE (American Council on Exercise) Personal Trainer Certificate Exam. Three lecture.

**COURSE CONTENT:**

1. Human anatomy, exercise physiology, applied kinesiology, and nutrition
2. Principles of adherence, motivation, behavior change and health psychology
3. Communication and teaching techniques
4. The ACE Integrated Fitness Training (IFT) model
5. Building rapport
6. Health and exercise history information assessment
7. Functional training: assessments, programming and progressions for posture, movement, core balance and flexibility
8. Physiological assessments
9. Resistance training: programming and progressions
10. Cardiorespiratory training: programming and progressions
11. Professional and legal responsibilities, scope of practice, and business strategies for personal trainers
12. Special exercise programming topics: mind-body exercise, special populations, and exercise implications of common musculoskeletal injuries

**LEARNING OUTCOMES:**

1. Explain concepts and principles of human anatomy, exercise physiology, applied kinesiology, and nutrition as they relate to the ACE IFT model, which include functional, resistance and cardiorespiratory training and special exercise programming. (1,4,7,9,10,12)
2. Identify communication, teaching techniques and rapport that relate to the principles of adherence, motivation, behavior change, and health psychology. (2,3,5)
3. Apply assessment methods related to health and exercise history information, functional training, physiological assessments, resistance training, cardiorespiratory training and special exercise programming. (6-10,12)
4. Explain the professional and legal responsibilities, scope of practice, and business strategies for Certified ACE Fitness Personal Trainers. (11)
5. Take the ACE Personal Trainer Certificate Exam. (1-12)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 296 - Internship: Physical Education**

**COURSE DESCRIPTION:**

PHE 296. Internship: Physical Education (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Sciences, Health & Public Safe Division  
Physical Education Department

**PHE 299 - Independent Study Physical Education**

**COURSE DESCRIPTION:**

PHE 299. Independent Study Physical Education (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required. S/U grading only.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours


**Levels:** Credit

**Schedule Types:** Independent Study

Sciences, Health & Public Safe Division  
Physical Education Department

### PHI 101 - Introduction to Philosophy

#### COURSE DESCRIPTION:

PHI 101. Introduction to Philosophy (3).  **PHI 1101.** Introduction to major philosophical concerns in the history of Western thought, including ethics, social philosophy, logic, epistemology, and philosophy of religion. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Nature and areas of philosophy
2. Logic
3. Ethics
4. Social and political philosophy
5. Metaphysics
6. Epistemology
7. Philosophy of religion
8. Purpose and meaning of human life
9. Philosophy of history
10. Building your own life philosophy

#### LEARNING OUTCOMES:

1. Identify and articulate philosophical terms, concepts and writings within their historical and intellectual contexts. (1-10) (AH 3)
2. Identify issues in Western philosophy; e.g., logic, ethics, metaphysics, and epistemology, and understand their interrelatedness. (1-10) (AH 5)
3. Analyze influences, including social, spiritual and political factors as they affect the development of thought. (1,3-10) (AH 2)
4. Classify the major positions taken on philosophical issues and their impact on Western culture. (3,4,6,7) (AH 5)
5. Assess arguments critically including one's own. (4,5,8) (AH 4)
6. Differentiate major philosophers and their writings. (1,8) (AH 1)
7. Compare and contrast differing philosophical approaches. (3,5,6) (AH 1)
8. Formulate and defend a personal, reasonable position on at least one relevant philosophical issue of interest to the individual student. (10) (AH 4)
9. Engage in dialectical discussions that exhibit evidence of intellectual curiosity and scholarship. (3-8) (AH 4)

#### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture


Visual/Performing/LiberalOBS Division  
Humanities Department

#### Course Attributes:

Arts & Humanities (AGEC), SUN# PHI 1101

### PHI 103 - Introduction to Logic

#### COURSE DESCRIPTION:

PHI 103. Introduction to Logic (3).  **PHI 1103.** Examination of meaning and definition, deduction and induction, fallacies, and the structure and classification of arguments. Exercises in recognizing arguments, informal fallacies, and formal techniques for evaluating deductive arguments. Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Nature and basic terms of logic and critical thinking
2. Language, meaning, and definition
3. Deductive and inductive reasoning
4. Formal and informal fallacies
5. Argument identification and translation
6. Truth tables
7. Natural deductions

#### LEARNING OUTCOMES:

1. Describe basic elements of logic and critical thinking. (1) (CT 3)
2. Identify kinds of meaning and problems with definitions. (2) (CT 1)
3. Identify, classify, and analyze arguments. (3-7) (CT 3)
4. Identify formal and informal fallacies. (4) (CT 1)
5. Translate arguments from ordinary English into standard form and evaluate them. (5-7) (CT 3)
6. Construct truth tables for evaluating statements and deductive arguments. (6) (CT 2)
7. Construct natural deductions for evaluating deductive arguments. (7) (CT 4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Humanities Department

#### Course Attributes:

Critical Thinking (AGEC), Critical Thinking (CT), SUN# PHI 1103

### PHI 110 - Introduction to Critical Thinking

#### COURSE DESCRIPTION:

PHI 110. Introduction to Critical Thinking (3). Fundamentals of critical thinking, including logic, argument, biases, and assumptions. Application of critical thinking strategies to contemporary issues and practical problem solving. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Fundamentals of critical thinking

2. Biases and assumptions in thought, arguments, and language
3. Critical reading, writing, and speaking.
4. Logical problem solving
5. Language, content, and structure in arguments
6. Formal and informal logic and their fallacies
7. Critical analysis of contemporary issues
8. Critical analysis of the media, including print, Internet, video, and advertising.

## LEARNING OUTCOMES:

1. Describe elements and aspects of the thinking, and critical thinking processes. (1) (CT 1)
2. Evaluate the role of biases and assumptions in thought, arguments and language. (2, 5) (CT 2)
3. Apply thinking skills to writing, reading, speaking and listening activities. (3) (CT 4)
4. Incorporate knowledge of formal and informal logic in argumentation and problem solving. (4,5,6) (CT 4)
5. Apply critical thinking skills to create solutions to problems in social, cultural, and personal issues. (7) (CT 3)
6. Apply critical thinking strategies to media. (8) (CT 3)
7. Recognize that closure is not always achieved in intellectual discourse. (7, 8) (CT 3)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Humanities Department

## Course Attributes:

Critical Thinking (AGEC), Critical Thinking (CT)

[PHI 122 - Science, Religion and Philosophy](#)

## COURSE DESCRIPTION:

PHI 122. Science, Religion and Philosophy (3). Exploration of science, religion, and philosophy through historic and contemporary times. Examination of the goals and methods of these disciplines with special emphasis on their interactions and mutual influences. Accent on the Western traditions, with references to others as appropriate. Prerequisite: Reading Proficiency. Three lecture.

## COURSE CONTENT:

1. Science, religion, and philosophic inquiry in the West
2. History of major tendencies and key people in ancient times, the Medieval period, the Renaissance, and the Enlightenment
3. The myth of the Judaic-Christian tradition
4. Islamic, Indian, and Chinese approaches to science, religion, and philosophy
5. Survey of current issues (i.e., Chaos Theory, Big Bang, Morphic Resonance)
6. Re-evaluating a sense of the disciplines and options for interaction: conflict, complementarity, parallelness

## LEARNING OUTCOMES:

1. Identify and define key terms and concepts, and explain their significance in historical contexts. (1-5) (AH 1)
2. Articulate differences and similarities of the scientific, religious, and philosophical approaches to enduring human questions: (1,2,5) (AH 2)
  - a. humans in the cosmos
  - b. how and why the universe functions
  - c. ethics
3. Analyze influences, including historical, cultural, spiritual, political and economic factors, as they affect development of the matter. (1-5) (AH 2)
4. Describe differences and similarities of methods, goals, and language in the three areas of study. (1,5,6) (AH 3)
5. Identify the key thinkers and describe the debates within each area under study and compare and critique their contributions. (3-5) (AH 5)
6. Describe the implications of the myth of the Judaic-Christian tradition. (3) (AH 1)
7. Compare Eastern and Western approaches to science, religion, and philosophy. (2-4) (AH 1)
8. Identify and analyze the implications of various scientific, religious, and philosophical positions on Western thought and one's personal life. (1-6) (AH 2)
9. Apply philosophical perspectives to the assessment of issues and readings. (5,6) (AH 4)
10. Describe competing paradigms and explain how they may sometimes conflict and sometimes be compatible or complementary. (1-4) (AH 2)
11. Formulate and support reasonable personal positions on issues relevant to the options for interaction: conflict, complementarity, parallelness. (3-6) (AH 3)
12. Engage in dialectical discussions that exhibit evidence of intellectual curiosity and scholarship. (1-6) (AH 3)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Humanities Department

## Course Attributes:

Arts &amp; Humanities (AGEC)

[PHI 204 - Ethical Issues in Health Care](#)

## COURSE DESCRIPTION:

PHI 204. Ethical Issues in Health Care (3). Study of selected moral theories and principles with emphasis on application to ethical issues in health care. Integrates values exploration and moral reasoning and decision making. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

## COURSE CONTENT:

1. The nature of values and ethics
2. Virtue theory
3. Utilitarianism
4. Deontology
5. Ethical principles emphasized in health care
6. Development of moral reasoning skills
7. Logical fallacies
8. Application of theories, principles and reasoning skills to selected ethical issues in health care

## LEARNING OUTCOMES:

1. Gather, interpret, and evaluate evidence and to use it in both the argumentative mode and in the fair-minded, empathetic mode. (8) (CT 2)

2. Develop skill in synthesizing information and making connections independently. (6) (CT 1)
3. Develop awareness of assumptions and unexamined ideas and their alternatives. (1) (CT 3)
4. Recognize of the role of culture in values development, and the impact of values on moral reasoning and decision-making. (6) (CT 3)
5. Examine, and to analyze critically, ethical dilemmas in health care. (6) (CT 4)
6. Identify, interpret, evaluate, and synthesize insights from various conceptual frameworks and alternative paradigms for moral reasoning and decision-making. (1-4) (CT 2)
7. Apply moral theories and principles in the development of moral reasoning and decision-making. (1-4, 8) (CT 4)
8. Produce thoughtful and precise writing, critical reading, rational and factual speaking and independent thinking. (8) (CT 4)
9. Utilize critical thinking skills, including the reasoned use of evidence. (6) (CT 4)
10. Recognize that curiosity, rather than close-minded or self-serving attitudes, is essential to the development of moral reasoning and decision-making skills. (8) (CT 3)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Humanities Department

**Course Attributes:**

Critical Thinking (AGEC), Critical Thinking (CT)

**[PHI 210 - Environmental Ethics and Philosophy](#)****COURSE DESCRIPTION:**

PHI 210. Environmental Ethics and Philosophy (3). Examination of key thinkers, issues, and various philosophic perspectives about the appropriate relationship of humans to the natural environment through Western history and modern times. Introduction to theoretical and practical dimensions of ecophilosophy. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Environmental philosophy and ethics within the larger context of Western thought and American political philosophy
2. Theoretical foundations of environmental ethics
3. Traditional and modern theological perspectives on the human-nature relationship, with emphasis on western traditions (Eco-theology)
4. "Classics" in Naturalist and Environmental thought including Leopold, Muir, Thoreau, White, Singer, Abbey, others
5. The biocentrism-anthropocentrism spectrum and emerging alternatives
6. Deep ecology vs social ecology
7. Preservation (Muir) and Management (Pinchot) perspectives
8. Bioregionalism
9. Energy and Environment
10. Local issues in historical and global contexts
11. Potential and limits of translating ecophilosophical principles into public policy

**LEARNING OUTCOMES:**

1. Classify concepts within their historical and cultural contexts. (1-11)
2. Develop and present a personal environmental philosophy based on reasonable positions supported by evidence and argument. (5-11)
3. Explain the broad spectrum of values and philosophic debates in ecophilosophy, employing key terms appropriate to the discipline. (1-11)
4. Describe and analyze various cultural, political, economic, religious, and intellectual frameworks and influences that have shaped Western attitudes and decision-making about the natural environment. (4)
5. Analyze the theoretical and practical challenges of defining an appropriate human/environment relationship and crafting policies. (5-11)
6. Evaluate social values and technologies which affect the human/environment relationship. (1,5-10)
7. Discuss how ecophilosophical principles impact local, state and federal public policy decisions. (6, 8-11)
8. Engage in dialectical discussions that exhibit evidence of intellectual curiosity and scholarship. (1-11)
9. Identify, compare, and critique major contributors in relation to the arts and humanities. (2-7)
10. Differentiate major environmental philosophers and classify their positions. (1-6)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Humanities Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

**[PHI 245 - Introduction to Eastern Philosophy](#)****COURSE DESCRIPTION:**

PHI 245. Introduction to Eastern Philosophy (3). Examination of fundamental theories of Indian, Chinese, and Japanese metaphysics, epistemology, ethics, and aesthetics. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Introduction to Eastern conceptions of philosophy and metaphysics and comparison with the Western philosophical tradition
2. Chinese traditions: General features and historical considerations
3. Confucianism
4. Taoism
5. Neo-Confucianism
6. Mao-Tse-tung
7. Indian philosophy: general features and historical considerations
8. Vedas
9. Upanishads
10. Buddhist philosophies: general feature and historical considerations
11. Nature of self

12. Nature of reality
13. Zen Buddhism
14. Eastern/Western cross fertilization

## LEARNING OUTCOMES:

1. Classify concepts and discuss major themes of three great traditions in Oriental thought within a broad cultural and historical context. (2-13)
2. Analyze influences, including spiritual, historical, political, cultural and environmental factors as they relate to the arts and humanities. (1-14)
3. Define and use key terms appropriate to the discipline. (1-14)
4. Explain how different Eastern philosophies consider fundamental questions including the nature of universe; the nature of human existence; what constitutes the good life; how one determines truth regarding these issues. (2-13)
5. Critically analyze answers to philosophical questions, and formulate personal and responsible views. (1,14)
6. Engage in dialectical discussions that exhibit evidence of intellectual curiosity and scholarship. (1-14)
7. Identify, compare and critique major contributors and contributions. (2-14)

## REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Humanities Department

## Course Attributes:

Arts &amp; Humanities (AGEC), Intensive Writing, Written Comm (WC)

**PHI 296 - Internship: Philosophy**

## COURSE DESCRIPTION:

PHI 296. Internship: Philosophy (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

## COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

## LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

## REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Internship

Visual/Performing/LiberalOBS Division  
 Humanities Department

**PHI 299 - Independent Study Philosophy**

## COURSE DESCRIPTION:

PHI 299. Independent Study Philosophy (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

## COURSE CONTENT:

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

## LEARNING OUTCOMES:

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.



3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
 Humanities Department

#### **PHT 100 - Fundamentals of Pharmacy Technology**

##### **COURSE DESCRIPTION:**

PHT 100. Fundamentals of Pharmacy Technology (3). Overview of basic sciences including microbiology and chemistry. Introduction to major drug classifications, dosage forms, and routes of administration. Medical terminology and abbreviations. Prerequisite: Program admission. Reading proficiency. Corequisite: PHT 110. Three lecture.

##### **COURSE CONTENT:**

1. Basic microbiology
2. Basic chemistry
3. Medical terminology
4. Methods and routes of drug administration
5. Drug classifications
6. Drug abbreviations
7. Trade and generic drug names
8. Common herbal remedies

##### **LEARNING OUTCOMES:**

1. Define the major classifications of organisms (taxonomy). (1)
2. Discuss the history of antibiotics and how they are used. (1,2)
3. Identify common viruses and the diseases they cause. (1)
4. Utilize basic principles of chemistry as they relate to the composition and use of medications. (2)
5. Define pharmacy-related medical terminology. (3)
6. List the most common forms of medications and how they are administered. (4)
7. Describe the five major drug classifications. (5)
8. Interpret and use pharmaceutical abbreviations. (6)
9. Recognize the trade and generic names of frequently prescribed medications. (7)
10. Discuss the implications of herbal remedies and their potential drug interactions. (8)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lecture

Sciences, Health & Public Safe Division  
 Allied Health Services Department

#### **PHT 110 - Pharmaceutical Calculations**

##### **COURSE DESCRIPTION:**

PHT 110. Pharmaceutical Calculations (3). Conversions and calculations used by pharmacy technicians. Prerequisite: Program admission. MAT 082 or higher or skills assessment. Corequisite: PHT 100. Three lecture.

##### **COURSE CONTENT:**

1. Multiplication/division
2. Fractions, decimals, percentages, ratios, and proportions
3. Word problems
4. Metric system
5. Household measurements
6. Apothecary and Avoirdupois systems
7. Oral syringes and injections
8. Pediatric and geriatric dosing
9. Drip rates
10. Dilution
11. Alligation

##### **LEARNING OUTCOMES:**

1. Apply the basic rules of mathematics: multiplication, division, fractions, decimals, percentages, ratios, and proportions to pharmaceutical calculations. (1, 2)
2. Solve word problems. (1-3)
3. Identify and use conversions of measurement systems. (4-6)
4. Define oral syringe and injection dosing parameters. (7)
5. Calculate drug dosages for oral and parenteral routes, pediatrics, and according to body surface area. (1-8)
6. Calculate drip rates commonly used in practice. (9)
7. Apply reconstitution, dilution, and alligation principles. (10,11)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lecture

Sciences, Health & Public Safe Division  
 Allied Health Services Department

**PHT 120 - Pharmacy Practice****COURSE DESCRIPTION:**

PHT 120. Pharmacy Practice (4). Overview of pharmacy history, pharmacy laws and ethics, role of the pharmacy technician, drug information resources, pharmacy inventory, billing, and safety. Prerequisite: PHT 110. Co-requisite: PHT 125. Four lecture.

**COURSE CONTENT:**

1. History of medicine and pharmacy
2. Pharmacy laws and regulations
3. Pharmacy ethics, competencies, associations, and settings for technicians
4. Drug information references
5. Prescription processing
6. Over-the-counter medications
7. Complementary and alternative medicine
8. Hospital pharmacy
9. Repackaging and compounding
10. Infection control principles
11. Pharmacy inventory and billing
12. Medication safety and error prevention

**LEARNING OUTCOMES:**

1. Discuss the history of medicine with an emphasis on the development of pharmacy practice. (1)
2. Describe the duties and responsibilities of a pharmacy technician in various environments. (2, 8)
3. Identify and discuss legal and ethical issues within pharmacy practice. (2, 3)
4. Identify pharmacy technician associations and employment settings. (3)
5. Search for drug information utilizing reliable resources. (4)
6. Process prescriptions. (5)
7. Differentiate over-the-counter versus legend medications. (4, 6)
8. Prepare alternative/complementary medications. (7)
9. Explain the processes of repackaging, inventory control and compounding. (9, 11)
10. List common third party forms of payment. (11)
11. Identify third party adjudication, various insurance programs and inventory control considerations. (11)
12. Employ safe-practice techniques, error prevention methodology, and infection control principles. (10, 12)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
Allied Health Services Department

**PHT 125 - Pharmacology****COURSE DESCRIPTION:**

PHT 125. Pharmacology (4). Relationships among anatomy and physiology, disease states, and drugs affecting body systems. Overview of pharmacology. Prerequisite: PHT 110. Co-requisite: PHT 120. Four lecture.

**COURSE CONTENT:**

1. Endocrine system
2. Nervous system
3. Respiratory system
4. Visual and auditory systems
5. Integumentary system
6. Gastrointestinal system
7. Urinary system
8. Cardiovascular system
9. Reproductive system
10. Lymphatic system
11. Antimicrobial agents
12. Anti-inflammatories and antihistamines
13. Vitamins and minerals
14. Vaccines
15. Oncology agents
16. Psychopharmacology

**LEARNING OUTCOMES:**

1. Identify basic anatomy and physiology of applicable body systems. (1-10)
2. Identify disease states and disorders of applicable body systems. (1-10)
3. Identify and list medications used to treat disease states and disorders of applicable body systems. (1-16)
4. List and describe the characteristics of medications including: indications for use, dosage forms, usual dosage, side effects, interactions with other drugs, storage requirements, generic and trade names, and mechanism of action. (1-16)
5. Identify medications used for mental health. (16)
6. List types of infections and explain how they are commonly treated. (11)
7. Explain inflammatory and allergic conditions and how they are commonly treated. (12)
8. Discuss the history and regulation of vitamins and mineral supplements and their common uses in healthcare. (13)
9. Identify common vaccine-preventable diseases, and proper immunization preparation, storage, and schedules. (14)
10. Describe diagnostic measures and pharmaceuticals used to treat various types of cancer. (15)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
Allied Health Services Department

**PHT 200 - Pharmacy Technician Certification Review**

**COURSE DESCRIPTION:**

PHT 200. Pharmacy Technician Certification Review (3). Review of standard subject materials in preparation for the Pharmacy Technician Certification Board (PTCB) Examination.  
Prerequisite: PHT 125. Corequisite: AHS 296. Three lecture.

**COURSE CONTENT:**

1. PTCB exam format
2. PTCB exam categories and proportional distribution
3. Review process
4. Study strategies
5. Resources
6. Testing requirements
7. Testing locations
8. Practice PTCB exam

**LEARNING OUTCOMES:**

1. Identify categories of the PTCB examination including content areas and associated concepts within each category. (1,2)
2. Outline a plan for the review process. (3)
3. Identify strategies to enhance and improve retention of pharmacy technician concepts and skills and determine individual focus areas of study. (4)
4. Utilize various review resources including books, CDs and on-line materials to augment examination preparation. (5)
5. Identify where and when the PTCB exam is offered and the requirements for testing. (6,7)
6. Pass a practice PTCB examination. (8)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

**PHY 100 - Introduction to Astronomy****COURSE DESCRIPTION:**

PHY 100. Introduction to Astronomy (4). Cycles of the sky, astronomical observations, history of astronomy, gravitation, light, optical instruments, stellar evolution and classification, galaxies, cosmological theories, survey of the solar system, and life in the universe. Preparedness Recommendations: one year of high school algebra or passing grade in MAT 092 or satisfactory score on mathematics skills assessment. Prerequisite: Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Cosmic motions: Celestial sphere, planetary motion, orbits, moon phases, eclipses
2. Constellations
3. Celestial coordinates
4. Copernicus, Tycho, and Kepler; Kepler's laws
5. Newton and gravitation
6. Light
7. Optical instruments and astronomical observations
8. Properties of stars and stellar classifications
9. The solar system and its origin
10. Stellar birth, evolution, and death
11. The Milky Way galaxy
12. Galaxies and quasars
13. Cosmological theories
14. Life in the universe

**LEARNING OUTCOMES:**

1. Predict, observe, and analyze the motions of the stars, the Sun, and the Moon due to seasonal and latitude effects. (1-3) (PBS 2,3)
2. Explain the causes of phases and eclipses; predict and observe phases of the Moon and planets; predict probable eclipse dates. (1) (PBS 2,3)
3. Use the telescope for astronomical observations. (7) (PBS 2)
4. Examine and critically analyze early and modern theories of the solar system. (4,5) (PBS 1-3)
5. Describe the basic mechanisms for the production of light, and apply the principles to the production of light by celestial objects. (6) (PBS 2,3)
6. Explain how stellar spectra can be used to obtain information about the motion, temperature, composition, and density of an object. (6) (PBS 1-3)
7. Describe the process by which stars are born, and identify some of the best-known regions of star formation in the night sky. (9,10) (PBS 2,3)
8. Deduce the evolution and the probable end of stars using quantitative skills. (10) (PBS 1-3)
9. Describe methods used to determine distances to celestial objects, and apply that information to the size and structure of the universe. (6,8,11,12,13) (PBS 1-3)
10. Describe methods for searching for life beyond Earth. (14) (PBS 1)
11. Use scientific reasoning to evaluate physical and natural phenomena. (7) (PBS 2,3)
12. Identify the unifying themes of the scientific field of study. (5,6,13) (PBS 1)
13. Interpret the numerical and/or graphical presentation of scientific data. (7) (PBS 2,3)
14. Use the tools and equipment necessary for basic scientific analysis and research. (7) (PBS 2,3)
15. Record the results of investigation through writing. (7) (PBS 2,3)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL)

**PHY 140 - The Physical World****COURSE DESCRIPTION:**

PHY 140. The Physical World (4). Concepts and methods of physics. A survey of physics emphasizing applications of physics to modern life. Prerequisite: MAT 092 or MAT 100 or a grade of "C" or above in high school algebra. Reading Proficiency. Three lecture. Three lab.

**COURSE CONTENT:**

1. Describing motion

2. Force and motion
3. Work, power, energy, momentum
4. Temperature and heat, change of state
5. Waves, light
6. Radioactivity, nuclear energy

## LEARNING OUTCOMES:

1. Evaluate motion in terms of displacement, velocity and acceleration. (1) (PBS 1,2)
2. Determine the effect of force on a mass and its acceleration. (2) (PBS 1-3)
3. Use conservation laws in problem solving. (3) (PBS 2,3)
4. Compute kinetic and potential energy changes. (3) (PBS 2)
5. Show a relationship between energy, work and power. (3)
6. Calculate energy changes in change of state. (4) (PBS 2)
7. Describe wave phenomena of reflection, refraction, diffraction, and interference. (5)
8. Measure nuclear radiation and estimate shielding effects. (6) (PBS 1-3)
9. Use scientific reasoning to evaluate physical and natural phenomena. (1-6) (PBS 2,3)
10. Identify the unifying themes of the scientific field of study. (1-6) (PBS 1)
11. Interpret the numerical and/or graphical presentation of scientific data. (1-6) (PBS 2,3)
12. Use the tools and equipment necessary for basic scientific analysis and research. (1-6) (2,3)
13. Record the results of investigation through writing. (1-6) (PBS 1-3)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab


Sciences, Health & Public Safe Division  
 Physical Sciences Department

## Course Attributes:

Physical &amp; Biol Science (AGEC), Scientific (SL)

## PHY 141 - General Physics I

## COURSE DESCRIPTION:

PHY 141. General Physics I (4).  PHY 1111. Topics include: time and motion studies, forces on stationary and moving objects, waves and sound, heat and energy. Designed for architecture, forestry, pre-med, pre-vet, pharmacy and education students. Prerequisite: MAT 187 or MAT 152 and MAT 183. MAT 187 is strongly recommended. Reading Proficiency. Three lecture. Three lab.

## COURSE CONTENT:

1. Statics
2. Kinematics
3. Dynamics
4. Conservation of energy and momentum
5. Rotational mechanics
6. Gravitational and astronomical laws
7. Waves, sound, simple harmonic motion
8. Heat and energy.

## LEARNING OUTCOMES:

1. Evaluate qualitatively and quantitatively the kinematics and dynamics of constant velocity motion, constant acceleration motion, projectile motion, uniform circular motion, rotational motion, collisions and explosions, simple harmonic motion, and basic wave phenomena. (1-7) (PBS 1-3)
2. Apply Newton's laws to physical problems. (3-7) (PBS 2-3)
3. Apply conservation laws to physical problems. (4,5) (PBS 2)
4. State the laws of thermodynamics and apply them to basic situations. (8) (PBS 2)
5. Use scientific reasoning to evaluate physical and natural phenomena. (1-8) (PBS 2,3)
6. Identify the unifying themes of the scientific field of study. (1-8) (PBS 1)
7. Interpret the numerical and/or graphical presentation of scientific data. (1-8) (PBS 2, 3)
8. Use the tools and equipment necessary for basic scientific analysis and research. (1-8) (PBS 2,3)
9. Record the results of investigation through writing. (1-8) (PBS 1,2,3)

4.000 Credit hours  
 3.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab


Sciences, Health & Public Safe Division  
 Physical Sciences Department

## Course Attributes:

Physical &amp; Biol Science (AGEC), SUN# PHY 1111

## PHY 142 - General Physics II

## COURSE DESCRIPTION:

PHY 142. General Physics II (4) (Spring).  PHY 1112. Electricity, magnetism, light, physical optics, geometric optics, and atomic structure. Designed for pre-med, pre-vet, and pharmacy students. Prerequisite: PHY 141. Reading Proficiency. Three lecture. Three lab.

## COURSE CONTENT:

1. Electricity and magnetism
2. Light and optics
3. Atomic transformations
4. Nuclear transformations

## LEARNING OUTCOMES:

1. Apply electric and magnetic forces and fields to basic statics and dynamics problems. (1) (PBS 2)
2. State the relationships between electric potential and electric fields, and apply the relationships to basic electrostatic situations. (1) (PBS 2)
3. Build and analyze basic circuits, and solve basic circuit problems. (1) (PBS 2,3)
4. Build and analyze simple optical systems, and solve basic optical problems. (2) (PBS 2,3)
5. Calculate the energies and wavelengths of spectral lines in atomic spectra. (2,3) (PBS 2)

6. Measure nuclear radiation levels. (4) (PBS 2,3)
7. Use scientific reasoning to evaluate physical and natural phenomena. (1-4) (PBS 2,3)
8. Identify the unifying themes of the scientific field of study. (1-4) (PBSO 1)
9. Interpret the numerical and/or graphical presentation of scientific data. (1-4) (PBS 2,3)
10. Use the tools and equipment necessary for basic scientific analysis and research. (1-4) (PBS 2,3)
11. Record the results of investigation through writing. (1-4) (PBS 1-3)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab


Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), SUN# PHY 1112

### PHY 150 - Physics for Scientists and Engineers I

**COURSE DESCRIPTION:**

PHY 150. Physics for Scientists and Engineers I (5) (Fall).  **PHY 1121.** Principles of mechanics. Kinematics, dynamics, systems of particles, equilibrium, fluids, gravitation, and oscillations, with calculus applications. For engineering and physics majors. Prerequisite: MAT 220. One year of high school physics or PHY 111/112 is strongly recommended. Reading Proficiency. Four lecture. Three lab.

**COURSE CONTENT:**

1. Kinematics and dynamics of individual particles and systems of particles.
2. Newton's laws of motion
3. Linear and rotational motion
4. Kinetic and potential energy
5. Work
6. Collisions
7. Gravitation
8. Equilibrium and statics
9. Fluid statics and dynamics
10. Oscillations
11. Conservation laws: linear momentum, angular momentum, energy

**LEARNING OUTCOMES:**

1. Evaluate qualitatively and quantitatively the kinematics and dynamics of constant velocity motion, constant acceleration motion, projectile motion, uniform circular motion, collisions and explosions, rotational motion, equilibrium, orbital motion, and simple harmonic motion. (1-8, 10,11) (PBS 1-3)
2. Analyze the behavior of ideal fluids. (9) (PBS 2)
3. Apply Newton's laws to physical problems. (2,3,7,10) (PBS 2,3)
4. Apply conservation laws to physical problems. (11) (PBS 2)
5. Use scientific reasoning to evaluate physical and natural phenomena. (1-11) (PBS 2,3)
6. Identify the unifying themes of the scientific field of study. (1-11) (PBS 1)
7. Interpret the numerical and/or graphical presentation of scientific data. (1-11) (PBS 2,3)
8. Use the tools and equipment necessary for basic scientific analysis and research. (1-11) (PBS 2,3)
9. Record the results of investigation through writing. (1-11) (PBS 1-3)

**REQUIRED ASSESSMENT:**

1. Convey the intent, method and result of a laboratory experiment in writing.

5.000 Credit hours  
4.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab


Sciences, Health & Public Safe Division  
Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL), SUN# PHY 1121

### PHY 151 - Physics for Scientists and Engineers II

**COURSE DESCRIPTION:**

PHY 151. Physics for Scientists and Engineers II (5) (Spring).  **PHY 1131.** Waves and sound, electromagnetism, circuits, electromagnetic waves, and Maxwell's equations, with calculus applications. For engineering and physics majors. Prerequisite: MAT 230 and PHY 150. Reading Proficiency. Four lecture. Three lab.

**COURSE CONTENT:**

1. Waves, sound
2. Electric charge and current
3. Electric and magnetic fields in vacuum and in materials
4. Induction
5. DC and AC circuits
6. Displacement current
7. Maxwell's equations
8. Electromagnetic waves

**LEARNING OUTCOMES:**

1. Describe and analyze basic wave phenomena, including applications to music. (1) (PBS 2)
2. Apply electric and magnetic forces and fields to basic statics and dynamics problems. (2,3) (PBSO 2)
3. Analyze the behaviors of, and relationships between, charged particles, electric fields, magnetic fields, and electromagnetic waves. (3,4,6-8) (PBS 2)
4. Design, construct, and analyze simple electrical circuits. (5) (PBS 2,3)
5. State Maxwell's equations of electromagnetism, and discuss the physical meaning of each. (7) (PBS 2)
6. Use scientific reasoning to evaluate physical and natural phenomena. (1-8) (PBS 2,3)
7. Identify the unifying themes of the scientific field of study. (1-8) (PBS 1)
8. Interpret the numerical and/or graphical presentation of scientific data. (1-8) (PBS 2,3)

9. Use the tools and equipment necessary for basic scientific analysis and research. (1-8) (PBS 2,3)
10. Record the results of investigation through writing. (1-8) (PBS 1-3)

**REQUIRED ASSESSMENT:**

1. Convey the intent, method and result of a laboratory experiment in writing.

5.000 Credit hours  
 4.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
 Physical Sciences Department

**Course Attributes:**

Physical & Biol Science (AGEC), Scientific (SL), SUN# PHY 1131

**PHY 296 - Internship: Physics****COURSE DESCRIPTION:**

PHY 296. Internship: Physics (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Sciences, Health & Public Safe Division  
 Physical Sciences Department

**PHY 299 - Independent Study Physics****COURSE DESCRIPTION:**

PHY 299. Independent Study Physics (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.


1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Independent Study

Sciences, Health & Public Safe Division  
 Physical Sciences Department

#### POS 110 - American National Government

##### COURSE DESCRIPTION:

POS 110. American National Government (3).  POS 1110. Study of the United States Constitution and government. Emphasis on the 1760-1790 period in US history. Includes organization and function of the legislative, executive and judicial branches of government. Three lecture.

##### COURSE CONTENT:

1. American history from 1607 through 1790
2. Key figures who were influential in setting up our federal system of government
3. Declaration of Independence, Articles of Confederation, US Constitution and Bill of Rights
4. Role, function and organization of the federal legislative, executive and judicial branches
5. Role of political parties, interest groups and the average citizen in American politics
6. The election process

##### LEARNING OUTCOMES:

1. Trace the chronology of significant events that culminated in the independence of the American colonies from England and establishment of our present system of government.
2. Identify the key figures in the historical development of our government and explain the contributions each has made.
3. Explain the significant aspects of the Declaration of Independence and Articles of Confederation.
4. Analyze each Article of the US Constitution, the preamble and the Amendments to the Constitution, identifying and explaining the significant aspects of each and how they relate to government in America today.
5. Examine the role, function and organization of the federal legislative, executive, and judicial branches.
6. Explain the role of political parties, interest groups and the average citizen in American politics.
7. Identify the key stages of the federal election process and explain the nature of elections in American politics.

##### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**Course Attributes:**  
 SUN# POS 1110

#### POS 221 - Arizona Constitution and Government

##### COURSE DESCRIPTION:

POS 221. Arizona Constitution and Government (1). Survey of Arizona Government and Constitution designed to meet the requirements for teaching certification. One lecture.

##### COURSE CONTENT:

1. Arizona geography and settlement
2. Arizona political history
3. The executive branch
4. The legislative branch
5. The judicial branch and judicial procedure
6. The state bureaucracy
7. Rights and liberties, political parties and elections
8. Arizona finances
9. Local government Explain the significant geographical features of Arizona.

##### LEARNING OUTCOMES:

1. Identify and discuss the role of the different cultures/people that have settled in Arizona.
2. Review the political history of Arizona from 1848 to the present.
3. Identify and explain the role of the various branches/structures of state and local government.
4. Articulate the rights and liberties afforded Arizona inhabitants by the Arizona Constitution.
5. Describe the election process and the role of political parties.
6. Discuss Arizona finances to include major sources of revenue and typical budget expenditures.

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

#### POS 222 - National Constitution and Government

##### COURSE DESCRIPTION:

POS 222. National Constitution and Government (2). Examine the United States Constitution and government. Designed to meet requirements for teacher certification. Two lecture.

##### COURSE CONTENT:

1. Analysis of the United States Constitution and the principles of government it embodies
2. Analysis of the philosophical ideas and historical factors that were important in the development of the U.S. Constitution and government Identify the philosophical roots of our American political system.

##### LEARNING OUTCOMES:

1. Outline the key historical events that led up to the Revolutionary War.
2. Describe the form of government provided by the Articles of Confederation to include the strengths and weaknesses of that form of government.
3. Discuss the Constitutional Convention, explaining the purpose and major issues considered at the Convention, and review the ratification process of the Constitution.

4. Discuss the major ideas/principles contained in the US Constitution to include its Amendments.
5. Employ thoughtful and precise writing (a minimum of 1000 words), critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

#### POS 240 - Indian Law and Government

##### COURSE DESCRIPTION:

POS 240. Indian Law and Government (3). Traces the evolution of traditional and modern Indian systems of law and government from colonial times to present. Modern tribal government and major problems faced by Indian governments today are studied. Three lecture.

##### COURSE CONTENT:

1. Introduction to the course
2. Examination of some traditional systems of Indian law and government
3. Examination of the historical basis for the development of United States policy toward Indians and the laws and court decisions relating to this policy, including:
  - a. Policies of European powers toward Indians and international law in the Colonial period
  - b. Early treaties and Indian trade
  - c. The Federation and Continental Congress's policies toward Indians
  - d. The Constitutional Convention and Indian affairs
  - e. Early Indian policy reflected in legislation of the United States government
  - f. Removal of tribes from the East and the impacts of westward concentration (including chief Justice Marshall's decision and Jacksonian policy)
  - g. Treaties and the Reservation policy of the 19th century
  - h. The Allotment Act
  - i. The Citizenship Act and the Merriam report
  - j. The Indian Reorganization Act and policies of the Roosevelt Administration
  - k. Land claims
  - l. The termination policy
  - m. The shift from termination to self determination and the policies of the 1960s and 1970s
4. The Indian today--political/legal
  - a. The special relationship of Indian tribes to the United States government
  - b. Tribal sovereignty
    1. Nature of sovereignty
    2. Indian rights including fish, game, and water rights
  - c. Indian land
    1. Title
    2. Allotments
    3. Tribal land
  - d. Indian treaties--their status today
  - e. The individual Indian rights and entitlements to service
  - f. Relationship of Indian tribes to the states.
  - g. Indian country.
    1. Taxation
    2. Regulation
    3. Criminal and civil jurisdiction
  - h. Present day tribal government
    1. IRA tribes
    2. Non-IRA tribes
  - i. Indians on the eve of the 21st century Become familiarized with selected examples of traditional tribal government and law.
5. Trace the historical development of Indian law and government from European contacts to the present so that the student will have a historical perspective of Indian affairs.
6. Study present day tribal governments to understand their legal bases, their relationship to the federal government and other government entities.
7. Study the current problems facing tribal governments.
8. Employ thoughtful and precise writing (a minimum of 1500 words), critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

#### POS 296 - Internship: Political Science

##### COURSE DESCRIPTION:

POS 296. Internship: Political Science (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

##### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement Exhibit appropriate workplace behaviors and professional ethics.

##### LEARNING OUTCOMES:

1. Apply discipline specific knowledge and skills in the professional workplace.
2. Define and utilize technical terms in written and oral communications.
3. Use critical thinking, problem solving, ethical awareness, and effective writing skills.



4. Interpret written and oral instructions.
5. Initiate and complete assigned responsibilities.
6. Maintain documentation required to comply with government employer or nonprofit agency regulations.
7. Use specialized equipment, software, and tools as required.
8. Analyze and interpret data for specified reports.
9. Identify opportunities for improvement in process and documentation related to the workplace.
10. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including date, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**POS 299 - Independent Study Political Science****COURSE DESCRIPTION:**

POS 299. Independent Study Political Science (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required. One to Six lecture.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.

**LEARNING OUTCOMES:**

1. Develop the individual educational plan with the faculty liaison and agency/business.
2. Accomplish the specific learning objectives and competencies.
3. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
4. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
5. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
6. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**PPT 120 - Energy Industry Fundamentals****COURSE DESCRIPTION:**

PPT 120. Energy Industry Fundamentals (3). Commercially used fuels and power sources and their conversion to useable energy, with a focus on generated electrical power and its transmission and distribution to the point of use. Includes exploration of the energy industry, safe and healthy work environments, natural gas transmission and distribution, and career/entry requirements. Preparation for the Energy Industry Fundamentals (EIF) Certification exam. Three lecture.

**COURSE CONTENT:**

1. Energy industry
2. Safe and healthy work environment
3. Electric power generation
4. Electric power transmission
5. Electric power distribution
6. Natural gas transmission and distribution
7. Energy related careers and entry requirements
8. Energy topics, hot topics, regulatory topics and emerging technologies

**LEARNING OUTCOMES:**

1. Explain the basic and emerging principles and concepts that impact the energy industry. (1)
2. Apply compliance with procedures necessary to ensure a safe and healthy work environment. (2)
3. Describe electric power generation. (3)
4. Describe electric power transmission. (4)
5. Explain electric power distribution. (5)
6. Explain natural gas transmission and distribution. (6)
7. Identify and describe energy related careers and entry requirements. (7)
8. Discuss and analyze energy and regulatory topics. (8)


3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Electronics Technology Department

**PSY 101 - Introductory Psychology**

**COURSE DESCRIPTION:**

PSY 101. Introductory Psychology (3).  **PSY 1101.** Introduction to psychology through such topics as the scientific method in psychology, survey of different fields in psychology, heredity and environment, intelligence, emotions, motivation, nervous system, and learning processes. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Psychology--definition and history of the discipline
2. Psychology as a science--methods and techniques of psychology
3. Learning, memory, and intelligence
4. Developmental psychology
5. Physiological psychology
6. Motivation and emotion
7. Personality development and assessment
8. Abnormal psychology--including therapeutic techniques
9. Social psychology

**LEARNING OUTCOMES:**

1. Compare and contrast various theoretical approaches which have suggested explanations of human and animal behavior. (BS 1)
2. Examine, compare and critically analyze both historical and current trends in psychological theory and research.
3. Identify scientific methodology including observation, correlation, and experimentation. Emphasis will be placed on understanding how these methods can be used to test hypotheses concerning behavior, thought, and feelings. (BS 2)
4. Analyze and critically evaluate research methods and conclusions. An awareness of both the value and limitations of various methods is necessary to achieve this goal.
5. Develop and test hypotheses using appropriate scientific methodology.
6. Examine and critically analyze various psychological perspectives relating to development, interpersonal relations, motivation, personality, and adjustment. (BS 3)
7. Describe and explain multiple causation, with an emphasis on environmental, biological, cognitive, developmental, and social/cultural determinants.
8. Analyze, compare, and evaluate various models for mental disorder and approaches to treatment.
9. Describe how psychological concepts relate to self awareness and everyday experience. (BS 4)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Behavioral Sciences Department

**Course Attributes:**

Behavioral Science (AGEC), SUN# PSY 1101

**PSY 132 - Cross Cultural Psychology****COURSE DESCRIPTION:**

PSY 132. Cross Cultural Psychology (3). Impact of culture on the study of psychology. The role of culture in perceptual and cognition processes, human development, and social behavior. Includes issues such as intergroup relations, ethnocentrism, gender, personality, emotion, language, and communication. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Cross-Cultural Approach
  - A. When psychology and culture meet: intro to cross-cultural psychology
  - B. Limitations of western psychology
  - C. Issues in the conduct of studies across cultures
  - D. The nature of "truth" in science and importance of research
  - E. Gaining a global perspective
2. Understanding Culture
  - A. Definitions of culture, race, and ethnicity
  - B. Introduction to ethnocentrism and stereotypes
  - C. A dimensional approach to understanding cultures
3. Culture, Self, and Personality
  - A. Culture and concepts of self
  - B. Culture and personality traits
4. Acculturation, Socialization and Development
  - A. Cultural similarities and differences in cognitive development
  - B. Culture and perception
  - C. Culture and socioemotional development
5. Culture, Intergroup Relations and Social Behavior
  - A. Cultural and psychological influences on ethnocentrism and stereotypes
  - B. Person perception and impression formation
  - C. Cultural differences in intergroup behavior
  - D. Cultural differences in our interpretations of the world around us: cross-cultural research on attributions
6. Culture and Gender
  - A. Cultural similarities and differences in gender roles
  - B. The influence of culture on gender
  - C. Cultural similarities and differences in ascribed gender roles and stereotypes
  - D. Ethnicity and gender
7. The Diversity of Human Emotion
  - A. The concept of emotions from a cross-cultural perspective
  - B. Cultural similarities and differences in emotional expression
8. Culture and Language, Communication
  - A. The relationship between culture, language and worldview
  - B. Bilingualism
  - C. Cultural differences in nonverbal behaviors
  - D. Cultural similarities and differences in the expression and experiences of communication

**COURSE OUTCOMES:**

1. Describe the limitations of current knowledge about human behavior in western psychology and the advantage of adding cross-cultural information to psychology. (1) (BS 1)
2. Identify cultural influences on research methods, including the influential biases that researchers and research participants bring to the research process. (1) (BS 2)
3. Define culture and contrast culture with race and ethnicity. (2) (BS 4)
4. Evaluate one's own cultural background and how it affects concepts of self, personality, and behavior. (3-6)
5. Assess cultural differences with respect to values, beliefs, and behaviors. (3-8)
6. Compare cultural differences and similarities in human emotion, cognitive, moral and socioemotional development and how cultural factors impact the process of language and

communication. (4-8) (BS 3)

7. Describe the contributions of basic psychological processes to intergroup relations, ethnocentrism, and stereotyping. (2-6)
8. Reflect on cultural differences in gender and gender specific behavior patterns across cultures. (6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Behavioral Sciences Department

**Course Attributes:**

Behavioral Science (AGEC), Diversity (DA), Ethnic, Race & Gender

### PSY 156 - End of Life Issues and Options

**COURSE DESCRIPTION:**

PSY 156. End of Life Issues and Options (1). Examination of issues about death and dying in relation to community resources and the current health care system. Considers legal, ethical, cultural, and spiritual issues; communication; symptoms and pain management; grief and bereavement. One lecture.

**COURSE CONTENT:**

1. Health care system and community resources
2. Ethical, legal, cultural, and spiritual concerns
3. Symptom management
4. Communication
5. Grief, loss, and bereavement

**LEARNING OUTCOMES:**

1. Identify health care system and community resources that deal with end of life issues. (1)
2. Compare advantages and disadvantages of choices made at end of life based on ethical, legal, cultural, spiritual and health care system considerations. (2)
3. Describe symptoms that may occur during the dying process and how to manage them. (3)
4. Simulate communication techniques to use with the dying person, caregivers and health care providers. (4)
5. Identify factors affecting the grief, loss, and bereavement process. (5)

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### PSY 172 - Introduction to Parenting

**COURSE DESCRIPTION:**

PSY 172. Introduction to Parenting (3). Study of development and maintenance of healthy parent-child relationships. Emphasis on fostering a child's emotional maturity through positive development in areas of awareness, relating, competence and integrity. Three lecture.

**COURSE CONTENT:**

1. Family growth needs
2. Family values and goals
3. Family rules and systems
4. Interpersonal relationship theory
5. Communication skills
6. Sex education in the home
7. Responsibility and integrity in the family Formulate an awareness of self in the parental role and awareness of the child, including the feelings and thought processes involved in those roles.

**LEARNING OUTCOMES:**

1. Create an understanding of the child's emotional development and the impact of the development on the parent-child relationship.
2. Develop and use techniques for building self-esteem, competence and the respect of others in children.
3. Develop and use techniques for dealing with specific behavior problems in children.
4. Formulate an appreciation for building and maintaining an honest relationship with the child.
5. Develop compassion for self and others in the parental role through the sharing of common experiences.

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### PSY 175 - Counseling Skills

**COURSE DESCRIPTION:**

PSY 175. Counseling Skills (3). Principles and practices which underlie the effective and ethical use of the helping relationship in human services Three lecture.

**COURSE CONTENT:**

1. The helping relationship
2. Helper development
3. Normative and non-normative crises
4. Values and ethics in the helping relationship
5. Developmental processes of helping

6. Models of helping
7. Communication skills in helping
8. Goal-setting in helping
9. Management of stress in helping
10. Special topics: drugs, prejudice, violence against women, etc. Explain the concepts and values that provide a basis for paraprofessional helping relationships.

**LEARNING OUTCOMES:**

1. Examine and critically evaluate ethical standards in the helping relationship.
2. Explore problem areas that are often encountered in helping relationships
3. Identify the stages and steps in helping and apply specific counseling principles.
4. Evaluate and explore normative and non-normative crises as opportunities for helping.
5. Apply supportive and directive models in the helping relationship.
6. Explore and apply the concept of self-preservation in the helping professions.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**Course Attributes:**

Oral Communication (OC)

**PSY 210 - Brain and Behavior****COURSE DESCRIPTION:**

PSY 210. Brain and Behavior (3). Investigation of the human brain and how it affects our behavior. Includes optical illusions, hallucinations, phantom limb, biological drives and the ability to remember and forget. Observable behavior in mental disorders such as schizophrenia and anxiety, the chemical processes in the brain, and the effects of illegal and prescription drugs on the human body and its various systems. Prerequisite: PSY 101. Three lecture.

**COURSE CONTENT:**

1. Nervous system
2. Psychopharmacology at the synapse
3. Cerebral cortex
4. Research methods
5. Brain development and damage
6. Vision, audition, and mechanical senses
7. Movements and disorders of movement
8. Sleep and internal regulation
9. Sexual behavior
10. Emotions
11. Fear and stress
12. Learning and memory
13. Language
14. Attention
15. Substance abuse
16. Psychological disorders

**LEARNING OUTCOMES:**

1. Explain the past and present methods of research surrounding physiological perspective of psychology. (4)
2. Define the anatomy of the brain, nervous system, and their composing cells and apply them to behavioral characteristics such as psychological disorders & drugs. (1,2, 3,5)
3. Evaluate historical and current theories on sensory perceptions, learning & memory, internal regulation, stress and dreams. (6, 8,10,12)
4. Connect the structure and function of different brain regions along with hormones to explain the diversity of human behavior across age, gender & abnormal behavior. (5, 7, 9-11, 15,16)
5. Explain the different routes of learning and memory. (12)
6. Describe the processes of language and attention. (13,14)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**PSY 220 - Social Service Case Management****COURSE DESCRIPTION:**

PSY 220. Social Service Case Management (3). Fundamental principles and mechanics of case management. Includes various models, processes and functions, and historical context. Emphasis on development of interpersonal skills. Prerequisite: PSY 101 or PSY 175. Three lecture.

**COURSE CONTENT:**

1. Functions and guidelines
2. Case management delivery
3. Practical skills
4. Ethical issues
5. Legal implications

**LEARNING OUTCOMES:**

1. Identify case management concepts and practices applied in contemporary social/human services. (1,2)
2. Develop and apply skills to the provision of case management services in outpatient and inpatient settings. (3)
3. Discuss ethical and legal adherence to established standards of practice. (4,5)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Critical Thinking (CT), Digital Lit (DL), Quantitative Lit (QL)

### PSY 230 - Introduction to Statistics in the Social and Behavioral Sciences

**COURSE DESCRIPTION:**

PSY 230. Introduction to Statistics in the Social and Behavioral Sciences. (3). Basic concepts of statistical analysis and design in social and behavioral science research. This course is cross-listed with SOC 230. Prerequisite: MAT 142 or MAT 152 or satisfactory score on the mathematics skills assessment. Three lecture.

**COURSE CONTENT:**

1. Variables and measurement in the social sciences
2. Frequency distributions
3. Measures of central tendency
4. Variability
5. Standardized distributions
6. Probability
7. Hypotheses testing in the social sciences
8. Independent and related samples
9. Estimation
10. Analysis of variance (ANOVA)
11. Correlations and regressions in the social sciences

**LEARNING OUTCOMES:**

1. Define and create different variables and different forms of measurement. (1)
2. Interpret frequency distributions and compute measures of central tendency. (2,3)
3. Compute and interpret scores of variability among data in standardized distributions. (4,5)
4. Compute and interpret probabilities and inferential statistics between populations and samples within the social and behavioral sciences. (6)
5. Design and calculate means of testing a hypothesis. (7)
6. Explain the concepts underlying the statistical testing of hypotheses. (7)
7. Utilizing t-tests, design and test research involving means from independent and related samples. (8)
8. Follow formulas to infer population parameters through estimation. (9)
9. Design and compute multiple means using one-way ANOVA. (10)
10. Identify and interpret information gained through correlations and regression analyses within the social and behavioral sciences. (11)

3.000 Credit hours

3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### PSY 232 - Psychology of Personal Growth

**COURSE DESCRIPTION:**

PSY 232. Psychology of Personal Growth (3). Principles and practices of mental health and personal adjustment as they relate to personality development, growth and deterioration. Three lecture.

**COURSE CONTENT:**

1. Adjustment and growth
2. Life span development
3. Personality and the self
4. Human relationships and sexuality
5. Problems of adjustment
6. Management of stress
7. Self-directed change
8. Interpersonal relationships
9. Adjustment in the work place
10. Special topics: drugs, prejudice, violence against women, etc. Define adjustment and personal growth.

**LEARNING OUTCOMES:**

1. Determine psychoanalytic, learning theory and humanistic models of change.
2. Evaluate adjustment problems related to stress, emotional reactions, self-concept, interpersonal relations, love and marriage, and work and leisure.
3. Understand the concept and application of self-directed change.
4. Examine directed change: therapy and counseling alternatives.
5. Explore adult life stages.
6. Employ critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours

3.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### PSY 234 - Child Development

**COURSE DESCRIPTION:**

PSY 234. Child Development (3). Children's development from conception through childhood. Includes prenatal, brain, physical, sensory, cognitive, language, emotional, social, and moral development, as well as genetics and cultural influences. This course is cross-listed with ECE 234. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Genetics, prenatal, and birth
2. Physical development through childhood
3. Cognitive development through childhood
4. Language development through childhood
5. Emotional development through childhood
6. Social development through childhood
7. Cultural influences on child development

**LEARNING OUTCOMES:**

1. Summarize research methods applied to various theoretical perspectives of child development. (2-6) (BS 1,2)
2. Describe major developmental themes (e.g. nature-nurture, stability and change, early-late experiences, and continuity - discontinuity) as applied to child development theories. (2-6) (BS 1)
3. Evaluate various theories of child development. (2-6) (BS 1,3,4)
4. Delineate genetic and prenatal influences on child development. (1) (BS 3)
5. Analyze the interplay of physical, cognitive, emotional and social development. (2-6) (BS 4)
6. Identify the probable effects of parents, family, peers, teachers, and community on child development. (2-6) (BS 4)
7. Conduct research on topics related to child development. (1-7) (BS 2)
8. Discuss the cultural influences on child development. (7) (BS 4)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1,500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Behavioral Sciences Department

**Course Attributes:**

Behavioral Science (AGEC)

**PSY 236 - Psychology of Women****COURSE DESCRIPTION:**

PSY 236. Psychology of Women (3). A developmental and topical approach to the impact of gender on women's lives, personalities, abilities, relationships, sexuality, physical and mental health. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. History of psychology of women
2. Gender and stereotypes
3. Infancy and childhood
4. Adolescence
5. Cognitive abilities and achievement motivation
6. Work
7. Women of color
8. Love relationships
9. Sexuality
10. Pregnancy, childbirth, and motherhood
11. Physical health
12. Psychological disorders
13. Spirituality
14. Violence against women
15. Older adulthood Identify and discuss the biases and stereotypes that have historically affected the ability of women to fulfill their potential.

**LEARNING OUTCOMES:**

1. Describe a variety of psychological theories and explain issues relating to the psychology of women.
2. Evaluate various psychological approaches to understanding the psychology of women.
3. Examine issues relating to gender discrimination.
4. Trace significant personal, social, and cultural themes regarding the psychology of women.

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Ethnic, Race & Gender

**PSY 238 - Psychology of Play****COURSE DESCRIPTION:**

PSY 238. Psychology of Play (3). Importance of play on cognitive, physical, social, and emotional development throughout the lifespan. Exploration of the benefits of play with respect to fostering creativity, personal expression, and a sense of well being. Appreciation of play activities as a reflection of culture, gender, and social class. Pre-requisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Purpose and benefits of play
2. Creative process and personal expression

3. Solitary and social play
4. Play activities as a reflection of culture, gender, and social class
5. Promotion of play leadership

**LEARNING OUTCOMES:**

1. Describe the impact of play on cognitive, physical, social, and emotional development throughout the lifespan. (1) (BS 1,3)
2. Identify the significant role of play on the creative process and personal expression. (2) (BS 2)
3. Compare and contrast the psychological and social implications of solitary and social play. (3) (BS 2)
4. Analyze the cultural, gender, and social implications of play activities. (4) (BS 2,4)
5. Develop and implement a specific plan of promoting the importance of play through advocacy and/or service. (5) (BS 2)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Behavioral Sciences Department

**Course Attributes:**

Behavioral Science (AGEC), Diversity (DA), Ethnic, Race &amp; Gender

**PSY 240 - Personality Development****COURSE DESCRIPTION:**

PSY 240. Personality Development (3). Study of normal personality development with emphasis on the analysis of classic and contemporary theories of personality structure and dynamics. Prerequisite: PSY 101 or PSY 232. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. The nature of personality theory
2. Psychoanalytic and neo-analytic perspectives
3. Trait perspectives
4. Cognitive perspectives
5. Social-behavioral perspectives
6. Humanistic perspectives
7. Constitutional perspectives
8. The future of personality psychology

**LEARNING OUTCOMES:**

1. Describe the history of the study of personality and identify the major approaches to personality development. (BS 1)
2. Compare and contrast the major theoretical approaches to personality development. (BS 4)
3. Describe and analyze a model a model of personality development.
4. Explain how personality theory affects approaches to counseling and therapy. (BS 3)
5. Describe how new discoveries in psychology are influencing approaches to personality theory. (BS 2)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Behavioral Sciences Department

**Course Attributes:**

Behavioral Science (AGEC)

**PSY 241 - Substance Abuse****COURSE DESCRIPTION:**

PSY 241. Substance Abuse (3). Study of the physical, social, and psychological effects of substance abuse. The effects of substance abuse on the criminal justice system. Three lecture.

**COURSE CONTENT:**

1. Nature and history of drug and alcohol abuse
2. Types of drugs
3. Psychological factors
4. Physiological factors
5. Social and criminal factors
6. Research in the field
7. Treatment methods
8. Anti-drug legislation
9. Legalization and decriminalization of drugs

**LEARNING OUTCOMES:**

1. Explain the symptoms and consequences of substance abuse
2. Identify and categorize the types of drugs most associated with abuse.
3. Summarize the history of drug and alcohol abuse.
4. Characterize several treatment approaches to drug abuse.
5. Review current research in drug abuse.
6. Analyze the effects of drugs on the criminal justice system.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**  
Scientific (SL)

### [PSY 245 - Human Growth and Development](#)

**COURSE DESCRIPTION:**

PSY 245. Human Growth and Development (3). Study of physical, intellectual, moral, emotional, personality, and social development of the human being, beginning with conception and continuing through childhood, adolescence, adulthood, old age, and dying. Emphasis on quantitative and qualitative ways people change throughout the life span and factors which contribute to human diversity as well as to individual uniqueness. Research methods appropriate to the study of human development are also considered. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. The scientific study of human growth and development across the life span from both ethological/biological ("nature") and environmental ("nurture") perspectives
2. Theories of cognitive development across the life span
3. Theories of social-emotional development across the life span

**LEARNING OUTCOMES:**

1. Identify current and historical scientific approaches to research in human development. (BS 2,4)
2. Analyze biological theories of development.
3. Analyze theories of cognitive development. (BS 1)
4. Analyze theories of emotional development.
5. Analyze theories of social development. (BS 3)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Behavioral Sciences Department

**Course Attributes:**  
Behavioral Science (AGEC)

### [PSY 250 - Social Psychology](#)

**COURSE DESCRIPTION:**

PSY 250. Social Psychology (3). The study of how our thoughts, feelings, and actions are affected by our social environment. Emphasis on prejudice, conformity, altruism, interpersonal interaction, and the influence of the media. Prerequisite: PSY 101. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. History, issues, and methods
2. Theories: psychoanalytic, cognitive, behavioral/social learning, and ethological
3. Attitude formation and change
4. The effects of the media
5. Altruism
6. Aggression
7. Prejudice
8. Conformity
9. Social determinants of self-concept

**LEARNING OUTCOMES:**

1. Compare and contrast observational, correlational, and experimental methods and how they are applied to gain an understanding of social influence. (BS 2)
2. Examine and critically evaluate theories of social psychology: learning theory (cognitive/social-learning theory), the psychoanalytic, and humanistic perspectives. (BS 1)
3. Analyze the situational and social pressures that affect such social behaviors as aggression, altruism, prejudice, person perception, love, and conformity. (BS 3,4)
4. Identify and analyze the effects of the media on attitudes, values, and behavior.
5. Describe the impact of social pressures in group decision making.
6. Formulate and test a hypothesis using appropriate research techniques.

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Behavioral Sciences Department

**Course Attributes:**  
Behavioral Science (AGEC)

### [PSY 262 - Crisis and Trauma Intervention](#)

**COURSE DESCRIPTION:**

PSY 262. Crisis and Trauma Intervention (3). Impact of critical and traumatic events on daily and long-term psychological and physical functioning. Emphasis on intervention strategies. Prerequisite: PSY 101 or PSY 175. Three lecture.



**COURSE CONTENT:**

1. Historical and current research
2. Behavioral, physiological and psychological effects of crisis and trauma
3. Treatment strategies

**LEARNING OUTCOMES:**

1. Identify behavioral, physiological and psychological symptoms associated with traumatic and critical incidents. (2)
2. Discuss mental health disorders associated with psychological stress and trauma. (1,2)
3. Identify factors that inhibit or enhance traumatic and crisis reactions. (1,2)
4. Investigate current issues in the field of psychological trauma and critical incidents. (1,3)
5. Identify and apply treatment options. (3)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**Course Attributes:**

Creative Thinking (CR)

**PSY 266 - Abnormal Psychology****COURSE DESCRIPTION:**

PSY 266. Abnormal Psychology (3). Behavioral disorders including current terminology, theories, and research. Emphasis on the characteristics, causes and treatment of abnormal behavior. Prerequisite: PSY 101. Three lecture.

**COURSE CONTENT:**

1. Perspectives on abnormal behavior (History, Biological, Sociocultural, etc)
2. Stress
3. Anxiety disorders
4. Psychological factors and physical illness
5. Personality disorders
6. Substance abuse disorders
7. Sexual disorders
8. Mood disorders
9. Psychotic disorders
10. Organic mental disorders
11. Behavior disorders of childhood
12. Psychotherapies
13. Prevention

**LEARNING OUTCOMES:**

1. Discuss psychological well-being and behavioral disorders.
2. Use professional vocabulary and terminology for describing behavioral disorders and potential treatments.
3. Discuss the impact of biological, psychological, and environmental influences as complex factors that cause behavioral disorders.
4. Compare and contrast the psychological, biological, and social approaches to the treatment of abnormal behavior.
5. Review and apply current research on behavioral disorders.

**REQUIRED ASSESSMENT**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**PSY 270 - Dream Interpretation****COURSE DESCRIPTION:**

PSY 270. Dream Interpretation (3). Introduction to use of dream interpretation as a means to explore internal psychological processes. Examination of theories and the application of each theory as a therapeutic tool. Comprehension of the dream as a personal message that can be interpreted through understanding and application of dream symbolism. Three lecture.

**COURSE CONTENT:**

1. Freudian theory
2. Jungian theory
3. Gestalt theory
4. The Senoi
5. The Iroquois
6. Lucid dreaming
7. Dream exercises

**LEARNING OUTCOMES:**

1. Identify and explore a variety of theoretical approaches to the meanings of dreams.
2. Prepare a journal reflecting interpretation of individual dreams based on theoretical perspectives of dreams.
3. Explain how dreams are interpreted in different cultures.

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### PSY 275 - Group Skills and Processes

**COURSE DESCRIPTION:**

PSY 275. Group Skills and Processes (3). Application of concepts and techniques appropriate to the stages of a group's development. Emphasis on a group process in action. Prerequisite: PSY 175. Three lecture.

**COURSE CONTENT:**

1. Group process stages
2. Leadership and co-leadership roles
3. Member roles and expectations
4. Types of groups
5. Approaches to group work

**LEARNING OUTCOMES:**

1. Apply techniques in opening and closing a group session. (1,2)
2. Formulate an agenda for a group session. (2,4,5)
3. Utilize skills to help group members formulate personal goals. (2,3)
4. Describe a group leader's role in working with issues of diversity. (2)
5. Identify and discuss ways to build trust in a group setting. (1-3)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Written Comm (WC)

### PSY 290 - Research Methods

**COURSE DESCRIPTION:**

PSY 290. Research Methods (4). Planning, execution, analysis, and written reporting of psychological research. Surveys the literature, procedures, and instruments in representative areas of psychological research. Cross-listed with SOC 290. Prerequisite: PSY 101. Four lecture.

**COURSE CONTENT:**

1. Scientific Method
2. Formulation of the Hypothesis
3. Methods of Research
  - a. Observational Studies
  - b. Surveys
  - c. Case Studies
  - d. Correlational Studies
  - e. The Experiment
4. Research Designs
  - a. Between subjects (independent samples) designs
  - b. Within subjects designs
    1. Repeated measures
    2. Matched subjects
    3. Factorial designs
  - d. Single subject (N = 1) designs
  - e. Quasi-Experimental designs
5. Writing research reports
  - a. Locating journals/resources in the library
  - b. Looking at and summarizing scientific articles
  - c. Literature review of topic or researcher
  - d. Writing in a scientific style
  - e. Major sections of a report
  - f. Evaluating journals or scientific material
6. Research ethics
7. Explain the basic assumptions of science.

**LEARNING OUTCOMES:**

1. Develop an operationally defined hypothesis.
2. Identify and classify research methods.
3. Identify independent and dependent variables.
4. Identify confounding variables.
5. Design and analyze a basic research project and generate a scientific report describing the study's results.
6. Summarize a basic scientific report.
7. Analyze scientific reports and suggest rival hypotheses.
8. Identify and explain ethical concerns associated with research.

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### PSY 296 - Internship: Psychology

#### COURSE DESCRIPTION:

PSY 296. Internship: Psychology (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

#### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

#### LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

#### REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Internship

Visual/Performing/LiberalOBS Division  
Social Sciences Department

#### Course Attributes:

Civic Engagement (CE)

### PSY 299 - Independent Study Psychology

#### COURSE DESCRIPTION:

PSY 299. Independent Study Psychology (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

#### COURSE CONTENT:

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.

#### LEARNING OUTCOMES:

1. Develop the individual educational plan with the faculty liaison and agency/business.
2. Accomplish the specific learning objectives and competencies.
3. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
4. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
5. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
6. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### RAD 100 - Foundations of Radiologic Science

#### COURSE DESCRIPTION:

RAD 100. Foundations of Radiologic Science (2). Foundations in radiography and the practitioner's role in the health care delivery system. Includes an examination of the healthcare establishment, radiography education and related organizational topics, ethical and legal considerations, basic radiation protection and patient care principles. Prerequisite: Admission to the Radiologic Technology program. Reading Proficiency. Corequisite: RAD 110 and RAD 120 and RAD 170. Two lecture. A-F grading only.

#### COURSE CONTENT:

1. Health science professions

2. The health care environment
3. Hospital organization
4. Radiology organization
5. Accreditation
6. Regulatory agencies
7. Professional credentialing and organizations
8. Professional development and advancement
9. Ethics & ethical behavior
10. Ethical issues in healthcare
11. Legal issues
12. Patient consent
13. Radiation protection

**LEARNING OUTCOMES:**

1. Identify health science professions and describe their relationship to each other in the delivery of patient care. (1)
2. Identify various settings in health care delivery. (2)
3. Describe relationships and interdependencies of departments within a healthcare institution. (3)
4. Discuss the responsibilities and relationships of all personnel in the radiology department. (4)
5. Differentiate between programmatic and institutional accreditation. (5)
6. Identify regulatory agencies and their role in quality management and improvement. (6)
7. Define credentialing and identify the professional agencies involved. (7)
8. Identify the benefits of continuing education as related to improved patient care and professional enhancement. (8)
9. Discuss the origins of ethics and the role of ethical behavior in healthcare. (9)
10. Explain individual and societal rights, and cultural and economic conditions that may contribute to ethical dilemmas in healthcare. (10)
11. Explain legal issues in health care including parameters of legal responsibility in radiography, confidentiality, torts, negligence and malpractice. (11)
12. Describe the components, conditions and implications of informed consent with documentation. (12)
13. Outline the basic principles of radiation protection including potential biologic damage, and safe radiation practices. (13)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Sciences, Health & Public Safe Division  
Allied Health Services Department

**Course Attributes:**

Civic Engagement (CE), Diversity (DA)

**[RAD 110 - Radiographic Positioning and Image Analysis I](#)**

**COURSE DESCRIPTION:**

RAD 110. Radiographic Positioning and Image Analysis I (4). Fundamentals of radiographic positioning for the upper and lower extremities, shoulder girdle, chest, pelvis, pelvic girdle, abdomen, cranium and basic mobile radiography. Prerequisite: Admission to the Radiologic Technology program. Reading Proficiency. Corequisite: RAD 100 and RAD 120 and RAD 170. Two lecture. Six lab. A-F grading only.

**COURSE CONTENT:**

1. Terminology for positioning and projection
2. Procedural and general considerations
3. Positioning considerations
4. Image analysis standards
5. Image production factors and corrective action

**LEARNING OUTCOMES:**

1. Use anatomical nomenclature. (1,5)
2. Define standard positioning terms related to procedures of the upper and lower extremities, shoulder girdle, chest, pelvis, pelvic girdle, abdomen, and related mobile radiography. (1)
3. Explain general considerations for radiographic procedures of the upper and lower extremities, shoulder girdle, chest, pelvis, pelvic girdle, abdomen, and related mobile radiography including an evaluation of radiographic orders, patients with special needs, room preparation and patient communication. (2)
4. Adapt general positioning considerations of the upper and lower extremities, shoulder girdle, chest, pelvis, pelvic girdle, abdomen and related mobile radiography for positioning, centering, appropriate anatomy and overall image quality. (3)
5. Utilize image analysis standards to identify and evaluate the anatomy and radiographic image appearance characteristics of structures visualized on routine radiographs of the upper and lower extremities, shoulder girdle, chest, pelvis, pelvic girdle, abdomen, and related mobile radiography. (4)
6. Employ image production factors and corrective action for the special positions/projections of the upper and lower extremities, shoulder girdle, chest, pelvis, pelvic girdle, abdomen, and related mobile radiography. (5)

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, [Lecture](#), Lecture/Lab

Sciences, Health & Public Safe Division  
Allied Health Services Department

**[RAD 120 - Radiographic Technique I](#)**

**COURSE DESCRIPTION:**

RAD 120. Radiographic Technique I (3). Fundamentals of image production, processing, film imaging with related accessories and image analysis based on technical imaging standards. Prerequisite: Admission to the Radiologic Technology program. Reading Proficiency. Corequisite: RAD 100 and RAD 110 and RAD 170. Three lecture. A-F grading only.

**COURSE CONTENT:**

1. Exposure factors
2. Density
3. Contrast
4. Recorded detail/spatial resolution
5. Distortion
6. Beam limiting devices
7. Beam filtration
8. Scattered and secondary radiation
9. Grids

10. Exposure factor formulation
11. Darkroom environment
12. Radiographic film
13. Image receptors
14. Film processing
15. Processor quality control

## LEARNING OUTCOMES:

1. Identify the exposure factors required for image production. (1)
2. Analyze the relationship of factors that control and affect radiographic quality. (2)
3. Analyze the relationship of factors that control and affect radiographic contrast. (3)
4. Analyze the relationship of factors that control and affect recorded detail. (4)
5. Differentiate between size and shape distortion. (5)
6. Describe the operation and application of beam-limiting devices and the rationale for their use. (6)
7. Explain the impact beam filtration has on x-ray beam intensity, beam quality, half value layer, and resultant patient exposure. (7)
8. Summarize factors affecting scattered and secondary radiation and their effects on image quality. (8)
9. Discuss remnant beam control including a comparison of grid, grid efficiency, grid ratio and frequency, grid errors, grid artifacts and grid selection. (9)
10. Compare fixed kilovolt peak (kVp) and variable kVp systems. (10)
11. Explain the use of standardized radiographic technique charts and exposure factors used in selecting techniques. (10)
12. Apply conversion factors for changes in: distance, grid, image receptors, milliamper-second (mAs) reciprocity and 15 percent rule. (10)
13. Discuss the effects of film storage on image quality including safe light illumination. (11)
14. Describe the function of radiographic film components including latent image formation and characteristic curves. (12)
15. Describe the function and characteristics of various image receptors. (13)
16. Analyze the effects of processing on image quality. (2,3,14)
17. List the steps and components of automatic film processing including artifacts and silver recovery. (14)
18. Discuss the purpose of a daily quality control program for processors. (15)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Sciences, Health & Public Safe Division  
 Allied Health Services Department

Course Attributes:  
 Quantitative Lit (QL)

**RAD 135 - Radiation Physics and Equipment**

## COURSE DESCRIPTION:

RAD 135. Radiation Physics and Equipment I (3). Radiation production and characteristics. Includes fundamentals of atomic structure, concepts related to radiation and photon interactions with matter. Basics of imaging systems and quality control. Prerequisite: RAD 170. Corequisite: RAD 140 and RAD 150 and RAD 160. Three lecture. A-F grading only.

## COURSE CONTENT:

1. Structure of the atom
2. Nature of radiation
3. X-ray production
4. Interaction of photons with matter
5. X-ray circuit
6. Radiographic equipment
7. Diagnostic x-ray tubes
8. Image intensified fluoroscopy
9. Quality control

## LEARNING OUTCOMES:

1. Describe fundamental atomic structure. (1)
2. Explain the processes of ionization and excitation. (2)
3. Describe wavelength and frequency and their relationship to velocity. (3)
4. Explain the wave-particle duality phenomenon. (3)
5. Discuss various photon interactions with matter and their applications in diagnostic radiology. (2,4)
6. Identify general components and functions of tube and filament circuits. (5)
7. Define potential difference, current and resistance. (5)
8. Describe functions and components of automatic exposure control (AEC) devices. (6)
9. Discuss mobile units and permanent installation of radiographic equipment in terms of purpose, components, types and applications. (6)
10. Explain protocols used to extend x-ray tube life. (7)
11. Explain image intensified and digital fluoroscopy (8)
12. Indicate the purpose, construction, and application of video camera tubes, CCD, and TV monitors. (8)
13. Discuss the proper test equipment and procedures for evaluating the operation of an x-ray generator. (9)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Sciences, Health & Public Safe Division  
 Allied Health Services Department

Course Attributes:  
 Scientific (SL)

**RAD 140 - Radiographic Positioning and Image Analysis II**

## COURSE DESCRIPTION:

RAD 140. Radiographic Positioning and Image Analysis II (4). Fundamentals of radiographic positioning of the vertebral column, cranium and bony thorax. Emphasis on contrast studies of urinary and digestive systems, and imaging during trauma and surgery. Includes procedural considerations for arthrography, myelography, venography and age specific imaging. Prerequisite: RAD 170. Corequisite: RAD 135 and RAD 150 and RAD 160. Two lecture. Six lab. A-F grading only.

## COURSE CONTENT:

1. Terminology for positioning and projection
2. Procedural and general considerations
3. Positioning considerations
4. Image analysis standards
5. Image production factors and corrective action

**LEARNING OUTCOMES:**

1. Use anatomical nomenclature. (1,3)
2. Define standard positioning terms related to procedures of the vertebral column, cranium, bony thorax, studies of urinary and digestive systems, arthrography, myelography, venography and imaging during trauma and surgery. (1)
3. Explain procedural and general considerations for radiographic procedures of the vertebral column, cranium, bony thorax, studies of urinary and digestive systems, arthrography, myelography, venography and imaging during trauma and surgery; including an evaluation of radiographic orders, patients with special needs, room preparation and patient communication. (2)
4. Adapt general procedural considerations of the vertebral column, cranium, bony thorax, studies of urinary and digestive systems, arthrography, myelography, venography and imaging during trauma and surgery for positioning, centering, appropriate anatomy and overall image quality. (3)
5. Utilize image analysis standards to identify and evaluate the anatomy and radiographic image appearance characteristics of structures visualized on routine radiographs of the vertebral column, cranium, bony thorax, studies of urinary and digestive systems, arthrography, myelography, venography and imaging during trauma and surgery. (4)
6. Employ image production factors and corrective action for the special positions/projections of the vertebral column, cranium, bony thorax, studies of urinary and digestive systems, arthrography, myelography, venography and imaging during trauma and surgery. (5)

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Allied Health Services Department

### **RAD 150 - Radiographic Technique II**

**COURSE DESCRIPTION:**

RAD 150. Radiographic Technique II (3). Principles and operation of digital imaging systems with an emphasis on image acquisition, display, archiving and retrieval. Includes principles of digital system quality assurance and maintenance. Prerequisite: RAD 170. Corequisite: RAD 135 and RAD 140 and RAD 160. Three lecture. A-F grading only.

**COURSE CONTENT:**

1. Terminology
2. Digital principles
3. Image acquisition and processing
4. Image acquisition errors
5. Fundamental principles of exposure
6. Digital image evaluation
7. Quality assurance and maintenance issues
8. Display monitors
9. Patient exposure
10. Picture Archiving and Communication System (PACS)

**LEARNING OUTCOMES:**

1. Define terminology associated with digital imaging systems. (1)
2. Describe the basic principles of digital radiography including digital image characteristics and digital receptors. (2)
3. Describe the histogram and the process or histogram analysis as it relates to automatic rescaling and determining an exposure indicator. (3)
4. Employ appropriate beam/part/receptor alignment to avoid histogram analysis errors. (4)
5. Describe the response of photostimulable storage phosphor (PSP) systems to background and scatter radiation (4)
6. Evaluate the spatial resolution and dose effectiveness for digital radiography detectors. (5)
7. Relate the exposure receptor indicator values to technical factors, system calibration, part/beam/plate alignment and patient exposure. (5,7,9)
8. Identify grid use errors associated with grid cut off and the Moiré effect. (6)
9. Identify maintenance procedures and a process to minimize histogram analysis and rescaling errors. (4,7)
10. Evaluate the effect of a given exposure change on histogram shape, data width, and image appearance. (8)
11. Examine the potential impact of digital radiographic systems on patient exposure and methods of practicing the As Low as Reasonably Achievable (ALARA) concept. (9)
12. Describe Picture Archiving and Communication System (PACS) components, function and associated principles. (10)
13. Identify common problems associated with retrieving and viewing images within a PACS. (10)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

### **RAD 160 - Radiology Clinical Education I**

**COURSE DESCRIPTION:**

RAD 160. Radiology Clinical Education I (3). Orientation to the clinical environment. Supervised clinical assignments focus on a progressive structure of observation, assistance and completion of a semester benchmark of selected radiographic competencies. Competency based experiences support the acquisition of elementary patient care and radiographic positioning skills. Prerequisite: RAD 170. Corequisite: RAD 135 and RAD 140 and RAD 150. Nine lab. A-F grading only.

**COURSE CONTENT:**

1. Scope of practice
2. Procedural performance
3. Team concepts
4. Adaptation
5. Emergency preparedness
6. Diversity
7. Communication
8. Professional and personal values
9. Patient education
10. Psychosocial considerations
11. Assessment
12. Demographic factors

13. Standard precautions
14. Sterile technique
15. Radiation protection
16. Equipment malfunction
17. Procedure orders
18. Safety, ethical and legal standards
19. Health Insurance Portability and Accountability Act (HIPAA)
20. Body mechanics
21. Patient transfers
22. Patient positioning
23. Immobilization
24. Protocols
25. Technical considerations
26. Image critique and repeat images
27. American Registry of Radiologic Technologists (ARRT) competency requirements

**LEARNING OUTCOMES:**

1. Manage the priorities required in daily clinical practice. (1)
2. Execute medical imaging procedures under the appropriate level of supervision. (2)
3. Adhere to team practice concepts that focus on organizational theories, roles of team members and conflict resolution. (3)
4. Adapt to changes and varying clinical situations. (4)
5. Describe the role of health care team members in responding and reacting to a local or national emergency. (5)
6. Respond to medical emergencies and execute basic life support procedures. (5)
7. Provide patient-centered clinically effective care for all patients regardless of age, gender, disability, special needs, ethnicity or culture. (6)
8. Integrate the use of written, oral and nonverbal communication with patients, the public and members of the health care team in the clinical setting. (7)
9. Describe the influence of personal and professional values on patient care. (8)
10. Use patient and family education strategies. (9)
11. Provide psychosocial support to the patient and family. (10)
12. Assess the patient and record clinical history. (11)
13. Examine demographic factors that influence patient compliance with medical care. (12)
14. Apply standard and transmission-based precautions. (13)
15. Apply medical asepsis and sterile technique. (14)
16. Apply radiation protection standards. (15)
17. Report equipment malfunctions. (16)
18. Examine procedure orders for accuracy and make corrective actions when applicable. (17)
19. Integrate the radiographer's safe, ethical and legal practice standards into the clinical setting. (18)
20. Maintain patient confidentiality and meet HIPAA requirements. (19)
21. Utilize body mechanic principles when transferring, positioning and immobilizing patients. (20-23)
22. Adhere to national, institutional and departmental standards, policies and procedures regarding care of patients, radiologic procedures and reducing medical errors. (24)
23. Select technical factors to produce diagnostic images with the lowest radiation exposure possible. (25)
24. Critique images for appropriate anatomy, image quality and patient identification. (26)
25. Determine and apply measures to correct inadequate images. (26)
26. Perform radiographic exams as outlined in the Competency Requirements for Primary Certification of the ARRT. (27)

3.000 Credit hours  
0.000 Lecture hours  
9.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Allied Health Services Department

**RAD 170 - Radiology Patient Care**

**COURSE DESCRIPTION:**

RAD 170. Radiology Patient Care (2). Concepts of patient care with consideration for the physical and psychological needs of the patient and family. Includes routine and emergency patient care procedures, infection control procedures and patient education. Prerequisite: Admission to the Radiologic Technology program. Reading Proficiency. Corequisite: RAD 100 and RAD 110 and RAD 120. Two lecture. A-F grading only.

**COURSE CONTENT:**

1. Radiographer responsibilities and the health care team
2. Patient attitudes towards illness
3. Communication in patient care
4. Patient/radiographer interactions
5. Safety and transfer positioning
6. Evaluating physical needs
7. Infection control
8. Medical emergencies
9. Trauma
10. Patient education and preparation in contrast exams
11. Patient reactions to contrast agents
12. Tubes, catheters, lines, and collection devices
13. Mobile and surgical radiography

**LEARNING OUTCOMES:**

1. Identify the responsibilities of the health care facility and members of the health care team. (1)
2. Describe the practice standards for the radiographer as defined by the American Society of Radiologic Technologists (ASRT) and state licensure. (1)
3. Explain how a person's cultural beliefs toward illness and health affect their health status. (2)
4. Explain perceptions of death and dying from the viewpoint of both the patient and radiographer. (2)
5. Explain the age-specific considerations necessary when performing radiographic procedures. (3)
6. Identify methods for determining the correct patient for a given procedure. (4,5)
7. Explain specific aspects of the radiographic procedure to the patient. (3-5)
8. Apply principles of body mechanics to patient care including the application of patient transfer techniques. (5)
9. Describe immobilization techniques for various procedures and patient conditions. (5)
10. List patient safety measures and concerns. (5,6)
11. List information to be collected prior to a patient examination and describe methods to evaluate patient physical status. (5,6)
12. Describe vital signs and lab values used to assess patient condition. (6)
13. Identify sites for assessment of vital signs and normal values. (6)
14. Describe standard precautions and isolation procedures. (7)
15. Identify sources and modes of transmission of infection and disease. (7)
16. Describe the student's role during a medical emergency. (8)

17. Describe the procedures for management of various types of trauma situations. (9)
18. Explain the role of the radiographer in patient education and preparation for contrast studies. (10)
19. Describe the symptoms and medical interventions for a patient with a contrast agent reaction. (11)
20. Identify specific types of tubes, lines, catheters and collection devices. (12)
21. Outline the steps in the operation and maintenance of suction, oxygen equipment, specific medical emergency equipment and supplies. (8,12)
22. Explain the radiation protection required when performing mobile/surgical radiography. (13)
23. Describe the procedure for producing diagnostic images in the surgical suite and for various mobile procedures. (13)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
 Allied Health Services Department

### **RAD 180 - Radiology Clinical Education II**

#### **COURSE DESCRIPTION:**

RAD 180. Radiology Clinical Education II (3). Reinforcement of radiographic skills and the addition of new competencies toward completion of a semester benchmark of radiographic competencies. Supervised clinical assignments emphasize work in the clinical environment and performance of radiographic competencies. Competency based experiences support acquisition of intermediate patient care and radiographic positioning skills. Prerequisite: RAD 160. Corequisite: RAD 220. Nine lab. A-F grading only.

#### **COURSE CONTENT:**

1. Scope of practice
2. Procedural performance
3. Team concepts
4. Adaptation
5. Emergency preparedness
6. Diversity
7. Communication
8. Professional and personal values
9. Patient education
10. Psychosocial considerations
11. Assessment
12. Demographic factors
13. Standard precautions
14. Sterile technique
15. Radiation protection
16. Equipment malfunction
17. Procedure orders
18. Safety, ethical and legal standards
19. Health Insurance Portability and Accountability Act (HIPAA)
20. Body mechanics
21. Patient transfers
22. Patient positioning
23. Immobilization
24. Protocols
25. Technical considerations
26. Image critique and repeat images
27. American Registry of Radiologic Technologists (ARRT) competency requirements

#### **LEARNING OUTCOMES:**

1. Manage the priorities required in daily clinical practice. (1)
2. Execute medical imaging procedures under the appropriate level of supervision. (2)
3. Adhere to team practice concepts that focus on organizational theories, roles of team members and conflict resolution. (3)
4. Adapt to changes and varying clinical situations. (4)
5. Describe the role of health care team members in responding and reacting to a local or national emergency. (5)
6. Respond to medical emergencies and execute basic life support procedures. (5)
7. Provide patient-centered clinically effective care for all patients regardless of age, gender, disability, special needs, ethnicity or culture. (6)
8. Integrate the use of written, oral and nonverbal communication with patients, the public and members of the health care team in the clinical setting. (7)
9. Describe the influence of personal and professional values on patient care. (8)
10. Use patient and family education strategies. (9)
11. Provide psychosocial support to the patient and family. (10)
12. Assess the patient and record clinical history. (11)
13. Examine demographic factors that influence patient compliance with medical care. (12)
14. Apply standard and transmission-based precautions. (13)
15. Apply medical asepsis and sterile technique. (14)
16. Apply radiation protection standards. (15)
17. Report equipment malfunctions. (16)
18. Examine procedure orders for accuracy and make corrective actions when applicable. (17)
19. Integrate the radiographer's safe, ethical and legal practice standards into the clinical setting. (18)
20. Maintain patient confidentiality and meet HIPAA requirements. (19)
21. Utilize body mechanic principles when transferring, positioning and immobilizing patients. (20-23)
22. Adhere to national, institutional and departmental standards, policies and procedures regarding care of patients, radiologic procedures and reducing medical errors. (24)
23. Select technical factors to produce diagnostic images with the lowest radiation exposure possible. (25)
24. Critique images for appropriate anatomy, image quality and patient identification. (26)
25. Determine and apply measures to correct inadequate images. (26)
26. Perform radiographic exams as outlined in the Competency Requirements for Primary Certification of the ARRT. (27)

3.000 Credit hours  
 0.000 Lecture hours  
 9.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Allied Health Services Department

#### **Course Attributes:**

Info Literacy (IL)



**RAD 200 - Radiology Clinical Education III****COURSE DESCRIPTION:**

RAD 200. Radiology Clinical Education III (7). Advancement of radiographic skills and the addition of new competencies to complete a semester benchmark of selected radiographic competencies. Advanced organizational skills, speed and accuracy in the performance of clinical competencies. Competency based experiences support the acquisition of limited working proficiency in patient care and radiographic positioning skills. Prerequisite: RAD 220. Twenty-one lab. A-F grading only.

**COURSE CONTENT:**

1. Scope of practice
2. Procedural performance
3. Team concepts
4. Adaptation
5. Emergency preparedness
6. Diversity
7. Communication
8. Patient education
9. Psychosocial considerations
10. Assessment
11. Standard precautions
12. Sterile technique
13. Radiation protection
14. Equipment malfunction
15. Procedure orders
16. Safety, ethical and legal standards
17. Health Insurance Portability and Accountability Act (HIPAA)
18. Body mechanics
19. Patient transfers
20. Patient positioning
21. Immobilization
22. Protocols
23. Technical considerations
24. Image critique and repeat images
25. American Registry of Radiologic Technologists (ARRT) competency requirements

**LEARNING OUTCOMES:**

1. Manage the priorities required in daily clinical practice. (1)
2. Execute medical imaging procedures under the appropriate level of supervision. (2)
3. Adhere to team practice concepts that focus on organizational theories, roles of team members and conflict resolution. (3)
4. Adapt to changes and varying clinical situations. (4)
5. Respond to medical emergencies and execute basic life support procedures. (5)
6. Provide patient-centered clinically effective care for all patients regardless of age, gender, disability, special needs, ethnicity or culture. (6)
7. Integrate the use of written, oral and nonverbal communication with patients, the public and members of the health care team in the clinical setting. (7)
8. Use patient and family education strategies. (8)
9. Provide psychosocial support to the patient and family. (9)
10. Assess the patient and record clinical history. (10)
11. Apply standard and transmission-based precautions. (11)
12. Apply medical asepsis and sterile technique. (12)
13. Apply radiation protection standards. (13)
14. Report equipment malfunctions. (14)
15. Examine procedure orders for accuracy and make corrective actions when applicable. (15)
16. Integrate the radiographer's safe, ethical and legal practice standards into the clinical setting. (16)
17. Maintain patient confidentiality and meet HIPAA requirements. (17)
18. Utilize body mechanic principles when transferring, positioning and immobilizing patients. (18-21)
19. Adhere to national, institutional and departmental standards, policies and procedures regarding care of patients, radiologic procedures and reducing medical errors. (22)
20. Select technical factors to produce diagnostic images with the lowest radiation exposure possible. (23)
21. Critique images for appropriate anatomy, image quality and patient identification. (24)
22. Determine and apply measures to correct inadequate images. (24)
23. Perform radiographic exams as outlined in the Competency Requirements for Primary Certification of the ARRT. (25)

7.000 Credit hours  
 0.000 Lecture hours  
 21.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab

Sciences, Health & Public Safe Division  
 Allied Health Services Department

**Course Attributes:**

Oral Communication (OC)

**RAD 220 - Radiobiology and Radiation Protection****COURSE DESCRIPTION:**

RAD 220. Radiobiology and Radiation Protection (3). Principles of the interaction of ionizing radiation and biological systems. Includes concepts of radiation protection. Prerequisite: RAD 160. Corequisite: RAD 180. Three lecture. A-F grading.

**COURSE CONTENT:**

1. Introduction to basic cellular biology and types of ionizing radiation
2. Radiation Energy Transfer
3. Radiation effects
4. Radiosensitivity and response
5. Radiation protection programs
6. Units, detection, and measurement
7. Surveys, regulatory/advisory agencies
8. Personnel monitoring
9. Application of radiation protection in construction design
10. Patient protection

**LEARNING OUTCOMES:**

1. Describe principles of cellular biology. (1)

2. Discriminate between direct and indirect ionizing radiation. (2)
3. Describe radiation induced chemical reactions and potential biologic damage. (2)
4. Describe physical, chemical and biologic factors influencing cell and tissue response. (3)
5. Explain factors influencing radiosensitivity of least and most radiosensitive cells. (4)
6. Interpret dose response curves for dose levels and the degree of biologic response. (4)
7. Identify specific diseases associated with somatic and genetic radiation effects. (4)
8. Discuss embryo and fetal effects of radiation exposure, radiation-induced malignancies and acute radiation syndromes. (4)
9. Explain the objectives of a radiation safety program which include the ALARA concept, occupational exposure limits, personnel monitoring devices and dosimetry reports. (5)
10. Define radiation and radioactivity units of measurement. (6)
11. Identify effective dose limits (EDL) for occupational and non-occupational radiation exposure. (6,8)
12. Identify dose equivalent limits for the embryo and fetus in occupationally exposed women. (6,8)
13. Explain the functions of performance standards, surveys, regulations, regulatory and advisory agencies related to radiation protection. (7)
14. Explain the requirements, methods, types, and records of personnel monitoring. (8)
15. Describe the application and regulations of radiation protection principles including calculations of exposure with varying time, distance and shielding. (9)
16. Explain the operation of various x-ray and ancillary equipment with regard to radiation safety. (10)
17. Describe the potential radiation safety consequences of equipment failure. (10)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit  
Schedule Types: Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

Course Attributes:  
Written Comm (WC)

#### **RAD 230 - Radiology Pharmacology**

##### COURSE DESCRIPTION:

RAD 230. Radiology Pharmacology (1). Basic concepts of radiology pharmacology. Includes techniques of venipuncture and administration of diagnostic contrast agents and intravenous medications. Prerequisite: RAD 200. Corequisite: RAD 240 and RAD 250 and RAD 260. One lecture. A-F grading only.

##### COURSE CONTENT:

1. Drug nomenclature and classifications
2. Pharmacologic principles
3. Six rights of drug safety
4. Drug categories of relevance to radiography
5. Contrast agents
6. Routes of drug administration
7. Venipuncture
8. Current practice standards

##### LEARNING OUTCOMES:

1. Distinguish between the chemical, generic and trade names for select drugs. (1)
2. Describe pharmacokinetic and pharmacodynamic principles of drugs. (2)
3. Explain the actions, uses and side effects for select drugs. (2)
4. Identify and describe the routes of drug administration. (3)
5. Explain the effects of select drugs on medical imaging procedures. (4)
6. Define the categories of contrast agents and give examples for each category. (5)
7. Explain the pharmacology of contrast agents. (5)
8. Describe the methods and techniques for administering various types of contrast agents. (6)
9. Differentiate between the two major sites of intravenous drug administration. (6,7)
10. Discuss the purposes and advantages of intravenous drug administration. (6)
11. Identify, describe and document complications associated with venipuncture and appropriate actions to resolve these complications. (7)
12. Differentiate and document dose calculations for adult and pediatric patients. (7)
13. Explain the current legal status and professional liability issues of the radiographer's role in contrast and/or drug administration. (8)

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit  
Schedule Types: Lecture

Sciences, Health & Public Safe Division  
Allied Health Services Department

#### **RAD 240 - Radiology Clinical Education IV**

##### COURSE DESCRIPTION:

RAD 240. Radiology Clinical Education IV (3). Refinement of advanced skills and completion of a semester benchmark of selected radiographic competencies. Supervised clinical assignments focus on progressively increasing levels of independent judgment in the performance of clinical competencies. Competency based experiences support the acquisition of advanced patient care and radiographic positioning skills. Prerequisite: RAD 200. Corequisite: RAD 230 and RAD 250 and RAD 260. Nine lab. A-F grading only.

##### COURSE CONTENT:

1. Scope of practice
2. Procedural performance
3. Team concepts
4. Adaptation
5. Emergency preparedness
6. Diversity
7. Communication
8. Patient education
9. Psychosocial considerations
10. Assessment
11. Standard precautions
12. Sterile technique
13. Radiation protection
14. Equipment malfunction

15. Procedure orders
16. Safety, ethical and legal standards
17. Health Insurance Portability and Accountability Act (HIPAA)
18. Body mechanics
19. Patient transfers
20. Patient positioning
21. Immobilization
22. Protocols
23. Technical considerations
24. Image critique and repeat images
25. American Registry of Radiologic Technologists (ARRT) competency requirements

**LEARNING OUTCOMES:**

1. Manage the priorities required in daily clinical practice. (1)
2. Execute medical imaging procedures under the appropriate level of supervision. (2)
3. Adhere to team practice concepts that focus on organizational theories, roles of team members and conflict resolution. (3)
4. Adapt to changes and varying clinical situations. (4)
5. Respond to medical emergencies and execute basic life support procedures. (5)
6. Provide patient-centered clinically effective care for all patients regardless of age, gender, disability, special needs, ethnicity or culture. (6)
7. Integrate the use of written, oral and nonverbal communication with patients, the public and members of the health care team in the clinical setting. (7)
8. Use patient and family education strategies. (8)
9. Provide psychosocial support to the patient and family. (9)
10. Assess the patient and record clinical history. (10)
11. Apply standard and transmission-based precautions. (11)
12. Apply medical asepsis and sterile technique. (12)
13. Apply radiation protection standards. (13)
14. Report equipment malfunctions. (14)
15. Examine procedure orders for accuracy and make corrective actions when applicable. (15)
16. Integrate the radiographer's safe, ethical and legal practice standards into the clinical setting. (16)
17. Maintain patient confidentiality and meet HIPAA requirements. (17)
18. Utilize body mechanic principles when transferring, positioning and immobilizing patients. (18-21)
19. Adhere to national, institutional and departmental standards, policies and procedures regarding care of patients, radiologic procedures and reducing medical errors. (22)
20. Select technical factors to produce diagnostic images with the lowest radiation exposure possible. (23)
21. Critique images for appropriate anatomy, image quality and patient identification. (24)
22. Determine and apply measures to correct inadequate images. (24)
23. Perform radiographic exams as outlined in the Competency Requirements for Primary Certification of the ARRT. (25)

3.000 Credit hours  
 0.000 Lecture hours  
 9.000 Lab hours

**Levels:** Credit**Schedule Types:** Lecture

Sciences, Health & Public Safe Division  
 Allied Health Services Department

**Course Attributes:**

Creative Thinking (CR), Critical Thinking (CT)

**RAD 250 - Radiographic Pathology****COURSE DESCRIPTION:**

RAD 250. Radiographic Pathology (2). Concepts of disease and the etiology of selected pathologic conditions. Emphasis on the radiographic appearance of various diseases and the influence of pathologic conditions on exposure factor selection. Prerequisite: RAD 200. Corequisite: RAD 230 and RAD 240 and RAD 260. Two lecture. A-F grading only.

**COURSE CONTENT:**

1. Terminology
2. Manifestations of pathology
3. Trauma classifications
4. Disease process
5. Healing process
6. Systemic classifications
7. Radiographic pathology
8. Imaging procedures
9. Genetics

**LEARNING OUTCOMES:**

1. Define basic terms related to pathology. (1)
2. Describe basic manifestations of pathological conditions and their relevance to radiologic procedures. (2)
3. Discuss the classifications of trauma. (3)
4. Describe the disease process, causes of tissue disruption and complications connected with the repair and replacement of tissue. (4)
5. Describe the healing process.(5)
6. Describe systemic classifications of disease in terms of etiology, types, common sites, complications and prognosis. (6)
7. Identify selected radiographic pathology. (7)
8. Identify imaging procedures and interventional techniques appropriate for diseases common to each body system. (8)
9. Identify diseases caused by genetic factors. (9)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Lecture

Sciences, Health & Public Safe Division  
 Allied Health Services Department

**Course Attributes:**

Digital Lit (DL)

**RAD 260 - Advanced Imaging Systems**

**COURSE DESCRIPTION:**

RAD 260. Advanced Imaging Systems (3). Overview of the various fields of medical imaging with a focus on Computed Tomography. Prerequisite: RAD 200. Corequisite: RAD 230 and RAD 240 and RAD 250. Three lecture. A-F grading only.

**COURSE CONTENT:**

1. Imaging modalities
2. Modality principles
3. Modality integration
4. Radiation safety
5. Computed Tomography (CT) Fundamentals
6. CT system components, operations & processes
7. Data acquisition and image processing
8. CT equipment and instrumentation
9. CT image quality and artifacts
10. CT procedures
11. CT radiation protection
12. CT cross-sectional anatomy

**LEARNING OUTCOMES:**

1. Explain the energies used to generate images in medical imaging. (1)
2. Explain the theoretical principles and the practical applications of various specialties within medical imaging. (2)
3. Define and discuss modality integration. (3)
4. Describe radiation and other safety practices within the modalities. (4)
5. Explain the benefits and clinical applications of CT scan technology. (5)
6. Describe the components, operations and processes of the CT imaging system. (6)
7. Describe the function of the array processor used for image processing and reconstruction. (7)
8. Name the common controls found on CT operator consoles and describe their usages. (8)
9. Identify and describe artifacts most commonly affecting CT images and how they can be reduced or eliminated. (9)
10. List and describe common procedures and techniques used in CT. (10)
11. Describe the application of radiation protection devices used in CT. (11)
12. Identify cross-sectional anatomy for common procedures of the head, chest and abdomen. (12)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Sciences, Health & Public Safe Division  
 Allied Health Services Department

### [RAD 270 - Radiology Registry Review](#)

**COURSE DESCRIPTION:**

RAD 270. Radiology Registry Review (3). Review of standard subject materials in preparation for the American Registry of Radiologic Technologists (ARRT) Examination. Prerequisite: RAD 260. Three lecture. A-F grading only.

**COURSE CONTENT:**

1. ARRT categories
2. Review process
3. Study strategies
4. Resources
5. Radiation protection
6. Equipment and quality control
7. Image production and analysis
8. Procedures
9. Patient care

**LEARNING OUTCOMES:**

1. Identify categories of the registry examination including content areas and associated concepts within each category. (1)
2. Outline a plan for the review process. (2)
3. Identify strategies to enhance and improve retention of radiographic concepts and skills and determine personal focus areas of study. (3)
4. Utilize various review resources including books, CDs, and on-line materials to augment examination preparation. (4)
5. Summarize the concepts of radiation protection. (5)
6. Evaluate the main points of equipment operation and quality control. (6)
7. Summarize the principles of image production and analysis. (7)
8. Describe the required radiographic procedures including anatomy, positioning, and pathology. (8)
9. Explain the standards of patient care in the radiologic sciences. (9)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lecture

Sciences, Health & Public Safe Division  
 Allied Health Services Department

### [RAD 280 - Radiology Clinical Education V](#)

**COURSE DESCRIPTION:**

RAD 280. Radiology Clinical Educaiton V (3). Completion of program competencies and observational experiences in advanced imaging modalities. Supervised clinical assignments to achieve mastery of radiographic positioning and patient care skills outlined in the Competency Requirements for Primary Certification of the American Registry of Radiologic Technologists (AART). Skills are refined in preparation to join the workforce as an entry-level practitioner. Prerequisite: RAD 260. Nine lab. A-F grading only.

**COURSE CONTENT:**

1. Scope of practice
2. Procedural performance
3. Team concepts
4. Adaptation
5. Emergency preparedness

6. Diversity
7. Communication
8. Patient education
9. Psychosocial considerations
10. Assessment
11. Standard precautions
12. Sterile technique
13. Radiation protection
14. Equipment malfunction
15. Procedure orders
16. Safety, ethical and legal standards
17. Health Insurance Portability and Accountability Act (HIPAA)
18. Body mechanics
19. Patient transfers
20. Patient positioning
21. Immobilization
22. Protocols
23. Technical considerations
24. Image critique and repeat images
25. American Registry of Radiologic Technologists (ARRT) competency requirements

**LEARNING OUTCOMES:**

1. Manage the priorities required in daily clinical practice. (1)
2. Execute medical imaging procedures under the appropriate level of supervision. (2)
3. Adhere to team practice concepts that focus on organizational theories, roles of team members and conflict resolution. (3)
4. Adapt to changes and varying clinical situations. (4)
5. Respond to medical emergencies and execute basic life support procedures. (5)
6. Provide patient-centered clinically effective care for all patients regardless of age, gender, disability, special needs, ethnicity or culture. (6)
7. Integrate the use of written, oral and nonverbal communication with patients, the public and members of the health care team in the clinical setting. (7)
8. Use patient and family education strategies. (8)
9. Provide psychosocial support to the patient and family. (9)
10. Assess the patient and record clinical history. (10)
11. Apply standard and transmission-based precautions. (11)
12. Apply medical asepsis and sterile technique. (12)
13. Apply radiation protection standards. (13)
14. Report equipment malfunctions. (14)
15. Examine procedure orders for accuracy and make corrective actions when applicable. (15)
16. Integrate the radiographer's safe, ethical and legal practice standards into the clinical setting. (16)
17. Maintain patient confidentiality and meet HIPAA requirements. (17)
18. Utilize body mechanic principles when transferring, positioning and immobilizing patients. (18-21)
19. Adhere to national, institutional and departmental standards, policies and procedures regarding care of patients, radiologic procedures and reducing medical errors. (22)
20. Select technical factors to produce diagnostic images with the lowest radiation exposure possible. (23)
21. Critique images for appropriate anatomy, image quality and patient identification. (24)
22. Determine and apply measures to correct inadequate images. (24)
23. Perform radiographic exams as outlined in the Competency Requirements for Primary Certification of the ARRT. (25)

3.000 Credit hours  
 0.000 Lecture hours  
 9.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Lab

Sciences, Health & Public Safe Division  
 Allied Health Services Department

**RBT 101 - Trade Skills I**

**COURSE DESCRIPTION:**

RBT 101. Trade Skills I (7) (Fall). Introduction to some of the primary trades associated with residential construction. Includes carpentry, concrete, masonry, roofing and drywall. Prerequisite: RBT 111 (may be taken concurrently) and RBT 112 (may be taken concurrently). Two lecture. Ten lab.

**COURSE CONTENT:**

1. Tool use
2. Toolbox safety
3. Conventional & advanced framing techniques
4. House layout on lot
5. Concrete forming and placement
6. Stem wall construction
7. Roofing systems
8. House envelop wrap and exterior foam insulation
9. Window and door installation
10. Caulking, painting and insulation

**LEARNING OUTCOMES:**

1. Apply safety techniques when using tools. (1,2)
2. Apply conventional and advanced framing techniques to construct walls and roofs. (3,6,7)
3. Use industry standard layout, masonry skills and concrete forming techniques to construct foundations. (4-6)
4. Determine the trade skills and materials needed to completely dry-in a single-family residence. (7-10)

7.000 Credit hours  
 2.000 Lecture hours  
 10.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Building Technology Department

**RBT 102 - Trade Skills II**

**COURSE DESCRIPTION:**

RBT 102. Trade Skills II (7) (Spring). Primary trade skills associated with residential construction. Includes reinforcement of framing, concrete, masonry, roofing and drywall techniques as well as an introduction to electrical wiring and trim carpentry. Prerequisite: RBT 101 and RBT 115 (may be taken concurrently) and RBT 122 (may be taken concurrently). Two lecture. Ten lab.

**COURSE CONTENT:**

1. Tool use
2. Toolbox safety
3. Conventional & advanced framing techniques
4. House layout on lot
5. Concrete forming and placement
6. Stem wall construction
7. Roofing systems
8. House envelop wrap and exterior foam insulation
9. Window and door installation
10. Caulking, painting and insulation
11. Electrical wiring for residential construction
12. Trim Carpentry

**LEARNING OUTCOMES:**

1. Apply safety techniques when using tools. (1,2)
2. Select the appropriate skill set to construct the "shell" of a single-family dwelling. (3-10)
3. Apply industry standard electrical wiring skills to rough-in and trim a single-family dwelling. (11)
4. Install house wrap and apply foam insulation. (8)
5. Install windows and doors. (9)
6. Trim the interior of a house. (12)

7.000 Credit hours  
2.000 Lecture hours  
10.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Building Technology Department

**RBT 105 - Be Your Own Contractor****COURSE DESCRIPTION:**

RBT 105. Be Your Own Contractor (3) (Fall). Maximize your building experience while minimizing your anguish. From permitting to completion, including site and house selections, choosing subs and suppliers, estimating and scheduling the entire project. Three lecture.

**COURSE CONTENT:**

1. Building permit requirements
2. Building code requirements
3. Zoning requirements
4. Utility requirements
5. Local, state and federal tax requirements
6. Site selection
7. Plan selection
8. Estimating & bidding construction costs
9. Contracting with subcontractors
10. Scheduling and project management
11. Employer regulations
12. Environmental and safety requirements

**LEARNING OUTCOMES:**

1. Apply for a building permit. (1-4, 6, 7)
2. Locate a house plan on a lot. (3, 4, 6, 7)
3. Estimate and bid the cost of building a house. (5, 7-9)
4. Select contracts with subcontractors and suppliers. (8,9)
5. Schedule and manage a house building project. (9-12)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Building Technology Department

**RBT 110 - Residential Building I****COURSE DESCRIPTION:**

RBT 110. Residential Building I (7) (Fall). Progressive and innovative residential building for the 21st century. Includes the use of building materials, systems, and technologies to build healthy, safe, durable, comfortable, environmentally responsive houses. Prerequisite: RBT 102. Two lecture. Ten lab.

**COURSE CONTENT:**

1. Jobsite safety and tool use
2. Building site, house layout and utilities
3. Construction drawings and documents
4. Building codes, permits, and inspections
5. Building science principles and practices
6. Foundation and water management
7. Building enclosure
8. Roofing

**LEARNING OUTCOMES:**

1. Prescribe jobsite safety practices and correct tool use. (1)
2. Lay out a house on a lot. (2-5)

3. Apply building-science principles to mainstream construction practices. (2-8)
4. Interpret construction drawings and documents. (2-8)
5. Discuss the construction of a house through the dry-in stage. (1-8)
6. Construct a house through the dry-in stage. (1-8)

7.000 Credit hours  
2.000 Lecture hours  
10.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Building Technology Department

### **RBT 111 - Residential Technology I**

#### **COURSE DESCRIPTION:**

RBT 111. Residential Technology I (3) (Fall). Building a home in the 21st century - inception to rough in. Green, sustainable and building science principles applied to mainstream construction techniques. Three lecture.

#### **COURSE CONTENT:**

1. Green & sustainable building principles
2. Building science principles
3. Building site management
4. House plans and documents
5. Building permits, building codes, and zoning ordinances
6. House foundation systems
7. Barriers: air, moisture, thermal
8. House exterior wall systems
9. Conventional & advanced framing techniques
10. Roofing materials
11. Windows and exterior door systems

#### **LEARNING OUTCOMES:**

1. Apply green, sustainable, and building science principles to residential design & construction. (1-1)
2. Assemble the necessary documents to apply for a residential building permit. (4, 5)
3. Discuss the benefits of effective water-management around house foundations. (1-3, & 6-8)
4. Compare climate-specific building materials, systems and technologies used in residential construction. (2, 6 - 11)
5. Discuss the energy saving advantages of advanced framing over conventional framing (1, 2, 5, 8 & 9)
6. Discuss the building process of a green/sustainable, single-family residence through the rough-in stage. (1 - 11)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Building Technology Department

### **RBT 112 - Construction Drawings and Documents**

#### **COURSE DESCRIPTION:**

RBT 112. Construction Drawings and Documents (3) (Fall). Reading and understanding of residential construction documents including architectural plans, specifications, and construction working drawings. Three lecture.

#### **COURSE CONTENT:**

1. Introduction to the IRC (International Residential Code) Chapter 3
2. Architectural & engineering scales
3. Architectural terminology
4. Orthographic projection
5. Architectural sketching
6. Complete sets of architectural drawings for residential construction
7. Material schedules

#### **LEARNING OUTCOMES:**

1. Identify types of plans, alphabet of lines, drawing notations, and architectural symbols. (3-7)
2. Use an architectural or engineering scale to read and mark off print dimensions. (2,6)
3. Interpret and sketch construction procedures from plans and on-site observation. (5,6)
4. Identify specific construction items from material schedules. (6,7)
5. Interpret various residential construction drawings. (1,4, 6,7)
6. Apply basic code requirements for a single-family dwelling. (1,6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Building Technology Department

### **RBT 114 - Autocad I**

#### **COURSE DESCRIPTION:**

RBT 114. AutoCAD I (3) (Fall). Introduction to theory and application of computer-aided drafting for production of residential working drawings. Two lecture. Three lab.

#### **COURSE CONTENT:**

1. AutoCAD software configuration/operation procedure
2. AutoCAD software

3. Starting an AutoCAD 2-D drawing
4. Adding objects
5. 2-D input, output and file management
6. Modifying a 2-D drawing
7. 2-D groups and windows
8. Advanced functions

## LEARNING OUTCOMES:

1. Install AutoCAD software. (2)
2. Identify the principle operating components of AutoCAD hardware/software. (1,2)
3. Use AutoCAD commands to: (2-7)
  - a. Setup and use drawing aids
  - b. Save drawings and get help
  - c. Draw and erase lines
  - d. Draw basic shapes
  - e. Perform geometric construction and object snap
  - f. Drawing display options
  - g. Place text in a drawing
  - h. Perform basic editing commands
  - i. Create multiple entities
  - j. Perform basic dimensioning.
4. Use the AutoCAD software to create a multi-layered residential construction drawing. (8)
5. Create a set of residential blueprints. (8)
  - a. Floor plans
  - b. Elevations

3.000 Credit hours  
 2.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Directed Study, Lab, Lecture, Lecture/Lab

Career & Technical EdOBS Division  
 Building Technology Department

**RBT 115 - Advanced Plan Reading**

## COURSE DESCRIPTION:

RBT 115. Advanced Plan Reading (2) (Spring). Advancement of plan reading skills. Topics include site plan issues, use of GIS system, beam, floor and point load calculations, and Braced Wall Panels. Prerequisite: RBT 112. Two lecture.

## COURSE CONTENT:

1. Complete sets of architectural drawings for residential construction
2. Topographic and site plans
3. Local municipality site plan requirements
4. Global Information System (GIS)
5. Septic systems
6. International Residential Code (IRC)
7. Linear, area and volume calculations and algebraic formulas
8. Beam, floor and point load calculations
9. Braced Wall Panels

## LEARNING OUTCOMES:

1. Fill out local site plan requirements for a building permit. (1-5, 7)
2. Fill out a septic application for Yavapai County. (1-5, 7)
3. Calculate beam sizes for residential construction based upon the currently adopted International Residential Code (IRC). (1, 6-8)
4. Explain the basics of braced wall panel (BWP) placement in a simple single-family dwelling. (6,9)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
 Building Technology Department

**RBT 116 - Building Inspector Fundamentals**

## COURSE DESCRIPTION:

RBT 116. Building Inspector Fundamentals (1) (Spring). Overview of the current International Residential Code (IRC) and the International Energy Conservation Code (IECC). Emphasis on code understanding and interpretation in preparation for taking an entry-level building inspectors exam. Prerequisite: RBT 115 (may be taken concurrently). One lecture.

## COURSE CONTENT:

1. International Residential Code (IRC)
2. International Energy Efficiency Code (IECC) - residential section
3. Arizona Revised Statutes (ARS)
4. Americans with Disabilities Act (ADA)
5. Local municipalities' code adoption ordinances
6. Building permit requirements
7. Architectural plan reviews
8. Simple single-family dwelling architectural plans

## LEARNING OUTCOMES:

1. Use the terminology and language of the building codes. (1-5)
2. Locate and reference specific IRC and IECC sections that apply to the design of a single-family dwelling. (1,2)
3. Plan the order of building inspections applicable to the construction of a single-family dwelling. (1,3,5,7)
4. Assess specific adoption ordinances applicable to residential building construction. (5)
5. Determine building permit requirements for a simple single-family dwelling. (6-8)
6. Review an architectural set of plans for minimum code compliance. (1-8)



1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Building Technology Department

### **RBT 121 - Residential Building II**

**COURSE DESCRIPTION:**

RBT 121. Residential Building II (7) (Spring). Progressive and innovative residential building for the 21st century. Includes the use of building materials, systems and technologies to build healthy, safe, durable, comfortable, environmentally responsive houses from dry-in to completion. Prerequisite: RBT 110. Two lecture. Ten lab.

**COURSE CONTENT:**

1. Jobsite safety and tool use
2. Building codes, permits, and inspections
3. Building science principles and practices
4. Interior building enclosure elements
5. Plumbing, electrical, and HVAC systems
6. Interior trims and finishes
7. Exterior finishes
8. Concrete flatwork

**LEARNING OUTCOMES:**

1. Apply jobsite safety practices and tool use. (1)
2. Apply building-science principles to mainstream construction practices. (3-8)
3. Organize a list of required code inspections for a single-family dwelling. (2)
4. Summarize the construction process of a single-family dwelling. (2-8)
5. Utilize carpentry and electrical skills to complete the construction of a single-family dwelling from the dry-in stage. (3-8)

7.000 Credit hours  
 2.000 Lecture hours  
 10.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Building Technology Department

### **RBT 122 - Residential Technology II**

**COURSE DESCRIPTION:**

RBT 122. Residential Technology II (3) (Spring). Building a home in the 21st century – rough in to completion. Green, sustainable and building science principles applied to mainstream construction techniques. Prerequisite: RBT 111. Three lecture. **COURSE CONTENT:**

1. Green & sustainable building principles
2. Building science principles
3. Interior air quality and VOCs
4. EnergyStar standards
5. Mechanical systems
6. Insulation systems
7. Barriers: air, moisture, thermal
8. Interior finish materials
9. Exterior claddings
10. Accessory structures and materials

**LEARNING OUTCOMES:**

1. Apply green, sustainable, and building science principles to residential design & construction. (1 - 9)
2. Compare climate-specific building materials, systems and technologies used in residential construction. (2, 3, 5 - 10)
3. Apply EnergyStar and energy code standards to residential construction. (2 - 4)
4. Integrate basic design elements to construct an energy efficient, single-family residence. (1 - 9)
5. Discuss the building process of a green/sustainable, single-family residence. (1 - 10)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Building Technology Department

### **RBT 123 - Estimating and Bidding**

**COURSE DESCRIPTION:**

RBT 123. Estimating and Bidding (3) (Spring). Fundamental principles and practices of residential construction estimating and bidding. Includes reading working drawings and written specifications to produce material quantity take-offs, estimate labor time and costs, and assess overhead costs and profit margins. Emphasis is on computer-assisted cost estimating. Prerequisite: RBT 116. Three lecture.

**COURSE CONTENT:**

1. Elements of an estimate
2. Mathematics for the estimator
3. Quantity take off techniques for various construction phases
4. Pricing techniques used in estimating construction costs
5. Labor, materials and equipment estimates
6. General expenses, overhead and profit markups
7. Computer-assisted construction cost estimating
8. Estimating and bidding forms

**LEARNING OUTCOMES:**

1. Create quantity take offs for various construction phases, tasks, and activities. (1-3)
2. Use standard construction industry techniques to price an estimate. (3-6)
3. Assess general expenses and overhead costs and determine profit margins to include in a cost proposal. (6)
4. Input quantity and cost data into computer applications to derive a project cost. (7)
5. Formulate cost estimates for various types of residential construction projects. (7-8)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Building Technology Department

**RBT 126 - Autocad II****COURSE DESCRIPTION:**

RBT 126. AutoCAD II (3) (Fall). Advanced theory and application of computer-aided drafting for production of residential working drawings. Emphasis on using AutoCAD for advanced 2-dimensional design of site, foundation, floor and roof plans, elevations, building sections, and other working drawing details. Prerequisite: RBT 114. Two lecture. Three lab.

**COURSE CONTENT:**

1. Placing patterns in drawing objects
2. Inquiry commands
3. Placing text on a drawing
4. Introduction to dimensions
5. Placing dimensions on drawings
6. Block creation and enhancement
7. Oblique and isometric drawings
8. Multiple drawings
9. Combining drawings using XREF
10. Layouts and viewpoints
11. Sheet sets
12. Controlling output

**LEARNING OUTCOMES:**

1. Produce drawings such as site, foundation, floor, framing and roof plans, elevations, details, and sections. (1-12)
2. Edit an entire drawing to produce other similar drawings. (7,9)
3. Apply dimensioning methods and techniques. (3,4)
4. Place text with a drawing. (3)
5. Create varied text and dimensioning styles. (3,4)
6. Create symbol libraries to increase drawing speed and efficiency. (1)
7. Produce a complete set of residential working drawings. (1-12)

3.000 Credit hours  
 2.000 Lecture hours  
 3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
 Building Technology Department

**RBT 131 - International Residential Code****COURSE DESCRIPTION:**

RBT 131. International Residential Code (3). Overview of the regulations that govern the safety of residential construction. Using the International Residential Code and the International Energy Code (2006) as the basis for understanding building safety requirements. Includes the design, construction, use, occupancy, and location of residential dwellings. Three lecture.

**COURSE CONTENT:**

1. Administrative provisions and definitions
2. Building planning
3. Foundations and footings
4. Floor framing
5. Wall framing
6. Roof framing
7. Wall coverings and roofing
8. Chimneys and fireplaces
9. Energy efficiency
10. HVAC equipment
11. Plumbing installations
12. Electrical wiring
13. Building standards
14. Energy efficiency compliance

**LEARNING OUTCOMES:**

1. Explain the history and development of international residential code and reasons for their necessity. (1)
2. Use the terminology and language of the international residential code. (2-14)
3. Locate and reference specific international residential codes that apply to the design and construction of a residence. (2-14)
4. Request, from the appropriate building inspection department, required sequential inspections. (1)
5. Identify and apply appropriate residential codes and related procedures to the building design and construction. (2-14)
6. Apply energy-efficient code requirements to the construction of a residence. (9,14)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Building Technology Department

### RBT 132 - International Residential Code Changes

#### COURSE DESCRIPTION:

RBT 132. International Residential Code Changes (1). Review of significant changes from the 2006 IRC to the 2012 IRC. Designed for contractors, building officials, architects, engineers, and tradespeople. One lecture.

#### COURSE CONTENT:

1. The 2012 International Residential Code
2. Review of the 2006 International Residential Code
3. Significant changes to: structural chapters, mechanical chapters, and energy efficient chapters of the Code

#### LEARNING OUTCOMES:

1. Use terminology and language of the International Residential Code. (1-3)
2. Locate and reference specific changes from the 2006 IRC to the 2012 IRC. (1-3)

1.000 Credit hours  
1.000 Lecture hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Building Technology Department

### RBT 152 - Project Management and Scheduling

#### COURSE DESCRIPTION:

RBT 152. Project Management and Scheduling (3) (Spring). Project management to achieve consistent construction project success. Includes challenges of tight budgets, contracted deadlines, defined resources, and personnel management on residential construction projects. Use of computer project scheduling tools to create bar charts and schedules. Prerequisite: RBT 153 (may be taken concurrently). Three lecture.

#### COURSE CONTENT:

1. Introduction to project management and project scheduling
2. Use of construction documents on the job site
3. Project planning, organizing, and scheduling
4. Computer scheduling and project management software
5. Spreadsheets and Work Breakdown Structure (WBS) lists
6. Critical Path Method and bar chart scheduling utilizing computer programs
7. Monitoring project schedules, construction costs and time constraints

#### LEARNING OUTCOMES:

1. Identify project requirements from construction plans, documents and specifications. (1,2)
2. Plan a construction project from start to completion. (1-7)
3. Build a Work Breakdown Structure (WBS) for various aspects of construction. (3-6)
4. Build a Gantt Chart of a construction project. (3-6)
5. Build a Critical Path Method (CPM) chart of a construction project. (3-6)
6. Create a project schedule using computer software. (4)
7. Adjust a project schedule to accommodate unexpected personnel, cost and material changes. (3,6,7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Building Technology Department

### RBT 153 - Residential Construction Supervision

#### COURSE DESCRIPTION:

RBT 153. Residential Construction Supervision (2) (Spring). Residential construction supervision techniques, skills, and conceptual tools for running efficient and profitable building projects. Prerequisite: RBT 111 and RBT 115 and RBT 122. Two lecture.

#### COURSE CONTENT:

1. Residential construction contracting
2. Construction bookkeeping and reports
3. Construction contracts
4. Project cost estimating and bidding
5. Project management and administration
6. Project safety practices - OSHA
7. Managing employees, subcontractors and customers
8. Software for the construction industry

#### LEARNING OUTCOMES:

1. Analyze and use a variety of standard residential estimating and bidding documents. (1-4)
2. Differentiate between various types of construction contracts. (3)
3. Use standard construction financial forms. (3, 4, 8)
4. Use project scheduling charts. (5, 8)
5. Assess and use software programs for construction financial record keeping, estimating and project management. (2, 4, 5, 8)
6. Describe a project safety plan. (6)
7. Utilize management techniques when working with employees, subcontractors and customers. (7)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Lecture

Career & Technical Education Division  
Building Technology Department

### RBT 161 - Construction Business Management

#### COURSE DESCRIPTION:

RBT 161. Construction Business Management (3) (Fall). Fundamentals of business management for Arizona contractor license applicants. Preparation for the Arizona Registrar of Contractor's business management examination, including contract law, business ownership types, accounting fundamentals, employer obligations and business math. Three lecture.

#### COURSE CONTENT:

1. Planning and organizing a business
2. Business risk management
3. Construction project management
4. Business math
5. Arizona and Federal environmental and safety considerations
6. Arizona and Federal employer obligations
7. Financial management
8. Arizona contract law
9. Obtaining a contractor's license
10. Incorporating a business and registering a trade name
11. Arizona business taxes
12. Income tax regulations
13. Arizona mechanics lien law

#### LEARNING OUTCOMES:

1. Discuss the importance of a business plan when starting a new business. (1-2)
2. Identify the risks associated with construction contracting. (2, 3, 7, 10)
3. Choose the appropriate insurance policies and required bonding necessary to protect the contractor and customer. (2, 9)
4. Discuss job site environmental issues and safety. (5)
5. Interpret financial statements and contracts basic to managing a contracting business. (4, 7, 8)
6. Describe the steps to obtain a contractor's license. (9)
7. Discuss sales, payroll, and income taxes and their applicability to a construction business. (4, 6, 7, 11, 12)
8. Discuss the legal implications associated with the Arizona mechanic's lien law. (13)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Building Technology Department

### RBT 162 - Residential Construction Assessment I

#### COURSE DESCRIPTION:

RBT 162. Residential Construction Assessment I (2) (Fall). Assessing the costs of residential construction techniques - site development through rough-in. Two lecture.

#### COURSE CONTENT:

1. Building site management
2. House plans and documents
3. Building permits, building codes, and zoning ordinances
4. House foundation systems
5. Barriers: air, moisture, thermal
6. House exterior wall systems
7. Concrete, masonry and framing systems
8. Windows and exterior door systems
9. Construction cost estimating

#### LEARNING OUTCOMES:

1. Discuss the building process of a single-family residence from layout through the rough-in stage. (1-8)
2. Assess the costs of home construction from plans and documents. (1-9)
3. Assess home costs based on construction type, style and building techniques. (1-9)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Building Technology Department

### RBT 163 - Residential Construction Assessment II

#### COURSE DESCRIPTION:

RBT 163. Residential Construction Assessment II (2) (Spring). Assessing the costs of residential construction techniques - rough-in through completion. Pre-requisite: RBT 162. Two lecture.

#### COURSE CONTENT:

1. Building site management
2. House plans and documents
3. Roofing systems
4. Exterior claddings
5. Barriers: air, moisture, thermal
6. Mechanical systems
7. Insulation systems
8. Interior finish materials
9. Accessory structures and materials
10. Construction cost estimating

## LEARNING OUTCOMES:

1. Discuss the building process of a single-family residence from rough-in through completion. (1-8)
2. Assess home costs based on construction type, style and building techniques. (1-10)
3. Assess the costs of other types of residential accessory structures. (9-10)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Building Technology Department

**RBT 231 - Solar and Renewable Energy**

## COURSE DESCRIPTION:

RBT 231. Solar and Renewable Energy (3) (Fall). Integration of solar and renewable energy into a "whole house system" design. Passive solar design including how to conserve energy and utilize renewable energy sources by responding to the local climate. Incorporating active solar, wind and geothermal technologies to generate power and improve energy efficiency. Three lecture.

## COURSE CONTENT:

1. Solar energy strategies for building design
2. Passive and active systems
3. Daily, seasonal, and latitude dependent position of the sun
4. Direct, indirect and isolated solar gains
5. Sun charts
  - a. solar shading
  - b. insulation potential
6. Solar potential
7. Heating and cooling load
8. Thermal mass requirements for heat storage
9. Glazing requirements
10. Trombe wall, greenhouse/sunspace, interior mass storage systems
11. Hot water systems for domestic water and space heating/cooling
12. Flat plate collectors for air, water and photovoltaics
13. Photovoltaic systems overview
14. Electrical definitions
  - a. amps
  - b. watts
  - c. volts
  - d. amp/hours
  - e. AC
  - f. DC
15. PV solar modules
16. Battery systems
17. Wiring
  - a. inverters
  - b. charge controllers
18. Mounting collectors
19. Home power requirements, DC options, sizing systems
20. Wind and geothermal systems
21. Integration of energy systems and energy efficiency

## LEARNING OUTCOMES:

1. Contrast and categorize solar systems: passive, active & tempered (2)
2. Identify and use passive solar design principles and techniques for residential design. (1,3-5)
3. Calculate solar shading. (3,5)
4. Analyze and evaluate solar potential at a building site. (6)
5. Analyze and calculate home energy requirements and solar energy contribution. (7-10)
6. Devise thermal storage strategy by design and site particulars. (10)
7. Describe the factors involved in solar solutions for building energy requirements. (1-9)
8. Size solar hot water systems based on insulation and hot water demand. (11)
9. Calculate energy gain from flatplate collector systems. (12)
10. Size and design photovoltaic collector system. (13-19, 21)
11. Formulate and describe battery system for PV arrays. (16)
12. Calculate loads and requirements for inverter and battery system. (17,19)
13. Describe wiring considerations for alternative systems. (13-17,19)
14. Compare alternative energy systems including wind and geothermal. (20)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Building Technology Department

**RBT 236 - Solar Thermal Hot Water Design and Installation**

## COURSE DESCRIPTION:

RBT 236. Solar Thermal Hot Water Design and Installation (3). Designed for those who currently are, or plan to be, employed in the solar hot water industry. Emphasis on the basics of installing code compliant solar hot water systems. Includes design criteria, installation guidelines, safety procedures, maintenance, and legal considerations of solar hot water heating systems. Three lecture.

## COURSE CONTENT:

1. Solar thermal system safety
2. Solar thermal systems and components and their design

3. Site assessments
4. Solar collectors
5. Water heating and storage tank installation
6. Pipe installation and connections
7. Mechanical and plumbing equipment and components
8. Electrical control systems
9. Operation and identification tags and labels
10. System start-up checkout and inspection
11. Maintenance and troubleshooting
12. Legal considerations

**LEARNING OUTCOMES:**

1. Apply safety procedures when working with solar thermal systems. (1)
2. Identify systems and their components and adapt a system design. (2)
3. Conduct a site assessment. (3)
4. Install solar collectors. (4)
5. Install water heating and storage tanks. (5)
6. Install piping and connecting systems. (6)
7. Install mechanical and plumbing equipment and components.. (7)
8. Install electrical control systems. (8)
9. Install operation and identification tags and labels. (9)
10. Perform a system start-up checkout and inspection. (10)
11. Maintain and troubleshoot a solar thermal system. (11)
12. Discuss legal considerations of solar hot water heating systems. (12)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Building Technology Department

**RBT 296 - Internship: Residential Building Technologies**

**COURSE DESCRIPTION:**

RBT 296. Internship: Construction and Building Technology (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Career & Technical Education Division  
Building Technology Department

**RBT 299 - Independent Study Residential Technology**

**COURSE DESCRIPTION:**

RBT 299. Independent Study Construction and Building Technology (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills

5. Evaluation and improvement of performance Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
6. Develop the individual educational plan with the faculty liaison and agency/business.
7. Accomplish the specific learning objectives and competencies.

## LEARNING OUTCOMES:

1. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
2. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
3. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
4. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Independent Study

Career & Technical Education Division  
 Building Technology Department

**REC 102 - Introduction to Wildlife Tracking**

## COURSE DESCRIPTION:

REC 102. Introduction to Wildlife Tracking (1). Introduction to wildlife tracking in various geographic zones. Emphasis on track identification. Two lab. S/U grading only.

## COURSE CONTENT:

1. Purpose of tracking
2. Tracking skills
3. Hiking skills specific to tracking
4. Terrain and geography
5. Cultural influences
6. Track identification
7. Dating and aging tracks
8. Wildlife characteristics
9. Tracking ethics

## LEARNING OUTCOMES:

1. Explain the purpose and concepts of tracking. (1)
2. Apply tracking skills through varied terrain, geographic and time conditions. (2-4, 6,8)
3. Identify, date and age tracks of various wildlife species. (2,7,8)
4. Identify cultural influences of tracking. (5)
5. Discuss ethical issues related to tracking. (9)

1.000 Credit hours  
 0.000 Lecture hours  
 2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Recreation Management Department

**REC 110 - Backcountry Skills**

## COURSE DESCRIPTION:

REC 110. Backcountry Skills (2). Introduction to outdoor skills related to camping and hiking. Four lab. S/U grading only.

## COURSE CONTENT:

1. Types of camp and campsite selection
2. Outdoor equipment
3. Backcountry safety
4. Backcountry cooking
5. Maps and compasses

## LEARNING OUTCOMES:

1. Select campsite. (1)
2. Select and use outdoor equipment. (2)
3. Apply backcountry safety. (3)
4. Plan outdoor meals. (4)
5. Use map and compass. (5)

2.000 Credit hours  
 0.000 Lecture hours  
 4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Recreation Management Department

**REC 111 - Backcountry Navigation and Orienteering**

## COURSE DESCRIPTION:

REC 111. Backcountry Navigation and Orienteering (1). Introduction to orienteering. Interpret different scales of maps and use of compasses and GPS. One lecture.

## COURSE CONTENT

1. Map reading
2. Compass and GP

## LEARNING OUTCOMES

1. Use and interpret maps. (1)
2. Use compasses and GPS units. (2)
3. Incorporate tools and maps to navigate the backcountry. (1,2)

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
 Recreation Management Department

### REC 112 - Hiking Fitness

**COURSE DESCRIPTION:**

REC 112. Hiking Fitness (1). Hiking to develop and maintain physical fitness. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Principles of cardiovascular fitness
2. Backcountry travel techniques
3. Equipment and safety

**LEARNING OUTCOMES**

1. Apply cardiovascular fitness concepts. (1)
2. Evaluate personal cardiovascular fitness. (1)
3. Use low-impact hiking. (2)
4. Navigate through the backcountry (2)
5. Apply safe hiking techniques. (3)

1.000 Credit hours  
 0.000 Lecture hours  
 2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Recreation Management Department

### REC 113 - Backpacking

**COURSE DESCRIPTION:**

REC 113. Backpacking (1). Techniques for efficient backcountry hiking. Skills for the beginning backpacker; includes packing and travel tactics, safety and low impact camping. Must possess adequate physical abilities for backcountry travel with a backpack. Overnight trips required. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Travel Techniques
    - a. Equipment: care, selection and resources
    - b. Packing and carrying
    - c. Rations, nutrition
    - d. Map reading, route finding
  2. Safety
    - a. Southwest weather/seasons
    - b. Basic first aid
    - c. Safety and accident prevention
  3. Expedition planning, behavior and dynamics
  4. Low impact camping
    - a. Campsite/shelter selection and use
    - b. Stove use and fire pits
    - c. Sanitation and waste disposal
    - d. Wild land management and use
- Select and pack equipment and provisions for a back country hiking trip. (1,2)

**LEARNING OUTCOMES**

1. Apply map reading and navigation skills. (1)
2. Plan an expedition. (2,3)
3. Establish and maintain a low impact campsite. (4,2)

1.000 Credit hours  
 0.000 Lecture hours  
 2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
 Recreation Management Department

### REC 114 - Mountain Biking

**COURSE DESCRIPTION:**

REC 114. Mountain Biking (1). Principles and practice of mountain biking in the local area. Emphasis on recreational and fitness components. Basic ability to ride a bicycle. Mountain bike and helmet required. Two lab. S/U grading only.

**COURSE CONTENT**

1. Mountain bike selection and maintenance
2. Mountain bike safety and first aid
3. Trail selection and use
4. Physical fitness concepts
5. Trail etiquette for multi-use trails

**LEARNING OUTCOMES**



1. Select a mountain bike appropriate for body size and abilities. (1)
2. Apply basic maintenance to mountain bikes. (1)
3. Prepare for a mountain bike trip that lasts a day or less. (2-3)
4. Locate and use local mountain bike trails and make appropriate selections based on skill level, weather and terrain. (3)
5. Establish a fitness plan incorporating mountain bike riding. (4)
6. Use mountain bike safety and first aid principles. (2-5)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Recreation Management Department

### REC 120 - Introduction to Recreation Management

**COURSE DESCRIPTION:**

REC 120. Introduction to Recreation Management (3). History, philosophy, and value of recreation and leisure in the quality of life. Explore the foundations of recreation, leisure, and play from social, psychological, cultural, political and economic perspectives. Three lecture.

**COURSE CONTENT:**

1. Role of leisure, play and recreation as it relates to the quality of life.
2. Conceptual foundations of leisure, play and recreation from psychological, sociological and physiological perspectives.
3. Leisure, play and recreation in contemporary society.
4. Relationship of leisure, play and recreation throughout the life cycle.
5. Interrelationship between leisure behavior and the natural environment.
6. Development of the leisure service profession.

**LEARNING OUTCOMES:**

1. Explain the role of leisure, play and recreation as it relates to the quality of life. (1)
2. Apply conceptual foundations of psychological, sociological and physiological perspectives of leisure, play and recreation. (2)
3. Describe the significance of leisure, play and recreation in contemporary society. (3)
4. Explain the relationship of leisure, play and recreation throughout the life cycle. (4)
5. Describe the interrelationship between leisure behavior and the natural environment. (5)
6. Describe the development of the leisure service profession. (6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Recreation Management Department

### REC 130 - Scuba Diving

**COURSE DESCRIPTION:**

REC 130. Scuba Diving (1). Fundamentals of scuba diving. Emphasis on dive theory, confined water and open water diving. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Scientific principles related to water and water activities
2. Equipment
3. Safety
4. Diving and the environment
5. Diving techniques
6. Fitness concepts

**LEARNING OUTCOMES:**

1. Use basic diving techniques. (1-6)
2. Apply scientific principles specific to water activities. (1)
3. Use safe diving techniques. (2-6)
4. Apply fitness strategies to enhance aerobic capacity and muscular strength and endurance. (6)
5. Use equipment safely. (1-6)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Recreation Management Department

### REC 131 - Beginning Kayaking

**COURSE DESCRIPTION:**

REC 131. Beginning Kayaking (1). Fundamentals of kayaking. Emphasis on safe entry and exit, paddle strokes, self and assisted rescue and rolling. Must possess physical fitness level for sustained periods of immersion and strong swimming ability. Two lab. S/U grading only.

**COURSE CONTENT:**

1. Safe entry and exit on land and wet exit
2. Equipment: care, types, selection, resources
3. Paddle strokes
4. Rescue techniques
5. Rolling techniques
6. Exercise adherence

## LEARNING OUTCOMES:

1. Apply strategies for safe entry and exit. (1)
2. Use paddle stroke and rolling techniques. (3-5)
3. Apply rescue techniques. (4)
4. Select and use equipment and resources. (2)
5. Apply strategies for exercise adherence for healthy lifestyle behaviors. (6)

1.000 Credit hours  
0.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
Recreation Management Department

**REC 140 - Aboriginal Living Skills**

## COURSE DESCRIPTION:

REC 140. Aboriginal Living Skills (2). Introduction to Southwestern primitive skills. Creating fire with sticks, making and using basic stone tools, building primitive shelters, using plant fibers for rope and other utilitarian utensils. One lecture. Two lab. S/U grading only.

## COURSE CONTENT:

1. Southwestern primitive living skills
2. Cultural ownership
3. Core skills for survival around the globe

## LEARNING OUTCOMES:

1. Identify and use flora for survival. (1,3)
2. Perform basic skills used by indigenous people. (1)
3. Identify priorities and roles as they relate to cultural ownership. (2)
4. Perform "leave no trace" wilderness camping techniques as components of primitive survival skills. (3)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Recreation Management Department

**REC 141 - Winter Survival Skills**

## COURSE DESCRIPTION:

REC 141. Winter Survival Skills (2). Adapting to cold weather emergencies using winter survival kits, cold weather clothing systems, fire lighting techniques, shelter building and signaling for rescue. One lecture. Two lab. S/U grading only.

## COURSE CONTENT:

1. Cold weather life threatening emergencies
2. Winter survival skills
3. Winter safety and survival planning and preparation

## LEARNING OUTCOMES:

1. Reduce the threat of winter survival situations. (1,2)
2. Prepare and pack necessary items for winter safety. (3)
3. Perform winter survival skills: fire lighting, improvising insulation, procuring water and signaling for rescue. (1-3)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Recreation Management Department

**REC 142 - Outdoor Survival Skills**

## COURSE DESCRIPTION:

REC 142. Outdoor Survival Skills (2). Adapting to outdoor emergencies using modern fire lighting techniques, natural shelter construction, locating and disinfecting water and signaling for rescue. One lecture. Two lab. S/U grading only.

## COURSE CONTENT:

1. Life threatening emergencies to the body
2. Survival skills
3. Safety and survival planning and preparation
4. Attitude, adaptation and awareness in the wilderness

## LEARNING OUTCOMES:

1. Identify priorities in keeping the body alive. (1-4)
2. Reduce the threat of survival situations. (2,3)
3. Prepare and pack necessary items for survival. (3)
4. Perform basic skills needed to support life. (2)
5. Analyze fear and its effects within the wilderness. (4)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Sciences, Health & Public Safe Division  
Recreation Management Department

#### REC 144 - Desert Awareness

**COURSE DESCRIPTION:**

REC 144. Desert Awareness (2). Techniques and skills for traveling the desert backcountry with confidence. Navigation of 'lands of little water' using sight, sound, smell, taste, touch and intuition. Low impact base camping and hiking in the desert using the natural environment rather than technology. Four lab. S/U grading only.

**COURSE CONTENT:**

1. Natural history of desert areas
2. Environmental considerations
3. Outdoor safety skills
4. Planning and consideration of time, distance, weather, terrain and hiking equipment
5. Low impact navigation skills and techniques

**LEARNING OUTCOMES:**

1. Identify local plant, animal, geology, weather and terrain features. (1)
2. Identify local environmental hazards and conservation considerations. (2)
3. Describe low impact base camping and hiking safety skills, equipment needs, and leave-no-trace ethics in a desert environment. (2-4)
4. Navigate marked trails using topographical park maps. (5)

2.000 Credit hours  
0.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Sciences, Health & Public Safe Division  
Recreation Management Department

#### REC 145 - Wilderness Advanced First Aid

**COURSE DESCRIPTION:**

REC 145. Wilderness Advanced First Aid (2). Principles and skills to make critical first aid and evacuation decisions and take appropriate action in remote locations where medical assistance is more than one hour away. Two lecture.

**COURSE CONTENT:**

1. Scene safety and universal precautions
2. Wilderness first aid kits
3. Patient exam, vital signs, history and documentation
4. Unconscious patients
5. Adult CPR, cardiac emergencies, and respiratory emergencies
6. Chest injuries, head injuries, spinal cord injury management
7. Back boarding, litter packaging and carrying
8. Shock
9. Wilderness wounds, burns and infections
10. Fracture management, traction splinting and dislocations
11. Environmental injuries and illnesses, and environmental considerations
12. Bites, stings and anaphylaxis
13. Abdominal emergencies
14. Common simple problems

**LEARNING OUTCOMES:**

1. Assess scene safety and use universal precautions. (1)
2. Perform primary and secondary patient assessments in the wilderness setting. (3, 5)
3. Perform CPR in a wilderness setting. (5)
4. Render first aid in a wilderness setting. (1, 4-14)
5. Create a first aid kit for wilderness use. (2)
6. Prepare a patient for evacuation. (7, 10, 11)
7. Plan and perform a rescue and evacuation. (7, 11)
8. Document patient information, vital signs, assessment, plan and patient monitoring. (3)

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Sciences, Health & Public Safe Division  
Recreation Management Department

#### REC 147 - Technical Rope Rescue I, II & III

**COURSE DESCRIPTION:**

REC 147. Technical rope rescue levels I, II, and III emphasizing topics and techniques of safety, equipment, knots, rope craft, anchors, mechanical advantage, belay systems, medical considerations, terrain types, low and steep angle evacuations and steep angle rappel. Must possess adequate physical ability to hike in rough terrain, perform heavy lifting and carry backpack with rescue equipment. Arizona Fire Service Institute may require additional competency assessment. Two lecture. Three lab.

**COURSE CONTENT:**

1. Safety considerations and National Fire Protection Agency (NFPA) standards
2. Knots, bends and hitches
3. Anchors: concepts; single and multi point; vector forces, distributing and sharing loads
4. Mechanical advantage
5. Patient packaging and litter carries
6. Low and steep angle evacuations
7. Self-rescues

## LEARNING OUTCOMES:

1. Identify rope rescue software and hardware and manufacturers' break strength for various equipment. (1, 2)
2. Construct single point and multi point anchors. (2-4)
3. Identify components of a simple mechanical advantage (MA) and list rules of MA construction. (2,4,6,7)
4. Construct simple 2:1, 3:1, and 5:1 mechanical advantage. (4)
5. Identify, construct, and operate a single person belay line and a system working line. (2-4,6)
6. Complete the steps of packaging a patient in a stokes litter. (5)
7. Rappel on steep angle and vertical angle terrains. (6)
8. Ascend a vertical line. (7)
9. Pass a knot while on rappel and on a system belay line during a lower and raise. (7)
10. Perform a self-rescue of a jammed rappel device while on rappel. (7)
11. Identify high angle rescue pickoff methods. (6)
12. Engage in a team based high angle supported and unsupported pickoff. (6)
13. Perform the role of edge-man during a high angle evacuation. (6)
14. Use the techniques of a high angle litter attendant. (6)

3.000 Credit hours

2.000 Lecture hours

3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture

Sciences, Health & Public Safe Division  
Recreation Management Department

**REC 213 - Intermediate Backpacking**

## COURSE DESCRIPTION:

REC 213. Intermediate Backpacking (2). Application of techniques and skills for extended backpacking travel. Must possess adequate physical abilities for carrying a backpack over rough terrain. Four lab. S/U grading only.

## COURSE CONTENT:

1. Equipment selection and use.
2. Backcountry navigation.
3. Meal planning and preparation
4. Backcountry low-impact techniques
5. Emergency preparedness

## LEARNING OUTCOMES:

1. Select and use equipment. (1)
2. Interpret maps and develop a backcountry navigation plan. (2)
3. Plan and prepare nutrition for extended backcountry travel. (3)
4. Use low impact techniques. (4)
5. Appraise and plan for backcountry emergencies. (5)

2.000 Credit hours

0.000 Lecture hours

4.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Sciences, Health & Public Safe Division  
Recreation Management Department

**REL 201 - Comparative Religions**

## COURSE DESCRIPTION:

REL 201. Comparative Religions (3). The world's religions from East and West, both old and new. Focus on differing religious/philosophical conceptual frameworks. Nonliterate and primal religions, Hinduism, Buddhism, Confucianism, Taoism, Japanese religions, Judaism, Christianity, Islam, Baha'i and more recent religions. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

## COURSE CONTENT:

1. The nature of religious experience; philosophy and challenges of comparing religions
2. Nonliterate and primal peoples' religions
3. India's religious traditions: Hinduism
4. Buddhism
5. China's religious traditions: Confucianism
6. Taoism
7. Japan's religious traditions: Confucianism
8. Zen
9. Near Eastern religious traditions: Judaism
10. Christianity
11. Islam
12. Baha'i faith
13. More recent world religions
14. Religious pluralism

## LEARNING OUTCOMES:

1. Cultivate curiosity, empathy, and understanding of differing religious conceptual frameworks. (1) (AH 4)
2. Identify, interpret, evaluate, and synthesize insights from the differing religious/philosophical conceptual frameworks. (1-14) (AH 3,5)
3. Develop an awareness and understanding of the cultural heritage of humankind by examining issues of universal human concern (metaphysical, spiritual, moral, and intellectual). (1-14) (AH 1-3)
4. Develop critical reasoning skills in relation to matter over which reasonable people disagree. (1) (AH 4)
5. Enhance competence and performance of thoughtful and precise writing skills, of oral presentation skills, and of independent thinking.
6. Identify basic assumptions and unexamined ideas, and to consider alternatives.
7. Participate in an open-minded, well-informed, non-dogmatic atmosphere for learning and discussion.

## REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours

3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Humanities Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

### [REL 203 - Native Religions of the World](#)

**COURSE DESCRIPTION:**

REL 203. Native Religions of the World (3). Examination of the kinds of religious experience found among native aboriginal peoples (often called "tribal" or "indigenous" peoples). Analysis of the religious traditions of both modern and archaic native peoples and the relationship of their religious experience to other forms of experience (social, economic, political, and cultural). Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. History of the terms "native," "aboriginal," "tribal," and "indigenous" in the history of the study of religions
2. Theories of religion as they have been applied to native cultures
3. Analysis of several native religious traditions
4. Effects of colonialism on native religions
5. Native religions in the modern world
6. Appropriation of native religious traditions by outside groups

**LEARNING OUTCOMES:**

1. Discuss theories of religion and apply them to native religious traditions. (1-3) (AH 3,5)
2. Place religious traditions within the larger scope of their native cultures. (2,3) (AH 2)
3. Compare and contrast different native religious traditions. (3) (AH 4)
4. Trace the evolution of a native tradition as it interacted with a non-native tradition. (3,4,6) (AH 2)
5. Analyze native traditions within their contemporary environment. (5) (AH 2)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Humanities Department

**Course Attributes:**

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

### [REL 273 - Introduction to Jewish Studies](#)

**COURSE DESCRIPTION:**

REL 273. Introduction to Jewish Studies (3). Dimensions and concerns of Jewish civilization historically and in contemporary times. Continuities and discontinuities, secular and religious expressions of Jewish culture, concepts, and ideals; sense of human place, purpose, communal and personal life; influence of Jewish thought on other religious and secular cultures; modern concepts and challenges. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Introduction to Jewish culture
2. Historical overview: major periods of Jewish civilization
3. Ancient antecedents and influences: Near East and Hellenism
4. Diaspora and rabbinic Judaism
5. Medieval period and "Golden Age"--Jewish philosophy and mysticism; interaction with Islam and Christian Europe
6. Early modern period and challenges of emancipation
7. Post-Holocaust issues: religious existentialism, Zionism, and transformation of Jewish identity
8. Judaism as living religion and culture
9. Contemporary challenges: Jewish feminism; assimilation, secularism
10. Interaction and mutual influences
11. Varieties of Judaisms
12. Basic aspects of living the Jewish path

**LEARNING OUTCOMES:**

1. Trace development of the varieties of Jewish expression from Near East origins through contemporary times. (1-12) (AH 2)
2. Outline various periods of Jewish history/religion/culture as part of a broader social, historical, political and religious context. (2-9)
3. Describe the nature of and central tenets of Judaism. (12)
4. Classify concepts within their historical contexts. (2-7) (AH 1)
5. Discuss how other religious traditions and secular cultures have impacted and influenced Jewish civilization. (10)
6. Participate in an interreligious and intercultural dialog by engaging in dialectical discussions that exhibit evidence of intellectual curiosity and scholarship. (1-12) (AH 4)
7. Compare perspectives of other cultures, especially minority cultures. (8-11)
8. Critically review materials from primary and secondary sources and place them in appropriate historical/cultural contexts. (1-12) (AH 5)
9. Compare and analyze disparate ideas by defining and using key terms appropriate to the discipline. (10-12) (AH 3)
10. Identify a variety of cultural traditions and compare and contrast the characteristics of diverse cultures and traditions. (2-12)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing a minimum of 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Humanities Department

**Course Attributes:**

Arts & Humanities (AGEC), Diversity (DA), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC)

**RES 100 - Rental Property Management****COURSE DESCRIPTION:**

RES 100. Rental Property Management (2). Property management policies, leases, rental agreements, evictions, court proceedings, landlord/tenant laws, city/state taxes, security/utility deposits and furnished/unfurnished premises. Two lecture.

**COURSE CONTENT:**

1. Advantages/disadvantages of rental property
2. Determining rent and deposit amounts
3. Repairs, maintenance and property damage: landlord/tenant responsibilities
4. Taxes--city, state, federal
5. Landlord/tenant laws
6. Leases and rental agreements
7. Evictions--small claims court, collecting back rent
8. Bookkeeping procedures
9. Advertising
10. Furnished vs. unfurnished rental property
11. Governmental rental control
12. Types of rental property

**LEARNING OUTCOMES:**

1. Gain practical knowledge of rental property management procedures.
2. Gain an understanding of landlord/tenant laws, evictions and court proceedings.
3. Study current rental property needs, rent prices, deposits, utilities, taxes and insurance.
4. Analyze rental agreements/leases, bookkeeping procedures and income tax laws.
5. Become more aware of the overall advantages and disadvantages of managing/owning rental property.
6. Evaluate present rental property procedures and policies whether owning or managing rental property.
7. Obtain the required information from the Yavapai County Assessor's office and Palmer's Investigative Services.
8. Visit rental properties in immediate area either as a class or an individual class project.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Business Administration Department

**RES 103 - Principles of Real Estate****COURSE DESCRIPTION:**

RES 103. Principles of Real Estate (6). Introduction to real estate principles and the real estate industry. Includes Arizona Real Estate Code, government restrictions, contracts, financing, environmental considerations, property management, agency law, and ethics. The Arizona Department of Real Estate accepts this course as satisfying the 90 hour pre-licensing educational requirement. Six lecture.

**COURSE CONTENT:**

1. Arizona Real Estate Code
2. Real Estate Commissioner's rules and regulations
3. Property and estates
4. Land description and its elements
5. Ways of acquiring title
6. Characteristics of title
7. Contracts
8. Escrow and title insurance
9. Financing
10. Encumbrances--burdens on title
11. Government restrictions
12. Toxic waste and environmental hazards
13. Property management
14. Water rights
15. Valuation, appraisal, and construction
16. Real estate investment and taxation
17. Agency laws and relationships
18. Ethics of the industry

**LEARNING OUTCOMES:**

1. Discuss the terminology, principles, and practices of the real estate industry.
2. Make recommendations to real estate clients concerning inspection of toxic waste and environmental hazards.
3. Apply the laws that govern the real estate industry.
4. Discuss rules and regulations that pertain to the real estate industry.
5. Distinguish between ethical and unethical practices in the real estate industry.
6. Prepare forms used in the real estate industry.
7. Diagnose the current state of the real estate marketplace.
8. Identify the tools of real estate finance.
9. Describe valuation, appraisal and construction processes.

6.000 Credit hours  
6.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Business Administration Department

**RES 201 - Real Estate Law****COURSE DESCRIPTION:**

RES 201. Real Estate Law (3). Overview of legal requirements and the documents and forms relating to real property transactions. Real estate purchase and sale, various methods of holding title to real property, mortgages, lease agreements, liens and declarations of homestead. Three lecture.

**COURSE CONTENT:**

1. Introduction to law and legal systems
2. Land/property and related concerns
3. Estates in land and ways of holding title
4. Encumbrances
5. Conveyances
6. Legal descriptions
7. Leases
8. Contracts
9. Title defects and resolutions
10. Mortgages and deeds of trust

**LEARNING OUTCOMES:**

1. Use the terminology that applies to real estate law.
2. Describe ways of holding title, encumbrances and conveyances.
3. Draft real estate documents for a transfer of real property.
4. Identify title defects and resolutions.
5. Develop a real estate notebook to aid in undertaking a real estate transaction.
6. Analyze legal concepts and apply them to a real estate transaction.
7. Analyze how real estate law impacts other areas of law.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Business Administration Department

**RUS 131 - Conversational Russian****COURSE DESCRIPTION:**

RUS 131. Conversational Russian (3). Fundamentals of speaking and listening skills in Russian. Introduction to the culture of the Russian-speaking world. Three lecture.

**COURSE CONTENT:**

1. Russian language history
2. Introduction to Russian alphabet, phonetic, stress, pronunciation and grammar systems.
3. Interrogative words and expressions; question formation
4. Basic wants and needs; courtesy expressions
5. Basic bibliographical information (name, age, origin, work, etc.)
6. Basic vocabulary and descriptions, including time, colors, seasons, weather, objects, places and people
7. Everyday words and expressions
8. Travel expressions, including conversations for getting acquainted, meetings, greeting, parting, requests, gratitude, agreement, disagreement, refusal and apologies
9. Components of Russian-speaking culture, including a brief history, useful tourist information, personal space, customs, traditions, nonverbal gestures, geography and the arts

**LEARNING OUTCOMES:**

1. Apply the Russian phonetic system and pronunciation in basic conversation. (2)
2. Utilize basic Russian grammar in conversation. (7,8)
3. Master basic descriptions, phrases and conversation (days, dates, times, seasons, questions, biographical information, etc.) (3-8)
4. Respond and contribute to very simple face-to-face conversations with limited spontaneity and vocabulary. (3-8)
5. Sing simple Russian songs and other folk or art expressions. (9)
6. Aurally comprehend from a speaker who uses somewhat slow and deliberate speech and somewhat careful articulation. (3-8)
7. Identify basic components of Russian-speaking culture (locations, brief history, customs, arts, etc.) (1,9)

**REQUIRED ASSESSMENT:**

Oral proficiency examinations/exercises.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Liberal ArtsOBS Division  
 Modern Languages Department

**RUS 132 - Conversational Russian II****COURSE DESCRIPTION:**

RUS 132. Conversational Russian II (3). Development of speaking and listening skills in Russian at the novice level. Culture of the Russian-speaking world. Prerequisite: RUS 131. Three lecture.

**COURSE CONTENT:**

1. The Cyrillic alphabet
2. Expressing likes and dislikes
3. Basic vocabulary and descriptions
4. Narrations of basic daily routines
5. Comparisons
6. Superlatives
7. Basic narrations in major Russian time frames
8. Phonetic, stress, and pronunciation systems in Russian
9. Russian-speaking culture
10. Formulaic expressions and basic structures in specific traveling situations

**LEARNING OUTCOMES:**

1. Express basic likes and dislikes. (2)

2. Describe objects, places, people, activities and states utilizing basic vocabulary. (3)
3. Narrate daily routine activities. (4)
4. Compare objects, places, people, their qualities and their activities. (5)
5. Identify and express superlatives such as *лучший* and *худший* when considering objects, places, people, their qualities and their activities. (6)
6. Narrate in the major Russian time frames utilizing basic Russian grammar structures. (7, 8)
7. Apply Russian phonetic, stress, and pronunciation systems when using basic oral expressions and narrations and when reading basic Russian texts. (8)
8. Recite and use the Russian alphabet. (1,8)
9. Identify basic components of the Russian-speaking culture, such as foods, customs, music, dance, arts and history. (9)
10. Utilize basic formulaic expressions, travel vocabulary and grammar. (10)

## REQUIRED ASSESSMENT:

Oral proficiency examinations/exercises.

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Lecture

Liberal ArtsOBS Division  
Modern Languages Department

### SBE 201 - Small Business Entrepreneurship

## COURSE DESCRIPTION:

SBE 201. Small Business Entrepreneurship (1). Analysis of the practical aspects of creating and maintaining a small business. Emphasis on the functions of management, leadership, and entrepreneurship, and the necessity of all three skill sets in order to achieve sustained market success. One lecture.

## COURSE CONTENT:

1. Skills and abilities needed to create a business
2. Skills and abilities to maintain a business
3. Entrepreneurship
4. Management
5. Leadership
6. Skills needed to implement a business plan

## LEARNING OUTCOMES:

1. Discuss the various skill sets involved in owning and operating a business.
2. Identify the distinctions between management, leadership and entrepreneurship and the distinct role each plays in building a successful small business.
3. Identify one strength and weakness in regard to small business ownership. ess ownership.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

### SBE 202 - Small Business Marketing

## COURSE DESCRIPTION:

SBE 202. Small Business Marketing (1). Analysis of modern marketing techniques as applied to a small business environment. One lecture.

## COURSE CONTENT:

1. Historical overview of marketing
2. The marketing plan
3. Target marketing and segmentation
4. The marketing mix
5. Buyer behavior
6. Market research
7. "Guerilla" marketing

## LEARNING OUTCOMES:

1. Identify the basic elements of a comprehensive marketing plan.
2. Conduct basic market research.
3. Identify a target market and segment that market.
4. Discuss the critical role of the customer in developing and evolving a marketing plan.
5. Prepare a marketing plan for a small business.
7. Discuss the differences between preparation and implementation of a marketing plan.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

### SBE 203 - Small Business Accounting Principles

## COURSE DESCRIPTION:

SBE 203. Small Business Accounting Principles (1). Interpretation of accounting statements and significance to the success or failure of business. How to read financial statements and what they mean in regard to the income statement, balance sheet, profit and loss statement, cash flow and inventory. One lecture.

## COURSE CONTENT:

1. Components of a general ledger
2. Setting up a chart-of-accounts
3. Setting up accounts receivable and payable
4. Cash vs. accrual basis



5. Understanding debits and credits.
6. Fixed and variable costs.
7. Profit and loss statement.
8. Balance sheet.
9. Cash flow statements
10. Break-even analysis
11. Accounts receivable and accounts payable aging
12. Preparing a startup and operating budget

**LEARNING OUTCOMES:**

1. Define basic accounting terminology and their meaning relative to the fundamental principles of finance and economic decisions in managing a small business.
2. Set up a basic chart-of-accounts tailored for their specific business needs.
3. Analyze the primary components of a cash flow, profit and loss and balance sheet accounting statements.
4. Explain the fundamental relationship between the basic components of a profit and loss and balance sheet accounting statements.
5. Describe and summarize the fundamental principles of preparing operating budgets and implementing basic accounting cost controls.

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Business Administration Department

**SBE 204 - Small Business Accounting Systems****COURSE DESCRIPTION:**

SBE 204. Small Business Accounting Systems (1). Review of manual and computer assisted accounting system options for small business management. Identify small business accounting needs and select an appropriate computer-assisted accounting software solution. Prerequisite: SBE 203. One lecture.

**COURSE CONTENT:**

1. Introduction to computer-assisted accounting for small business
2. Evaluation and comparison of manual vs computer-assisted accounting
3. Accounting systems as management information systems (MIS)
4. Review of personal finance/home-based, construction, real estate, retail, and wholesale software solutions.
5. Supplementary software modules for payroll, support networks, on-line billing, credit check services, point-of-sale, merchant accounts, and tax preparation.
6. Integrating small business accounting solutions with a bookkeeping or accounting business service.

**LEARNING OUTCOMES:**

1. Describe, compare, and contrast the characteristics of manual and computer-assisted accounting systems for small business application.
2. Describe how an accounting system can be used as a management information system (MIS)
3. Assess the basic differences between the needs of a personal finance/home-based accounting system and a commercial on-site small business accounting system.
4. Describe the features and benefits of typical supplementary software add-on modules.
5. Analyze key points to consider when integrating in-house accounting software solutions with outside business services.

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Business Administration Department

**SBE 205 - Small Business Finance****COURSE DESCRIPTION:**

SBE 205. Small Business Finance (1). Methods to raise capital for an existing or startup entrepreneurial business. Prerequisite: SBE 203. One lecture.

**COURSE CONTENT:**

1. Introduction to small business finance
2. The need and sources for cash
3. The Cash Cycle
4. Pricing and cost analysis of your market strategy
5. Financing growth with debt
6. Financial ratios
7. Lease vs purchase
8. Increasing cash flow through a collections strategy
9. SBA guaranteed bank loans
10. Institutional lending requirements
11. Angel and venture capital financing

**LEARNING OUTCOMES**

1. Describe and explain the fundamental economic principles of small business financing.
2. Explain how to use profit and loss statements, balance sheets, and cash flow projections in the process of obtaining small business financing.
3. Discuss debt, equity, and alternative financing methods for small business.
4. Compare and contrast traditional financing methods, their advantages and limitations, terms and conditions, and institutional lending requirements for small businesses.
5. Evaluate and explain various kinds of alternative financing methods used in today's financing environment for small business start-ups, expansions and turnarounds.

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Business Administration Department

**SBE 207 - Internet Marketing for Small Business**

**COURSE DESCRIPTION:**

SBE 207. Internet Marketing for Small Business (1). Entrepreneurial exploration of Internet marketing opportunities. One lecture.

**COURSE CONTENT:**

1. Introduction to Internet marketing
2. Developing an Internet marketing plan
3. The online buying process
4. Branding and domain names
5. Internet customer loyalty
6. Best practices Internet marketing strategies
7. Best practice customer service
8. Online customer relationship management
9. Permission and one-to-one marketing

**LEARNING OUTCOMES:**

1. Define and describe the evolution and basic demographics of Internet business.
2. Conduct an Internet business Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis.
3. Plan and develop an Internet marketing strategy.
4. Describe and evaluate primary customer needs and concerns.
5. Use Internet legal guidelines.
6. Compare and contrast the advantages and disadvantages of various on-line marketing techniques.
7. Employ customer best practices.
8. Apply the principles of an effective Internet customer relations program.
9. Summarize the importance of permission-based Internet marketing.

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Business Administration Department

### [SBE 208 - Small Business Legal Issues](#)

**COURSE DESCRIPTION:**

SBE 208. Small Business Legal Issues (1). Review and analysis of laws applicable to small business operations. One lecture.

**COURSE CONTENT:**

1. The importance of business law to the entrepreneur and small business manager
2. Purpose and characteristics of sole proprietorships, partnerships, corporations, limited liability companies, and business trusts
3. The law of agency fiduciary relationships
4. The law of contracts and negotiable instruments
5. Types, purposes, and legal implications of warranties and guarantees
6. The small business entrepreneur and personal liability
7. Product liability and legal protection
8. Non-competition, non-circumvention, and non-disclosure agreements.
9. Protection and legal rights of trade name/marks, copyrights, and patents

**LEARNING OUTCOMES:**

1. Describe the legal purposes and characteristics of typical legal entities used in small business enterprises.
2. Assess the key elements of agency law and fiduciary relationships and how they apply to small business.
3. Identify the elements of a valid and enforceable contract
4. Identify the parties and legal responsibilities in an executed negotiable instrument
5. Compare and contrast warranties and guarantees
6. Discuss instances in which a limited liability entity will not protect the businessperson from personal liability.
7. Specify the business, ethical, and legal implications of business partners, co-managers, officers, and board directors.
8. Compare and contrast the purposes of trade names/marks, copyrights and patents.

1.000 Credit hours  
 1.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
 Business Administration Department

### [SBE 209 - Small Business Tax Issues](#)

**COURSE DESCRIPTION:**

SBE 209. Small Business Tax Issues (1). What new and existing small business owners need to know about business taxes; tax return requirements; business expenses and other deductions; record keeping; employment taxes; sources of tax information; and strategies for minimizing tax liabilities. One lecture.

**COURSE CONTENT:**

1. Introduction to business tax requirements
2. Types of business organizations
3. Business tax returns
4. Determining net profit or loss
5. Business Deductions and credits
6. Tax publications and forms
7. Employment taxes
8. Government filing requirements
9. Business use of the home

**LEARNING OUTCOMES:**

1. Define different types of taxable entities.
2. Compare and contrast cash and accrual accounting methods.
3. Interpret basic profit and loss tax returns.
4. Summarize federal and state employment tax requirements.

5. Apply methods to minimize business income tax liability.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

#### **SBE 210 - Retail Customer Service for Small Business**

**COURSE DESCRIPTION:**

SBE 210. Retail Customer Service for Small Business (1). Analysis of techniques related to success in small business retail and service management. Includes customer service, pricing, inventory control, and continuous improvement processes. One lecture.

**COURSE CONTENT:**

1. Merchandise management - the buying/selling activity
2. The retail/service customer
3. Planning the merchandise assortment
4. Inventory control
5. Assessing customer satisfaction
6. The role of sales personnel
7. Continuous improvement techniques

**LEARNING OUTCOMES:**

1. Identify the role of the buyer in retailing.
2. Apply methods of inventory control.
3. Recommend techniques for maintaining a positive working/shopping environment.
4. Perform the techniques involved in the continuous improvement of a business enterprise.
5. Evaluate the role of sales personnel.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

#### **SBE 212 - The Business Plan for Small Business**

**COURSE DESCRIPTION:**

SBE 212. The Business Plan for Small Business (1). How to write detailed professional business plan, reason for the plan and how the plan should be implemented. One lecture.

**COURSE CONTENT:**

1. Overview of the product or service
2. The marketing plan
3. The operations plan
4. The financial plan and statements
5. The strategic plan
6. The implementation plan
7. Reason for the plan

**LEARNING OUTCOMES:**

1. Identify the elements of a comprehensive business plan.
2. Prepare a written business plan for a small business.
3. Explain how to implement a business plan for a small business.
4. Discuss reasons for having a detailed plan.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

#### **SBE 214 - Social Media and Mobile Marketing for Small Business**

**COURSE DESCRIPTION:**

SBE 214. Social Media and Mobile Marketing for Small Business (1). Small business social media and mobile marketing. Includes identification of target customers and creation of social media in Facebook, LinkedIn, Twitter and Google. One lecture.

**COURSE CONTENT:**

1. Overview and purpose of social media and mobile marketing
2. Social media and mobile marketing within the internet marketing process
3. Target customers
4. Social media and mobile marketing in a business context

**LEARNING OUTCOMES:**

1. Describe how, and if, to use social media and mobile marketing as part of a small business marketing strategy. (1)
2. Create a social media/mobile marketing plan. (4)
3. Identify the target market(s) and where customers "hangout" online. (2,3)
4. Research keywords to identify those used by the target market to search for information online. (3,4)
5. Create a Facebook Fan Page and a Facebook Fan Gate to attract customers. (2-4)

6. Build and use a Twitter profile to drive traffic to a website or blog. (3,4)
7. Create a LinkedIn profile, begin posting updates and search for customers. (3,4)
8. Set up a Hootsuite or Seismic account to schedule Twitter, Facebook and LinkedIn updates. (3,4)
9. Use Google alerts to track trends and find content to post. (3,4)
10. Create a Google+ account and start "hangouts" where prospects and customers can gather online to share information and interact. (3,4)
11. Create a YouTube video and a landing page to promote a product or service. (2-4)
12. Create a custom QR code to use in traditional marketing to drive traffic to the online sites. (3,4)
13. Identify smart phone apps to be used to post to social media. (2-4)
14. Use MMS (Mobile Media Messaging) to allow customers to interact through contests and special offers. (2-4)
15. Use SMS (Short Messaging Service) to send target customers/prospects text messages about limited time offers, coupons, tickets, etc. (3,4)

1.000 Credit hours  
1.000 Lecture hours


Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Business Administration Department

### SOC 101 - Introduction to Sociology

#### COURSE DESCRIPTION:

SOC 101. Introduction to Sociology (3).  **SOC 1101.** Study of human behavior from the sociological perspective. Areas of emphasis include society, culture, social structure, social institutions, socialization, and forms of social stratification. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. The sociological imagination.
2. History and development of sociology.
3. Methods of sociological research.
4. Theoretical paradigms in sociology.
5. Nature of society and the role of culture.
6. Influence of social structure and social institutions on human behavior.
7. Nature, nurture, and the socialization process.
8. Forms of social stratification and social class in America.
9. Human diversity (Race, Ethnicity, Gender)

#### LEARNING OUTCOMES:

1. Explain the sociological imagination and cite examples that illustrate the significance of this perspective in understanding human behavior. (SS 1)
2. Review the historical development of sociology and discuss the contributions of key figures in the field. (SS 2)
3. Explain research methodology.
4. Evaluate the relevant perspectives, paradigms, arguments or theories.
5. Compare and contrast human societies throughout history and analyze the impact of these societies on human behavior.
6. Examine the elements of social structure and culture and explain how they influence human behavior.
7. Describe the basic social institutions and explain how these institutions influence human behavior.
8. Examine the role of nature and nurture in human behavior.
9. Analyze social stratification and social class.
10. Explain how human diversity contributes to different perspectives. (SS 4)
11. Define the relevant terminology and apply it to problems or issues. (SS 3)

#### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

#### Course Attributes:

Diversity (DA), Ethnic, Race & Gender, Social Science (AGEC), SUN# SOC 1101

### SOC 120 - AIDS A Modern Plague

#### COURSE DESCRIPTION:

SOC 120. AIDS A Modern Plague (1). Examination of humanistic and scientific perspectives on the etiology and consequences of AIDS. Historical and ecological understanding of venereal and epidemic disease. One lecture.

#### COURSE CONTENT:

1. Humanistic and scientific perspectives
2. Frameworks for understanding AIDS
3. Interrelationships among AIDS and population dynamics, disease, society, culture, and medicine
4. Values and ethics
5. Prevention

#### LEARNING OUTCOMES:

1. Describe humanistic and scientific perspectives of AIDS and people living with AIDS. (1)
2. Analyze various conceptual and disciplinary frameworks for understanding AIDS and its social impact. (2)
3. Describe the connection among population dynamics, disease, society, culture, and medicine. (3)
4. Discuss ethical implications of social and medical responses to the AIDS epidemic. (4)
5. Identify risks involved with unsafe sex. (5)

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### **SOC 125 - Domestic Violence**

#### **COURSE DESCRIPTION:**

SOC 125. Domestic Violence (3). Theory and dynamics in domestic violence. Defining spouse abuse, exploring origins and impact on children and family. Three lecture.

#### **COURSE CONTENT:**

1. Introduction
2. Defining abuse/inter-generational issues
3. Dynamics of abuse
4. Sexual stereotypes/role expectations
5. Codependency
6. Relationship of alcohol and drug abuse to abuse
7. Medical and moral aspects
8. Criminal justice system--its role and position on abuse
9. Role of legal advocacy for victims
10. Non-abusive communication skills
11. Incidence of elder abuse
12. Defining child abuse
13. Incest and its relationship to victimization
14. Community resources

#### **LEARNING OUTCOMES:**

1. Name and define forms of spouse abuse, elder abuse and child abuse.
2. Label and analyze historical perspectives and sex role stereotyping pertaining to domestic violence.
3. Identify dynamics of the abuser and the abusive cycle.
4. Identify the appropriate role of community resources.
5. Apply basic principles and types of non-abusive communication skills.
6. Define the relationship of alcohol and other drugs to domestic violence.
7. Identify the inter-generational effect of domestic violence.

#### **REQUIRED ASSESSMENT:**

1. Employ thoughtful and precise writing (a minimum of 1500 words), critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### **SOC 140 - Sociology of Intimate Relationships and Family**

#### **COURSE DESCRIPTION:**

SOC 140. Sociology of Intimate Relationships and Family (3). Study of relationships and family life, interpersonal attraction, dating and committed partnerships, relationships and household dynamics, parenting decisions, relationship longevity or dissolution. Prerequisite: Reading Proficiency. Three lecture.

#### **COURSE CONTENT:**

1. Changing Families
  - a. families past & present
  - b. public debates & private lives
  - c. diversity in families (gender, race/ethnicity, social class)
2. Differing expectations & experiences by gender
  - a. changing gender roles
  - b. love, sexuality & society
  - c. dating & relationship commitment
  - d. dissolution & re-partnerships
3. Exploring challenges & solutions
  - a. work and family
  - b. parenting issues
  - c. dimensions of diversity (gender, race/ethnicity, social class)
  - d. conflict in relationships (communication, stress, violence)

#### **LEARNING OUTCOMES:**

1. Identify and explain dynamics of interpersonal & family relationships that have a direct impact on one's own life experience. (SS 3)
2. Discuss the diverse customs, attitudes, values and expectations (by gender, race/ethnicity, social class, etc.) that affect our relationships with others. (SS 2,4)
3. Strategize and explore solutions for common relationship challenges. (SS 1)

#### **REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture


Visual/Performing/LiberalOBS Division  
Social Sciences Department

#### **Course Attributes:**

Diversity (DA), Ethnic, Race & Gender, Social Science (AGEC)

### **SOC 142 - Race and Ethnic Relations**

**COURSE DESCRIPTION:**

SOC 142. Race and Ethnic Relations (3).  **SOC 2215.** Contemporary racial and ethnic intergroup relations emphasizing cultural origins, developments, and problems of minority groups in the United States Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Culture, ethnicity and class:
  - a. Characteristics of a minority group
  - b. Sociology and study of minority groups
  - c. Subordinate group status
  - d. Assimilation
  - e. Pluralism
2. Prejudice and discrimination:
  - a. Theories
  - b. Stereotypes
  - c. Black self-hatred: myth or reality
  - d. Institutional discrimination
  - e. Affirmative action
3. Ethnic and religious source of conflict:
  - a. Immigration and the United States
  - b. Ethnic diversity
  - c. Religious pluralism
  - d. Social class
4. Racial and ethnic minority groups in the United States:
  - a. Native Americans
  - b. Black Americans
  - c. Hispanic Americans
  - d. Asian-Americans
  - e. Jewish-Americans
5. Other patterns of dominance:
  - a. Gender roles and gender identity
  - b. Women: the oppressed majority
  - c. Multiple jeopardy: Minority women and aging
6. Beyond the United States:
  - a. Comparative cultures
  - b. Contemporary trends

**LEARNING OUTCOMES:**

1. Compare how the ideologies of assimilation, cultural pluralism and conflict theory have influenced the experiences of ethical and culturally diverse populations. (SS 2)
2. Capture the development of a subordinate group status relationship and the consequences of minority group status. (SS 4)
3. Evaluate the structural, economic and personality effects of prejudice and discrimination and how these factors perpetuate social inequalities among racial/minority groups.
4. Illustrate the concepts of institutional discrimination and its impact on minority groups. (SS 1)
5. Synthesize the social issues and problems that perpetuate ethnic and religious conflict. (SS 3)
6. Explain the concept of religious pluralism.
7. Identify cultural elements that are unique to racial/ethnic minority groups.
8. Review the histories of each of the minority groups in the United States.

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Social Sciences Department

**Course Attributes:**

Diversity (DA), Ethnic, Race & Gender, Social Science (AGEC), SUN# SOC 2215

**SOC 212 - Gender and Society****COURSE DESCRIPTION:**

SOC 212. Gender and Society (3). Examine the ways society shapes and defines the positions and roles of both men and women. Emphasis on the sociological theories and research methods used to study how femininities and masculinities are constructed within the following social institutions: the family, education, work, healthcare, and the mass media. Prerequisite: Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Overview of psychological and biological perspectives on gender
2. Sociological perspectives on gender (i.e., conflict, functionalist, symbolic interactionist, and feminist theories)
3. Sociological research methods used to study gender
4. Sociological concepts used to understand gender (i.e., differential socialization, anticipatory socialization, the self-fulfilling prophecy, and the Thomas Theorem)
5. Gender in the social institution of the family
6. Gender in the social institution of education
7. Gender in the social institution of work
8. Gender in the social institution of the media
9. Gender in the social institution of healthcare
10. Gender and violence
11. Gender and sexuality
12. Gender in different parts of the world

**LEARNING OUTCOMES:**

1. Give an overview of the psychological and biological perspectives on gender. (1)
2. Explain the sociological perspectives on gender; (i.e., conflict, functionalist, symbolic interactionist, and feminist theories). (2) (SS 2)
3. Explain how gender is a social construction. (2)
4. Describe the various methods that sociologists use to study gender. (i.e., surveys, experiments, interviews, and observations). (3) (SS 1)
5. Use sociological perspectives and concepts (i.e., differential socialization, anticipatory socialization, the self-fulfilling prophecy, and the Thomas Theorem) to describe how gender affects men's and women's statuses and roles within the following social institutions: family, education, work, media, and healthcare. (4-9) (SS 3)
6. Use sociological perspectives and concepts to describe how gender and violence are connected. (10)
7. Use sociological perspectives and concepts to describe how gender and sexuality are connected. (11)
8. Use sociological perspectives and concepts to describe how gender affects people in various parts of the world (12) (SS 4)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit  
Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

Course Attributes:  
Diversity (DA), Ethnic, Race & Gender, Social Science (AGEC)

### [SOC 220 - Introduction to Social Work](#)

#### COURSE DESCRIPTION:

SOC 220. Introduction to Social Work (3). Survey of social work as a profession and social welfare as an institution. Social work: historical development, principles, philosophy, and practices. Three lecture.

#### COURSE CONTENT:

1. Introduction to the field of social work
2. History of the social welfare institutions
3. Nature and characteristic of the profession: value base, knowledge base, skill base
4. Case studies
5. Fields of practice
6. Major concerns of social work
7. Current developments in social work
8. Perspectives for the futureDefine social work, social welfare, and social services.

#### LEARNING OUTCOMES:

1. Distinguish social work from the other helping professions.
2. Demonstrate knowledge of the history and philosophy of social work.
3. Identify methods of social work practice in the delivery of service of social welfare programs.
4. Identify the services and programs of the major fields of practice.
5. Demonstrate an understanding of the dynamic nature of social work and social welfare.
6. Formulate a perspective toward the future of social work as a viable profession.

#### REQUIRED ASSESSMENT:

1. Employ thoughtful and precise writing (a minimum of 1500 words), critical reasoning, and analytical discourse through assigned writing tasks, essay examinations, journals, and/or research papers.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit  
Schedule Types: Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
Social Sciences Department

Course Attributes:  
Diversity (DA), Info Literacy (IL)

### [SOC 230 - Introduction to Statistics in the Social and Behavioral Sciences](#)

#### COURSE DESCRIPTION:

SOC 230. Introduction to Statistics in the Social and Behavioral Sciences. (3). Basic concepts of statistical analysis and design in social and behavioral science research. This course is cross-listed with PSY 230. Prerequisite: MAT 142 or MAT 152 or satisfactory score on the mathematics skills assessment. Three lecture.

#### COURSE CONTENT:

1. Variables and measurement in the social sciences
2. Frequency distributions
3. Measures of central tendency
4. Variability
5. Standardized distributions
6. Probability
7. Hypotheses testing in the social sciences
8. Independent and related samples
9. Estimation
10. Analysis of variance (ANOVA)
11. Correlations and regressions in the social sciences

#### LEARNING OUTCOMES:

1. Define and create different variables and different forms of measurement. (1)
2. Interpret frequency distributions and compute measures of central tendency. (2,3)
3. Compute and interpret scores of variability among data in standardized distributions. (4,5)
4. Compute and interpret probabilities and inferential statistics between populations and samples within the social and behavioral sciences. (6)
5. Design and calculate means of testing a hypothesis. (7)
6. Explain the concepts underlying the statistical testing of hypotheses. (7)
7. Utilizing t-tests, design and test research involving means from independent and related samples. (8)
8. Follow formulas to infer population parameters through estimation. (9)
9. Design and compute multiple means using one-way ANOVA. (10)
10. Identify and interpret information gained through correlations and regression analyses within the social and behavioral sciences. (11)

3.000 Credit hours  
3.000 Lecture hours

Levels: Credit  
Schedule Types: Lecture

Visual/Performing/LiberalOBS Division

Social Sciences Department

### SOC 250 - Social Problems

#### COURSE DESCRIPTION:

SOC 250. Social Problems (3). A sociological exploration of selected social problems. Emphasis on social issues. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Introduction
  - a. definition of social problems
  - b. research methods for studying social problems
2. Problems of inequality (gender, race, class, etc)
  - a. social class and poverty
  - b. race and ethnic inequality
  - c. gender inequality
  - d. other (e.g., inequality based on age, sexual orientation)
3. Institutional problems
  - a. health care: problems of physical & mental illness
  - b. problems in education
  - c. the changing family
4. Selected topics (optional)
  - a. prostitution, pornography & the sex industry
  - b. alcohol & other drugs
  - c. crime & criminal justice
  - d. population, urban, problems and the environmental crisis
  - e. global social problems: war & terrorism

#### LEARNING OUTCOMES:

1. Propose sociological approaches to social issues in society. (SS 3)
2. Review methods for collecting sociological data. (SS 1)
3. Examine the social nature of inequality (gender, race, class, etc). (SS 2)
4. Investigate the diverse types of inequality found in the American social class system, including possible solutions. (SS 4)
5. Analyze selected social problems from an institutional perspective, including possible solutions.

#### REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing and thinking skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

#### Course Attributes:

Diversity (DA), Ethnic, Race & Gender, Social Science (AGEC)

### SOC 277 - Human Sexuality

#### COURSE DESCRIPTION:

SOC 277. Human Sexuality (3). Examination of the physical, social and cultural contributions to human sexuality. Examination of the facts and myths, current literature, and changing mores regarding human sexuality. Prerequisite: Reading Proficiency. Three lecture.

#### COURSE CONTENT:

1. Perspectives on human sexuality
2. Research methods
3. Sexual anatomy
4. Conception, pregnancy and childbirth
5. Contraception and abortion
6. Sexually transmitted infections
7. Sexual arousal, response and technique
8. Human sexuality throughout the life span
9. Psychological theories of human sexuality
10. Sexual orientation
11. Sex roles, sex differences and sexism
12. Sexual relationships
13. Sexual dysfunctions and therapy
14. Atypical sexual behavior
15. Sexual coercion and violence
16. Commercial sex
17. Sexual laws and ethics

#### LEARNING OUTCOMES:

1. Explain the importance of the cultural influences on human sexuality. (1) (SS 1,4-6)
2. Identify the sociological approaches to the study of human sexuality. (1,2,9) (SS 1.2)
3. Describe the structure and function of male and female reproductive organs. (3) (SS 3)
4. Analyze issues relating to conception, pregnancy, and childbirth. (4,5) (SS 3)
5. Describe the transmissions, symptoms, diagnosis, and treatment of sexually transmitted infections. (6) (SS 5)
6. Investigate issues surrounding different sexual orientations. (10-12) (SS 1,2,5,6)
7. Evaluate attitudes that facilitate or inhibit healthy sexual development. (7-9) (SS 1)
8. Describe common sexual dysfunctions and associated therapies. (13) (SS 5,6)
9. Identify common atypical sexual behaviors. (14-16) (SS 3)
10. Explain the relationships between religious, ethical, legal and moral concerns relating to human sexual behavior. (17) (SS 4, 6)

#### REQUIRED ASSESSMENT

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours



**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**Course Attributes:**

Ethnic, Race & Gender, Social Science (AGEC)

### **SOC 290 - Research Methods**

**COURSE DESCRIPTION:**

SOC 290. Research Methods (4). Planning, execution, analysis, and written reporting of psychological research. Surveys the literature, procedures, and instruments in representative areas of psychological research. Cross-listed with PSY 290. Prerequisite: SOC 101. Four lecture.

**COURSE CONTENT:**

1. Scientific Method
2. Formulation of the Hypothesis
3. Methods of Research
  - a. Observational Studies
  - b. Surveys
  - c. Case Studies
  - d. Correlational Studies
  - e. The Experiment
4. Research Designs
  - a. Between subjects (independent samples) designs
  - b. Within subjects designs
    1. Repeated measures
    2. Matched subjects
  - c. Factorial designs
  - d. Single subject (N = 1) designs
  - e. Quasi-Experimental designs
5. Writing research reports
  - a. Locating journals/resources in the library
  - b. Looking at and summarizing scientific articles
  - c. Literature review of topic or researcher
  - d. Writing in a scientific style
  - e. Major sections of a report
  - f. Evaluating journals or scientific material
6. Research ethics
7. Explain the basic assumptions of science.

**LEARNING OUTCOMES:**

1. Develop an operationally defined hypothesis.
2. Identify and classify research methods.
3. Identify independent and dependent variables.
4. Identify confounding variables.
5. Design and analyze a basic research project and generate a scientific report describing the study's results.
6. Summarize a basic scientific report.
7. Analyze scientific reports and suggest rival hypotheses.
8. Identify and explain ethical concerns associated with research.

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

4.000 Credit hours

4.000 Lecture hours

0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Social Sciences Department

### **SOC 296 - Internship: Sociology**

**COURSE DESCRIPTION:**

SOC 296. Internship: Sociology (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.

11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**SOC 299 - Independent Study Sociology**

**COURSE DESCRIPTION:**

SOC 299. Independent Study Sociology (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.


1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
Social Sciences Department

**SPA 101 - Beginning Spanish I**

**COURSE DESCRIPTION:**

SPA 101. Beginning Spanish I (4).  SPA 1101. Fundamentals of speaking, writing, listening, and reading of Spanish. Introduction to the culture of the Spanish-speaking world. Pre-requisite: Reading Proficiency. Four lecture.

**COURSE CONTENT:**

1. Formulaic expressions (e.g., Of course!)
2. Courtesy expressions (e.g., Thank you, good evening)
3. Basic needs
4. Question formation and interrogative words
5. Basic biographical information (e.g., name, age, origin, profession, phone number, address)
6. Telling time
7. Comparisons
8. Descriptions of activities
9. Narrations of daily routines
10. Descriptions of objects, places, and people
11. Spanish phonetic and stress systems
12. Spanish spelling system
13. Accent marks in Spanish
14. Reading authentic Spanish passages that relate to basic survival vocabulary and/or current events
15. Components of the Spanish-speaking culture: physical (e.g., personal space, customs), non-verbal (e.g., gestures), geographical (e.g., maps), and the arts (e.g., music, arts)

**LEARNING OUTCOMES:**

1. Use and respond to formulaic expressions and courtesy expressions (e.g., Of course!, Thank you), formulate questions to satisfy basic needs (e.g., What time is it?) and express basic needs (e.g., I'm looking for the bus to Guadalajara).
2. Describe objects, places, and people.
3. Express basic biographical information on oneself and others (e.g., name, age, origin, profession, phone number, address)
4. Narrate daily activities and routines of oneself and others (e.g., At seven, I wake up, shower, and shave. After I get dressed and eat breakfast, I go to the university).
5. Respond and contribute to very simple face-to-face conversations with limited spontaneity using frequently used expressions and learned vocabulary.
6. Apply the Spanish alphabet and phonetic system, the rules of stress, and the rules of accent marks.
7. Identify components of the Spanish-speaking culture: physical (e.g., personal space, customs), non-verbal (e.g. gestures), geographical (e.g., maps), and the arts (e.g., music, arts).

**REQUIRED ASSESSMENT:**

1. An impromptu oral (i.e., speaking) exam, interview, or presentation
2. An aural (i.e., listening) exam or demonstration

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

Levels: Credit


Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Modern Languages Department

Course Attributes:  
SUN# SPA 1101

### SPA 102 - Beginning Spanish II

COURSE DESCRIPTION:

SPA 102. Beginning Spanish II (4).  SPA 1102. Development of speaking, writing, listening, and reading proficiency in Spanish at the novice mid/novice high level. Culture of the Spanish-speaking world. Prerequisite: SPA 101 or SPA 132 or placement exam. Four lecture.

COURSE CONTENT:

1. Descriptions of objects, places, people, and events on topics of a factual nature (e.g., vacations, leisure activities, holidays, health, household chores)
2. Gustar construction
3. Superlatives
4. Narrations using the preterite and imperfect tenses
5. Direct object pronouns
6. Indirect object pronouns
7. Double object pronouns
8. Prepositions
9. Verbs expressing emotions (e.g., to get angry, to cry)
10. Exploration of Internet sites
11. Recognition of simple cultural norms, beliefs, and regional variations of areas where Spanish is spoken/used

LEARNING OUTCOMES:

1. Describe objects, places, and people with some evidence of creativity and improvisation on topics of a factual nature. (1)
2. Express feelings and opinions with limited elaboration (e.g., I prefer living in Prescott because the weather is nice). (3,9)
3. Narrate a series of events that took place in the past using the past tenses with limited elaboration. (4)
4. Explain likes and dislikes of objects, places, people, and events with some elaboration (e.g., I like tamales because my family eats them at Christmas). (2)
5. Maintain (i.e., to initiate, respond, and contribute to) simple face-to-face conversations with limited spontaneity using present tense and some use of the past tenses. (1,4)
6. Combine ideas using object pronouns, conjunctions, and prepositions with infrequent usage (e.g., I don't have the pen; I gave it to Mary.). (5-8)
7. Identify simple cultural norms, beliefs, and regional variations of areas where Spanish is spoken/used. (11)
8. Explore Internet sites relating to the culture of the Spanish-speaking world. (10,11)

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Modern Languages Department

Course Attributes:  
SUN# SPA 1102

### SPA 120 - Spanish for Educators

COURSE DESCRIPTION:

SPA 120. Spanish for Educators (3). Conversational Spanish for the student who needs a practical speaking and writing knowledge of common terminology used in the school setting. This course is cross-listed with EDU 120. Three lecture.

COURSE CONTENT:

1. Formulaic expressions (e.g., Of course!)
2. Courtesy expressions (e.g., Thank you, good evening)
3. Basic classroom commands
4. Question formation and interrogative words
5. Basic biographical information (e.g., name, age, origin, profession, phone number, address)
6. Telling time
7. Description of classroom activities
8. Narrations of daily routines
9. Descriptions of objects, places, and people
10. Spanish phonetic and stress systems
11. Spanish spelling system
12. Accent marks in Spanish
13. Geography of the Spanish-speaking world
14. Traditions and holidays of the Spanish-speaking world

LEARNING OUTCOMES:

Speaking:

1. Utilize frequently used expressions and learned vocabulary to describe objects, and persons in the classroom.
2. Formulate questions to satisfy basic needs (e.g., Where is your textbook?).
3. Express basic needs (e.g., We are going to the library and you will need your book.).
4. Express basic biographical information on oneself and others (e.g., name, age, origin, profession, phone number, address)
5. Use and respond to formulaic expressions (e.g., Of course!) and courtesy expressions (e.g., Thank you, good morning).
6. Use and respond to basic commands (e.g. Don't bother your neighbor).
7. Respond and contribute to very simple face-to-face conversations with limited spontaneity using frequently used expressions and learned vocabulary.
8. Apply the Spanish phonetic system.
9. Stress words appropriately in Spanish.

Writing:

1. Compose short narratives describing classroom procedures and expectations in the classroom.
2. Incorporate formulaic expressions (e.g., Of course!) and courtesy expressions (e.g., Thank you, good evening).
3. Compose sentences narrating the daily activities and routines of students in the classroom.
4. Apply the Spanish spelling system and the use of accent marks in Spanish.

Listening:

1. Aurally comprehend frequently used words and phrases and learned vocabulary in narratives from a native speaker.
2. Aurally comprehend formulaic expressions (e.g., Of course!) and courtesy expressions (e.g., Thank you, good morning) from a native speaker.
3. Aurally comprehend narrations of the daily activities and routines of students in the classroom.

## Culture:

1. Identify components of the Spanish-speaking culture: physical (e.g., personal space, customs), non-verbal (e.g., gestures), geographical (e.g., maps), and the traditions and holidays.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Modern Languages Department

### SPA 125 - Spanish for Health Professionals

COURSE DESCRIPTION:

SPA 125. Spanish for Health Professionals (2). Conversational Spanish with an emphasis on practical speaking knowledge of common medical terms used in a variety of health care settings. Two lecture.

COURSE CONTENT:

1. The alphabet, singular and plural forms, agreement in number and gender
2. Greetings, introductions, farewells
3. The numeral system 0-10,000, dates, telling time, months of the year, days of the week
4. Narrations in the present tense, including the use of regular verbs, select irregular verbs (ser, estar, saber, dar, poder, tener, querer, ver, hacer, venir, ir, poner, salir), stem changing verbs, indirect transitive verbs in the first and second person singular, the periphrastic future, and the gerund
5. Expressions of frequency
6. Narrations in a past time frame, by way of the present perfect
7. Command phrases and possession
8. Interrogatives
9. Lexical items related to the body, health, medicine, nutrition, family, etc.
10. Hispanic culture as it relates to health care

LEARNING OUTCOMES:

1. Send and receive messages in a past time frame to obtain a client's medical history, talk about a recent injury or illness, etc. (5, 6, 8, 9)
2. Give basic health care instructions and directions. (7, 9)
3. Greet and converse with Spanish speaking clients. (2, 4)
4. Describe present actions and processes to a client. (4, 9)
5. Give clients directions and descriptions as they relate to medical events that are scheduled to occur in the immediate future. (4)
6. Send and receive messages in the present time frame to discover a client's current health practices—medications, diet, exercise, etc. (4, 5, 8, 9)
7. Set up initial and return appointments. (1, 3)
8. Analyze Hispanic health care cultures. (10)

2.000 Credit hours  
 2.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Modern Languages Department

### SPA 131 - Conversational Spanish I

COURSE DESCRIPTION:

SPA 131. Conversational Spanish I (3). Fundamentals of speaking and listening skills in Spanish. Introduction to the culture of the Spanish-speaking world. Three lecture.

COURSE CONTENT:

1. Formulaic expressions (e.g., Of course!)
2. Courtesy expressions (e.g., Nice to meet you, thank you)
3. Basic needs expressions (e.g., I have to work, I need a pencil)
4. Question formation and interrogative words
5. Biographical information (e.g., name, age, origin, profession, phone number, address)
6. Using numbers, the alphabet and telling time
7. Expressing likes and dislikes
8. Descriptions of objects, places, people and activities
9. Descriptions of future actions
10. Components of the Spanish-speaking culture

LEARNING OUTCOMES:

1. Use and respond to formulaic expressions such as ¿Of course!¿ and courtesy expressions. (1,2)
2. Formulate questions to satisfy basic needs, such as in vacation situations. (3,4)
3. Express basic needs, including the use of necesitar and tener que verb constructions. (3)
4. Formulate and respond to questions regarding basic biographical information. (4-6)
5. Express the time of day and at what time specific events are set to occur. (6)
6. Express basic likes and dislikes. (7)
7. Use common expressions and learned vocabulary to describe objects, places, people and activities in specific high frequency contexts, such as when talking about school and familial situations. (8)
8. Describe actions that will take place in the future using periphrastic future constructs, ir a + infinitive. (8, 9)
9. Comprehend aurally content from learning outcomes 1-8 when expressed by classroom partners and native speakers who use somewhat slow and deliberate speech and careful articulation. (1-9)
10. Identify components of the Spanish-speaking culture: physical (e.g. personal space, customs), non-verbal (e.g., gestures), geographical (e.g., maps), and the arts (e.g., music, arts). (10)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Modern Languages Department

**SPA 132 - Conversational Spanish II****COURSE DESCRIPTION:**

SPA 132. Conversational Spanish II (3). Development of speaking and listening skills in Spanish at the novice level. Culture of the Spanish-speaking world. Prerequisite: SPA 101 or SPA 131. Three lecture.

**COURSE CONTENT:**

1. Descriptions of objects, places, people, activities and states
2. Narrations of daily routines
3. Comparisons
4. Techniques for avoiding unnatural repetitions
5. Descriptions of knowledge
6. Propositions
7. Components of the Spanish-speaking culture

**LEARNING OUTCOMES:**

1. Express lexical and grammatical structures important to specific high frequency face-to-face contexts, such as in restaurants and vacation situations, when communicating descriptions, narrations and comparisons. (1-3, 5)
2. Use common expressions and learned vocabulary to describe objects, places, people, activities and states in specific high frequency contexts. (1)
3. Use common expressions and learned vocabulary to describe completed activities in the preterite past. (1)
4. Describe feelings, locations and states using copulas ser and estar. (1)
5. Narrate daily activities and routines using reflexive verbs. (2)
6. Compare objects, places, people, their qualities and their activities. (3)
7. Use direct object pronouns to avoid unnatural and/or superfluous repetitions. (4)
8. Describe one's own knowledge and that of others through two knowledge verbs, saber and conocer. (5)
9. Extend and decline invitations with verbs that change stems. (6)
10. Comprehend aurally content from learning outcomes 1-9 when expressed by classroom partners and native speakers who use somewhat slow and deliberate speech and careful articulation. (1-6)
11. Identify components of the Spanish-speaking culture: physical (e.g. personal space, customs), non-verbal (e.g., gestures), geographical (e.g., maps), and the arts (e.g., music, arts). (7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Modern Languages Department

**SPA 140 - Spanish for Special Occupational Groups****COURSE DESCRIPTION:**

SPA 140. Spanish for Special Occupational Groups (1). Basic principles of Spanish pronunciation and the use of fixed expressions specific to workplace situations. One lecture.

**COURSE CONTENT:**

1. Basic principles of Spanish pronunciation
2. Fixed expressions and vocabulary pertinent to specific workplace situations
3. Cultural differences pertinent to workplace situations

**LEARNING OUTCOMES:**

1. Apply basic rules of Spanish pronunciation.
2. Pronounce Spanish words and phrases clearly to be understood by a native speaker of Spanish who is used to dealing with non-native speakers of Spanish.
3. Use fixed expressions and vocabulary in specific workplace communication situations.
4. Identify cultural differences between Spanish-speaking and English-speaking persons in the workplace.


1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Modern Languages Department

**SPA 201 - Intermediate Spanish I****COURSE DESCRIPTION:**

SPA 201. Intermediate Spanish I (4).  SPA 2201. Development of speaking, writing, listening, and reading proficiency in Spanish at the novice high level. Culture of the Spanish-speaking world. Prerequisite: SPA 102. Four lecture.

**COURSE CONTENT:**

1. Descriptions of objects, places, people, and events on topics of a subjective nature (e.g., technology, politics, personal relationships, the environment)
2. Preterit tense
3. Imperfect tense
4. Subjunctive versus indicative mood in noun, adjectival, and adverbial clauses
5. Commands
6. Future tense
7. Present subjunctive
8. Present perfect indicative
9. Present perfect subjunctive
10. The writing process in Spanish
11. Description of cultural norms, values, beliefs, and regional variations of areas where Spanish is spoken/used

**LEARNING OUTCOMES:**

1. Describe objects, places, and people with a moderate amount of creativity and improvisation on topics of a subjective nature (e.g., technology, politics, personal relationships, the environment).
2. Narrate a series of events with a moderate amount of elaboration.
3. Maintain (i.e., to initiate, respond, and contribute to) simple face-to-face conversations with some spontaneity.
4. Hypothesize about the future (e.g., I will be there.) and express contingent events (e.g., When she finishes the exam, we can leave.).

5. Express situations of volition and doubt with some elaboration (e.g., My sister wants me to move to Tucson., I doubt that you can cook tamales., Leave!).
6. Emotionally react to facts with some elaboration (e.g., It's sad that your brother is sick.).
7. Employ the writing process (e.g., organizing thought, composing, revising, proofreading) in Spanish.
8. Describe cultural norms, values, beliefs, and regional variations of areas where Spanish is spoken/used.

**REQUIRED ASSESSMENT:**

1. An impromptu oral (i.e., speaking) exam, interview, or presentation
2. An aural (i.e., listening) exam or demonstration


4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Modern Languages Department

**Course Attributes:**  
SUN# SPA 2201

**SPA 202 - Intermediate Spanish II****COURSE DESCRIPTION:**

SPA 202. Intermediate Spanish II (4).  SPA 2202. Development of speaking, writing, listening, and reading proficiency in Spanish at the intermediate low level. Culture of the Spanish-speaking world. Prerequisite: SPA 201. Four lecture.

**COURSE CONTENT:**

1. Descriptions of objects, places, people, and events relating to basic needs and on topics of a factual or subjective nature
2. Preterit tense
3. Imperfect tense
4. Future tense
5. Conditional tense
6. Present subjunctive
7. Imperfect subjunctive
8. Subjunctive versus indicative mood in noun, adjectival, and adverbial clauses
9. Commands
10. Present perfect indicative
11. Pluperfect indicative
12. Present perfect subjunctive
13. Review of pronouns (i.e., reflexive pronouns, direct object pronouns, indirect object pronouns, and double object pronouns) and objects of prepositions
14. The writing process in Spanish
15. Critical thinking skills in reading in Spanish
16. Interpretation of cultural norms, values, beliefs, and regional variations of areas where Spanish is spoken/used

**LEARNING OUTCOMES:**

1. Describe objects, places, and people with a great amount of creativity and improvisation on topics relating to basic needs, and on topics of a factual or subjective nature.
2. Narrate a series of events with a great amount of elaboration.
3. Maintain (i.e., to initiate, respond, and contribute to) somewhat simple face-to-face conversations with a great amount of spontaneity.
4. Express situations of volition and doubt with a great amount of elaboration (e.g., My sister wants me to move to Tucson because she thinks I can get a good job there., I doubt that you can cook tamales; you can't even boil water!, Leave because I need to study!).
5. Emotionally react to facts with a moderate amount of elaboration (e.g., It's sad that your brother is sick; last time I saw him he looked great.).
6. Combine related ideas using pronouns (e.g., I gave it to him.), conjunctions (e.g., and), prepositions (e.g., to), and adverbial phrases (e.g., later, unless, on the other hand) with moderate frequency.
7. Employ the writing process (e.g., organizing thoughts, composing, revising, proofreading) on increasingly-complex topics in Spanish.
8. Apply critical thinking skills to analyze and evaluate reading passages which have a clear, underlying internal structure.
9. Interpret cultural norms, values, beliefs, and regional variations of areas where Spanish is spoken/used.

**REQUIRED ASSESSMENT:**

1. An impromptu oral (i.e., speaking) exam, interview, or presentation
2. An aural (i.e., listening) exam or demonstration

4.000 Credit hours  
4.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Modern Languages Department

**Course Attributes:**  
SUN# SPA 2202

**SPA 296 - Internship: Spanish****COURSE DESCRIPTION:**

SPA 296. Internship: Spanish (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

## LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

## REQUIRED ASSESSMENT:

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Internship

Visual/Performing/LiberalOBS Division  
Modern Languages Department

**SPA 299 - Independent Study Spanish**

## COURSE DESCRIPTION:

SPA 299. Independent Study Spanish (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

## COURSE CONTENT:

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

## LEARNING OUTCOMES:

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Independent Study

Visual/Performing/LiberalOBS Division  
Modern Languages Department

**STU 110 - Career Directions**

## COURSE DESCRIPTION:

STU 110. Career Directions (1). Vocational assessments and research techniques for college major and career decision making. Emphasis on identifying potential occupational directions. One lecture.

## COURSE CONTENT:

1. Assessment tools to discover interests, skills, values and personality preferences
2. Occupational options based on interests, skills, values and personality preferences
3. Career resources and research techniques
4. Educational and occupational goals

## LEARNING OUTCOMES:

1. Identify interests, skills, values, and personality preferences as they apply to career planning.
2. Use career resources and research techniques to explore career options.
3. Develop a list of potential careers and college majors related to their area of interest, personality preference, values and skills.
4. Synthesize career information and devise a vocational plan.

1.000 Credit hours  
1.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Foundation Studies Division  
Education Department

**STU 111 - Career and Life Planning**

**COURSE DESCRIPTION:**

STU 111. Career and Life Planning (2). Exploration of the career decision-making processes, including personal assessment, career exploration, and goal setting. Emphasis on developing career planning strategies. Introduction to job search techniques. Two lecture.

**COURSE CONTENT:**

1. Career preferences based on personality, attitudes, self-concepts, skills, interests, and values
2. Contemporary theories of the career planning process
3. Career options and decision-making strategies
4. Socioeconomic, gender, and cultural considerations as related to the world of work
5. Career research methods and resources
6. Labor market information and employment trends
7. Job search strategies

**LEARNING OUTCOMES:**

1. Use self-assessment tools.
2. Identify personality preferences, attitudes, self-concept, skills, interests, and values.
3. Explain how personal assessment relates to career planning and career choices.
4. Identify career options.
5. Develop an educational/occupational plan.
6. Appraise the impact of socioeconomic factors, gender roles, and cultural diversity on personal career decision-making processes.
7. Use research tools and resources to investigate careers.
8. Analyze current and future workplace trends and occupational outlook.
9. Apply job search techniques.

2.000 Credit hours  
2.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
Education Department

**STU 150 - College Success Skills****COURSE DESCRIPTION:**

STU 150. College Success Skills (3). Academic and personal skills to promote a successful college experience. Three lecture.

**COURSE CONTENT:**

1. Time management and organization
2. Study skills
3. Test taking skills
4. Personal responsibility, goal setting, and motivation
5. Academic and career planning
6. College environment navigation skills
7. Learning styles identification

**LEARNING OUTCOMES:**

1. Create and implement a time management and personal organizational system. (1)
2. Apply specific study skills, including note taking and test taking strategies and memory enhancement techniques, to course content. (2, 3)
3. Develop and articulate short and long-term goals for career development and academic success. (4, 5)
4. Define personal responsibility and motivation and explain how they affect academic performance. (4)
5. Identify academic resources and support services important for academic success. (6)
6. Identify and adapt personal learning styles to enhance academic achievement. (7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Foundation Studies Division  
Education Department

**STU 196 - Service Learning Practicum****COURSE DESCRIPTION:**

STU 196. Service Learning Practicum (1). Active participation in a volunteer service experience coordinated with local organizations to meet community-identified needs. A minimum of 10-15 hours of volunteer service is required. One lecture.

**COURSE CONTENT:**

1. Reasons for, and benefits of, civic engagement
2. Needs of a community organization and its constituents
3. Personal behaviors and attitudes in volunteer service
4. Skills and concepts related to civic engagement and service learning

**LEARNING OUTCOMES:**

1. Analyze and critique volunteer service experiences. (1-4)
2. Describe the reasons for, and benefits of civic engagement. (1)
3. Evaluate the needs of a community organization and its clients. (2)
4. Develop a personal strategy and formulate a commitment for providing service. (3, 4)
5. Apply academic skills and abilities to community service projects. (3)
6. Define concepts related to civic engagement. (4)
7. Describe critical social issues facing Yavapai County. (2)

1.000 Credit hours  
1.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture



Foundation Studies Division  
Student Success Skills Department

#### STU 198 - Student Workshop:

##### COURSE DESCRIPTION:

STU 198. Student Workshop: (1). Development of leadership, scholarship, fellowship and service through participation in various projects. One lecture.

##### COURSE CONTENT:

1. Service
2. Fellowship
3. Scholarship
4. Leadership

##### LEARNING OUTCOMES:

1. Plan and participate in a service project that addresses the needs of the college and local community. (1-2, 4)
2. Find and evaluate information pertinent to a topic of scholarly interest. (3)
3. Organize and participate in an action project related to a research topic. (1-4)
4. Develop and practice leadership skills through participation in various projects. (4)
5. Write summaries of participation in various projects. (3)

1.000 Credit hours  
1.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
Student Success Skills Department

#### STU 230 - Leadership Development Studies

##### COURSE DESCRIPTION:

STU 230. Leadership Development Studies (3). Concepts, theories and philosophies of leadership and the application and practice of leadership skills. Pre-requisite: Reading Proficiency. Three lecture.

##### COURSE CONTENT:

1. History and philosophies of leadership
2. Servant leadership
3. Ethics of leadership
4. Vision
5. Team building
6. Goal setting
7. Decision making
8. Conflict management
9. Delegation and empowerment of others
10. Critical thinking

##### LEARNING OUTCOMES:

1. Identify important events in the history of leadership studies. (1) (CT 1)
2. Develop a personal philosophy of leadership. (1) (CT 2)
3. Define servant-leadership and evaluate the role of the servant leader. (2) (CT 2)
4. Discuss the role of ethics in leadership (3) (CT 1-3)
5. Develop and evaluate strategies for articulating a vision, building a team, setting goals, making decisions, and managing conflicts. (4-7) (CT 4)
6. Discuss the role of delegation and strategies for empowering others. (9) (CT 4)
7. Employ effective leadership strategies (2-9) (CT 4)
8. Discuss the processes of critical thinking as they apply to leadership. (10) (CT 1-4)

##### Required Assessment:

Participation in a service learning or student leadership project.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Foundation Studies Division  
Student Success Skills Department

##### Course Attributes:

Critical Thinking (AGEC), Critical Thinking (CT)

#### STU 296 - Internship: Student Development

##### COURSE DESCRIPTION:

STU 296. Internship: Life Management Skills (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

##### COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

##### LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.

2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Internship

Foundation Studies Division  
 Education Department

**STU 299 - Independent Study:Student Development****COURSE DESCRIPTION:**

STU 299. Independent Study Life Management Skills (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Specific knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Apply discipline-specific knowledge and skills to a community-service setting.
2. Develop an individual educational plan with the faculty liaison and agency/business.
3. Accomplish specific learning objectives and competencies.
4. Use critical thinking, problem-solving, ethical awareness, and effective writing skills in discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as acceptance of responsibility, self-confidence, respect for others and their views, social and interpersonal skills; initiative, and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Independent Study

Foundation Studies Division  
 Education Department

**THR 131 - Acting I****COURSE DESCRIPTION:**

THR 131. Acting I (3). Introduction to performance techniques with emphasis on movement and voice skills, and the performer's relationship to all parts of the play's production. Incorporates creative movement, character analysis, improvisation, stage arts, and the contribution of various types of theater to theater arts. Three lecture.

**COURSE CONTENT:**

1. Vocabulary and history of acting and the theater
2. Acting methods including improvisation
3. Voice and body as acting instruments
4. Script and character
5. Stage arts including set design, lighting, makeup, costumes, and props
6. Scene rehearsal and performance
7. The contribution of professional, regional, and community theaters to the theater arts

**LEARNING OUTCOMES:**

1. Articulate the vocabulary and history of acting and the theater. (1)
2. Define and employ various acting methods. (2)
3. Utilize body movements and voice skills in character development and interpretation. (3)
4. Analyze a text and employ techniques of character development. (4)
5. Investigate and assess the contribution of stage arts including set design, lighting, makeup, costumes, and props in performance. (5)
6. Rehearse scenes and present material in performance venue. (6)
7. Describe and evaluate the contribution of various types of theater to theater arts. (7)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, [Lecture](#)

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

**THR 132 - Acting II****COURSE DESCRIPTION:**

THR 132. Acting II (3). Study of performance techniques with emphasis on character development and analysis. Introduction to directing and technical theater as they influence development of acting skills. Prerequisite: THR 131. Three lecture.

**COURSE CONTENT:**

1. Methods of acting and character development
2. Elements of technical theater
  - a. Lighting
  - b. Set design
  - c. Costumes
  - d. Makeup
  - e. Properties
3. Directing concepts
  - a. Rehearsals
  - b. Blocking
  - c. Analysis of the play, era, and playwright
4. Monologues
5. Scenes
6. Theater terminology

**LEARNING OUTCOMES:**

1. Understand various methods of acting and character development.
2. Utilize performance skills within scene work.
3. Analyze individual performance skills and the performance skills of others through critique and discussion.
4. Understand the basic concepts of directing, from a conceptual perspective as well as a practical outlook.
5. Demonstrate knowledge of the terminology used to identify the physical components of the theater.
6. Apply elements of technical theater such as lighting, set design, costumes, and make-up to character development and performance skills.
7. Engage in script analysis in order to initiate character development and scene interpretation.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

**THR 135 - Introduction to the Theater****COURSE DESCRIPTION:**

THR 135. Introduction to the Theater (3). Development of theatre in Europe and America from ancient Greece to present. Integrated approach to theatre including playwriting, architecture, acting, production and criticism, particularly in historical settings. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. Overview: theatre crafts--acting, directing, playwriting, and design
2. Foundations: magic, dance, ritual, religion
3. Theatre history: Greek, Roman, Medieval, Renaissance and Shakespeare, Social Theatre, Romantic, Realistic, and Contemporary
4. Connections to society, economy, and other arts
5. Theater analysis and critique

**LEARNING OUTCOMES:**

1. Classify historical and stylistic concepts and artifacts of the theater. (1-3) (AH 1)
2. Analyze historical, religious, economic and cultural influences on the development of theater as an art form. (2-4) (AH 2)
3. Examine and critically analyze significant and representative dramatic productions. (1, 5) (AH 3, 4)
4. Identify, compare and critique major contributors and contributions to theater. (3, 4) (AH 5)

**REQUIRED ASSESSMENT:**

1. Demonstrate thoughtful and precise writing skills by completing at least 1500 words of monitored writing.

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

**Course Attributes:**  
 Arts & Humanities (AGEC)

**THR 243 - History of Film****COURSE DESCRIPTION:**

THR 243. History of Film (3). Historical and critical survey of the development of film as an art form, as a system of representation and communication, and as an industry from its invention to the present day. How films work technically, aesthetically, and culturally to create and reinforce social norms. Cross listed with HUM 243. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

**COURSE CONTENT:**

1. History of the development of film as a communications medium and an art form
2. History of the development of various film industries world-wide seen in historic, geographic and political contexts
3. Film genres and classifications seen within historical and stylistic contexts
4. Cinematic techniques and technologies in relation to spectators' receptions and interpretations
5. Film as seen by various thinkers and disciplines
6. Representations in films
7. Politics in film
8. The social function of film

## 9. Analyzing and critiquing film

## LEARNING OUTCOMES:

1. Analyze the historical development of film as a communications medium and as an art form. (1) (AH1, AH2)
2. Discuss the development of film industries in historic, geographic, and political contexts. (2) (AH1, AH2)
3. Classify films and specify genres within their historical and stylistic contexts. (3) (AH1, AH3)
4. Relate cinematic techniques and technologies to spectators' receptions and interpretations. (4) (AH3-5)
5. Connect cinema to the systems of various important thinkers and disciplines. (5) (AH6)
6. Investigate the use of representations in films. (6) (AH 4-5)
7. Relate film to political settings. (7) (AH2)
8. Determine and analyze the social function of various films. (8) (AH2, AH4-5)
9. Analyze and critique films. (9) (AH3-5)
10. Engage in informed, dialectic discussion regarding the various aspects of films and film production. (1-10) (AH1-6)

## REQUIRED ASSESSMENT:

1. Demonstrate thoughtful and precise writing skills by completing at least 2500 words of monitored writing.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

## Levels: Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Performing Arts Department

## Course Attributes:

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

**THR 250 - American Cinema**

## COURSE DESCRIPTION:

THR 250. American Cinema (3). Survey of American film as an art form, an industry, and a system of representation and communication. Technical, aesthetic, and cultural aspects of cinema and the reading of film as a means for communicating American ideals, values and attitudes. This course is cross-listed with HUM 250. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

## COURSE CONTENT:

1. Development of the American film industry
2. Film vocabulary
3. Cinematic art and technology
4. Hollywood film genres
5. Film analysis and critique

## LEARNING OUTCOMES:

1. Identify the key events of American film history from the silent cinema to the present day. (1) (AH 1, 6)
2. Use the basic technical and critical vocabulary of motion pictures. (2) (AH 3)
3. Analyze the relationship between the technologies of cinema and film art. (3) (AH 2, 5)
4. Explain the role of genre in American film history as it relates to the expression of American ideals, values and identity. (4) (AH 1,2)
5. Analyze and critique American films. (5) (AH 4, 5)

REQUIRED ASSESSMENT: Demonstrate thoughtful and precise writing skills by completing at least 2500 words.

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

## Levels: Credit

**Schedule Types:** Additional Activity, Lecture

Visual/Performing/LiberalOBS Division  
Humanities Department

## Course Attributes:

Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC)

**THR 296 - Internship: Theater**

## COURSE DESCRIPTION:

THR 296. Internship: Theater (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

## COURSE CONTENT:

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

## LEARNING OUTCOMES:

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.

10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Internship

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

**THR 299 - Independent Study Theater****COURSE DESCRIPTION:**

THR 299. Independent Study Theater (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required. One to Six lecture.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
 0.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Independent Study

Visual/Performing/LiberalOBS Division  
 Performing Arts Department

**UAS 100 - UAS Operations****COURSE DESCRIPTION:**

UAS 100. UAS Operations (3). Fundamentals of Unmanned Aircraft System (UAS) operations. Includes concept of operations, types of systems, applications, and optionally piloted vehicles. Three lecture.

**COURSE CONTENT:**

1. Concept of operations
2. Types of systems
3. Controls and displays
4. Remotely piloted and command directed vehicle systems
5. Takeoff and landing systems
6. Optionally piloted vehicles

**LEARNING OUTCOMES:**

1. Identify basic UAS operational factors. (1-3)
2. Categorize types of UAS systems. (2,6)
3. Distinguish between remotely piloted and command directed systems and between types of landing systems. (4,5)
4. Associate the types of UAS systems with their advantages and disadvantages. (4,5)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

**Levels:** Credit**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
 Aviation Department

**UAS 103 - UAS Flight Simulation****COURSE DESCRIPTION:**

UAS 103. UAS Flight Simulation (2). Unmanned Aircraft System (UAS) flight using simulation. Basic flight training including takeoffs and landings, approaches, and basic maneuvers. Not required for holders of a commercial certificate and instrument rating. Six lab.

**COURSE CONTENT:**

1. Basic fixed-wing and rotor-wing maneuvers
2. Takeoffs and landings
3. Approaches and departures
4. Traffic patterns

## LEARNING OUTCOMES:

1. Repeat basic aircraft maneuvers in a simulator. (1)
2. Perform takeoff, landing, traffic pattern, approach, and departure procedures in a simulator. (2-4)

2.000 Credit hours  
0.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

**UAS 110 - UAS Aircraft and Ground Systems**

## COURSE DESCRIPTION:

UAS 110. UAS Aircraft and Ground Systems (3). Fundamentals of Unmanned Aircraft System (UAS) aircraft and ground systems. Basic component operation and use of airframe systems, the powerplant, flight controls, and avionics. Three lecture.

## COURSE CONTENT:

1. Powerplant systems
2. Airframe systems
3. Avionics systems
4. Flight controls
5. Basic telemetry systems
6. Ground station systems
7. Launch and recovery systems
8. Stability Augmentation System (SAS) Autopilot Systems

## LEARNING OUTCOMES:

1. Identify basic UAS airframe and powerplant systems and their component functions. (1,2)
2. State UAS flight controls, avionics, and SAS/autopilot components and functions. (3,4,8)
3. Describe basic UAS telemetry and ground station components and functions. (5,6)
4. Outline UAS launch and recovery system procedures. (7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

**Course Attributes:**

Creative Thinking (CR)

**UAS 120 - UAS Communications, Telemetry and Sensors**

## COURSE DESCRIPTION:

UAS 120. UAS Communications, Telemetry and Sensors (3). Unmanned Aircraft System (UAS) communication, telemetry, and sensor systems. Includes component operation and use of transmitters, computer control systems, and sensor packages. Review of single and multiple point failure modes, electromagnetic interference, and satellite communication theory. Three lecture.

## COURSE CONTENT:

1. Telemetry theory and operation
2. Uplink/downlink theory
3. Sensor packages
4. Electro-optic and infrared sensors
5. Failure modes
6. Electromagnetic interference
7. Satellite communication theory

## LEARNING OUTCOMES:

1. Describe telemetry components, systems, and theory. (1,2)
2. Diagram sensor components and functions. (3,4)
3. Analyze and mitigate single and multiple component failure modes and electromagnetic interference indications. (5,6)
4. Summarize satellite communication theory. (7)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

**UAS 132 - UAS Fixed Wing Flight**

## COURSE DESCRIPTION:

UAS 132. UAS Fixed Wing Flight (3). Fundamentals of Unmanned Aircraft System (UAS) fixed wing flight. Designed for the commercial and instrument rated pilot to safely operate fixed-wing UASs. Emphasis on judgment and consistent safe flying techniques during takeoff, flight and landing. Eighteen lab.

## COURSE CONTENT:

1. Pre-takeoff procedures
2. Basic flying characteristics of fixed-wing UASs
3. Taxiing, traffic patterns, approaches
4. Takeoffs, landings, and go-arounds
5. Advanced flight maneuvers

6. Emergency operations
7. Post-flight procedures
8. Ground handling and support

## LEARNING OUTCOMES:

1. Employ safe flying techniques during takeoffs and landings using first-person video. (2-4)
2. Use safe and consistent traffic patterns, approaches, and landing procedures. (3,4)
3. Use pre-takeoff and post-landing procedures and ground support functions. (1,7,8)
4. Operate aircraft safely and consistently during basic and advanced flight maneuvers. (5)
5. Employ consistently sound judgment to simulated and real emergencies. (6)

6.000 Credit hours  
 0.000 Lecture hours  
 18.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Career & Technical Education Division  
 Aviation Department

**UAS 200 - UAS History, Regulation and Law**

## COURSE DESCRIPTION:

UAS 200. UAS History, Regulation and Law (3). Survey course for Unmanned Aircraft System (UAS) history, development, and legal issues. Includes concept of operations, types of systems, applications, and optionally piloted vehicles. Three lecture.

## COURSE CONTENT:

1. History of Unmanned Aerial Vehicles (UAVs)
2. Technology development of UAVs
3. Federal Aviation Administration (FAA) standards
4. Civil Regulations
5. UAV Law
6. Public image of UAVs

## LEARNING OUTCOMES:

1. Identify UAS historical events and technology breakthroughs. (1,2)
2. Paraphrase FAA standards and civil UAV law. (3-5)
3. Summarize the impacts of public sensitivity to UAV operations. (6)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
 Aviation Department

## Course Attributes:

Civic Engagement (CE)

**UAS 210 - UAS Human Machine Interface**

## COURSE DESCRIPTION:

UAS 210. UAS Human Machine Interface (3). Fundamentals of Unmanned Aircraft System (UAS) Human-Machine Interface. Includes UAS crew coordination, human factors, ergonomics, and factors impacting control and operation. Three lecture.

## COURSE CONTENT:

1. Unmanned Aerial Vehicle (UAV) crew coordination
2. UAS resource management
3. UAV human factors
4. Ergonomics
5. Effective operation and control of UAVs

## LEARNING OUTCOMES:

1. Describe UAS crew coordination and resource management. (1,2)
2. Explain human factors associated with UAVs as they impact operation and control. (3,5)
3. Validate ergonomics of UAS control and display systems. (4)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
 Aviation Department

**UAS 220 - UAS Safety**

## COURSE DESCRIPTION:

UAS 220. UAS Safety (3). Essentials of risk mitigation and accident prevention. Sense and avoid, airspace, and public safety issues. Three lecture.

## COURSE CONTENT:

1. Sense and avoid
2. Airspace considerations
3. Safety programs
4. Public safety
5. Risk management
6. Accident review and investigation

## LEARNING OUTCOMES:

1. Specify sense and avoid systems vs. airspace restrictions. (1,2)
2. Recommend safety program criteria. (3,4)
3. Critique Unmanned Aerial Vehicle (UAV) risk management and safety programs. (3,5)
4. Review UAV accidents and investigation results. (6)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Career & Technical Education Division  
Aviation Department

**UAS 232 - UAS Rotor-Wing Flight**

## COURSE DESCRIPTION:

UAS 232. UAS Rotor-Wing Flight (6). Fundamentals of Unmanned Aircraft System (UAS) Rotor-Wing flight. Designed for the commercial and instrument rated pilot to safely operate rotor-wing UASs. Emphasis on judgment and consistent safe flying techniques during takeoffs and landings. Eighteen lab.

## COURSE CONTENT:

1. Pre-takeoff procedures
2. Basic flying characteristics of rotor-wing UASs
3. Taxiing, traffic patterns, approaches
4. Takeoffs, landings, and go-arounds
5. Advanced flight maneuvers
6. Emergency operations
7. Post-flight procedures
8. Ground handling and support

## LEARNING OUTCOMES:

1. Employ safe flying techniques during takeoffs and landings using first-person video. (2-4)
2. Use safe and consistent traffic patterns, approaches, and landing procedures. (3,4)
3. Use pre-takeoff and post-landing procedures and ground support functions. (1,7,8)
4. Operate aircraft safely and consistently during basic and advanced flight maneuvers. (5)
5. Employ consistently sound judgment to simulated and real emergencies. (6)

6.000 Credit hours  
0.000 Lecture hours  
18.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab

Career & Technical Education Division  
Aviation Department

**VEN 100 - Introduction to Viticulture**

## COURSE DESCRIPTION:

VEN 100. Introduction to Viticulture (3). World history of grapes and their production. Emphasis on the varieties of grapes, grapevine biology and physiology, vineyard management, and harvest and post-harvest operations. Three lecture.

## COURSE CONTENT:

1. History of grapes
2. Arizona, United States and global grape production
3. Species and varieties of grapes
4. Grapevine biology, physiology, growth and development
5. Grape plant structures and functions
6. Vineyard management and cultural practices
7. Soil and climate
8. Wine making

## LEARNING OUTCOMES:

1. Explain the history of grape cultivation and distribution. (1)
2. Compare grape species and cultivars used in the United States and throughout the world. (2,3)
3. Describe the evolution and taxonomy of cultivated species and the development of cultivars, varieties and rootstocks. (1-3)
4. Discuss grape production in Arizona: history, geography, raisin, table and wine grape regions, and cultivators. (2,3)
5. Explain grape physiology including photosynthesis, transpiration and environmental control of growth and development. (4,5)
6. Describe grape dormancy and bud break, phenology, vegetative and reproductive growth, berry growth and composition. (4,5)
7. Identify pruning systems and techniques. (4,6)
8. Discuss grapevine propagation methods, techniques and applications. (4-6)
9. Identify pests and discuss their control and management. (6)
10. Explain vineyard site selection and orientation, and describe soil preparation, planting, training, and trellis systems. (6,7)
11. Identify grapevine water and soil and nutrient requirements. (6,7)
12. Explain harvest and post-harvest operations including maturity factors, raisin types and processing, and table and wine grape harvesting, processing, and storage. (8)
13. Describe the process of wine making. (8)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lecture

Career & Technical Education Division  
Agriculture Science Department

**VEN 101 - Establishing a Vinifera Vineyard**



**COURSE DESCRIPTION:**

VEN 101. Establishing a Vinifera Vineyard (3). Introduction to the processes of establishing a vineyard. Emphasis on site selection, vine varieties, soil preparation, planting methods, vineyard layout, and equipment requirements. Prerequisite: VEN 100 (May be taken concurrently). Two lecture. Two lab.

**COURSE CONTENT:**

1. Grape world
2. Grape botany: genus, species, history, taxonomy
3. Costs
4. Grape varietal review
5. Site selection
6. Irrigation
7. Climate
8. Soils
9. Site preparation and planting
10. Phylloxera, Rootstocks and clones
11. Training and Trellising
12. Propagation
13. Cover crops
14. Grafting
15. Yield estimates

**LEARNING OUTCOMES:**

1. Discuss historical perspective of genus *Vitis*. (1,2)
2. Plan and equip a new vineyard. (3,4,15)
3. Assess critical site selection elements: heat units, slopes, micro-climates and crop history. (5-9)
4. Apply irrigation methods and timing for grapes. (6,7,15)
5. Propagate grape vines. (10-12,14)
6. Apply post-planting, pest control and cover crops. (10,13)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

**VEN 102 - Maintaining a Vinifera Vineyard****COURSE DESCRIPTION:**

VEN 102. Maintaining a Vinifera Vineyard (3). Maintaining a vineyard from the point of dormancy through the harvest. Emphasis on crop monitoring techniques, pruning methods, bloom, vine manipulation, and determining vine health. Includes the relationship that exists between the grower and the vintner. Prerequisite: VEN 100 (May be taken concurrently). Two lecture. Two lab.

**COURSE CONTENT:**

1. Grape Cultivars
2. Vine Nutrition
3. Water Management
4. Canopy Management and Crop Thinning
5. Vineyard Floor Management
6. Pests and Diseases
7. Harvest
8. Balanced Pruning
9. Cold Injury

**LEARNING OUTCOMES:**

1. Identify wine grape cultivars. (1)
2. List the nutrients required by grapes for proper growth. (2)
3. Explain how nutrient status is assessed in the vineyard. (2)
4. Calculate how many pounds of fertilizer are needed to supply a particular amount of nutrient to one acre of grapes. (2)
5. Identify the components of a drip irrigation system. (3)
6. Describe the steps in irrigation scheduling and relate the seasonal growth phase of the vine to water requirement. (3)
7. Describe a canopy both in and out of balance. (4)
8. Explain how initial vineyard establishment decisions as well as current cultural management impact canopy balance. (4)
9. Identify the problems associated with over-cropping and under-cropping. (4)
10. Describe the process to identify an unknown pest or cultural problem. (6)
11. Use of a weed identification guide or dichotomous key to identify weeds. (6)
12. Explain the importance of vineyard floor management. (5)
13. List the common diseases and vertebrate and invertebrate pests in the region. (6)
14. Complete a sprayer calibration. (6)
15. List the factors that are considered in order to determine when to harvest grapes. (7)
16. List and explain the advantages and disadvantages of mechanical harvest operation. (7)
17. Describe the effects of fruit quality on wine quality. (7)
18. Explain the process of balanced pruning. (8)
19. Calculate the number of buds to leave based on a pruning weight and pruning formula. (8)
20. Describe the anatomy of the compound bud. (8)
21. Explain the implications of bud anatomy on cold injury management and how cold injury hazard and occurrence impacts pruning decisions. (9)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

**Course Attributes:**

Civic Engagement (CE), Digital Lit (DL)

**VEN 120 - Wines of the United States****COURSE DESCRIPTION:**

VEN 120. Wines of the United States (2). A historical view of wine producing regions and states in the United States including California, Oregon, Washington and New York. Emphasis on the types and varieties of wines and pairing of local foods with local wines. Must be 21 years of age or older to enroll. One lecture. Two lab.

**COURSE CONTENT:**

1. History of wine in the United States
2. Wine producing states and regions
3. Types and varieties of wine
4. Wine tasting
5. Wine pairing

**LEARNING OUTCOMES:**

1. Discuss the history of wine in the United States. (1)
2. Classify wine by state or region. (2-4)
3. Critique wine by state or region. (2-4)
4. Pair wine with food. (5)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Agriculture Science Department

**Course Attributes:**

Oral Communication (OC)

**VEN 121 - Wines of the World****COURSE DESCRIPTION:**

VEN 121. Wines of the World (2). Wines produced throughout the world with an emphasis on history, the growth of grapes, wine production, geography and cultural relevance of different wine types and growing regions. In-depth classification and critique of "New World" versus "Old World" wine regions and styles. Winemaking methods, service, laws and regulations of the major wine regions. Students will taste, evaluate and identify various wine styles. Must be 21 years of age or older to enroll. One lecture. Two lab.

**COURSE CONTENT:**

1. World history of wine and its cultural relevance
2. Key elements needed to grow wine grapes
3. Wine growing regions
4. Old World wine growing regions and winemaking styles
5. New World wine growing regions and winemaking styles
6. Identification of a wine, and its country of origin, based on the label
7. Methods of wine classification and naming
8. Systems of wine laws and quality standards
9. Geographical influences on wine types and varieties
10. Presentation and opening of wines
11. Serving temperature and food pairings

**LEARNING OUTCOMES:**

1. Identify key events in the history of wine. (1)
2. Describe the main elements needed to grow wine. (2, 9)
3. Discuss important wine growing regions. (3-6, 9)
4. Classify wine by Old World and New World. (3-6)
5. Critique Old and New World wines. (3-6)
6. Identify various wine types through label interpretation. (6)
7. Explain various wine appellations and their quality parameters. (6-8)
8. Pair Old and New World wines with food. (11)
9. Present and open wine for service. (10-11)

2.000 Credit hours  
1.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Agriculture Science Department

**VEN 195E - Winemaking Practicum****COURSE DESCRIPTION:**

VEN 195E. Winemaking Practicum (2). Practical experience in winemaking while working at an approved winery and receiving supervision from a professional vintner. Students must complete a fall, spring and summer practicum. Must be 21 years of age or older to enroll. Prerequisite: VEN 200 (May be taken concurrently). Four lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Berry sampling
2. Winemaking
3. Bottling, labeling, foiling and waxing
4. Chemical analysis
5. Winery sanitation
6. Vineyard and winery operations

**LEARNING OUTCOMES:**

1. Select berry for winemaking. (1,6)
2. Perform wine chemical analysis. (4,6)
3. Produce wine. (2-6)
4. Perform and analyze winery sanitation. (5,6)
5. Implement bottling, labeling and waxing operations. (3,6)

2.000 Credit hours  
0.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Internship](#)

Career & Technical Education Division  
Agriculture Science Department

**Course Attributes:**

Creative Thinking (CR)

**VEN 195V - Viticulture Practicum****COURSE DESCRIPTION:**

VEN 195V. Viticulture Practicum (2). Practical experience in vineyard operations partnering with an approved vineyard, Students must complete a fall, spring and summer practicum. Prerequisite: VEN 100 (may be taken concurrently). Four lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

**COURSE CONTENT:**

1. Quality Assurance
2. Canopy Management
3. Trellis Systems
4. Harvest Operations
5. Diseases and Pests
6. Lab Analysis
7. Crop Estimates
8. Fertility Plan
9. Petiole Analysis
10. The U or Lyre System

**LEARNING OUTCOMES:**

1. Assess and maintain crop health. (1-3,8,9)
2. List and describe the characteristics of canopy ideotype. (2,10)
3. Describe and collect fruit samples for harvest parameters. (4)
4. Collect and perform lab analysis. (6)
5. Predict and plot harvest date and crop estimate. (7)
6. Plan and manage proper post-harvest monitoring. (7,8)
7. Manage proper pre-harvest operations. (7,8)
8. Identify major insect and weed pests in a given location. (5)
9. Identify and describe major fungal diseases in a given location. (5)
10. Evaluate existing management strategies for identified pests and diseases. (5)
11. Apply spray schedule to accomplish the goals of a stated pest management program. (5)
12. Discuss the water management strategy at your vineyard site. (1,8)
13. Identify and preform proper suckering and shoot thinning techniques. (1-3,9)
14. Apply proper cluster thinning, shoot positioning and leaf removal techniques. (1-3,9,10)

2.000 Credit hours  
0.000 Lecture hours  
4.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Internship](#)

Career & Technical Education Division  
Agriculture Science Department

**Course Attributes:**  
Diversity (DA)

**VEN 200 - Science of Winemaking I****COURSE DESCRIPTION:**

VEN 200. Science of Winemaking I (3). Winemaking principles of fruit selection, pre-harvest analyses, fruit processing, juice additions, alcoholic and malo-lactic fermentations. Includes winery hygiene and safety. Must be 21 years of age or older to enroll. Prerequisite: VEN 120 (May be taken concurrently). Three lecture.

**COURSE CONTENT:**

1. Pre-harvest fruit selection and analysis
2. Winery safety and sanitation
3. Red, white and rosé wine production
4. Alcoholic and malo-lactic fermentations
5. Juice addition calculations

**LEARNING OUTCOMES:**

1. Analyze pre-harvest fruit and juice. (1)
2. Discuss and explain winery safety and sanitation. (2)
3. Describe red, white, and rosé wine grape processing. (3)
4. Define alcoholic and malo-lactic fermentations. (4)
5. Calculate and apply juice additions. (5)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Career & Technical Education Division  
Agriculture Science Department

**Course Attributes:**  
Quantitative Lit (QL)

**VEN 201 - Science of Winemaking II****COURSE DESCRIPTION:**

VEN 201. Science of Winemaking II (3). Chemistry of winemaking, wine analysis and quality control. Emphasis on wine composition, wine analytical techniques, and the relevance of these analyses to winemaking decisions. Includes wine filtration and post-fermentation wine stewardship. Must be 21 years of age or older to enroll. Prerequisite: VEN 200. Two lecture. Two lab.

**COURSE CONTENT:**

1. Wine chemistry
2. Wine spoilage and quality control
3. Wine analytical techniques
4. Wine filtration and reverse osmosis

**LEARNING OUTCOMES:**

1. Analyze juice for: pH, titratable acidity, percent alcohol, and sulfite and acetic acid concentration. (1)
2. Determine wine spoilage conditions and responsible microbes. (2)
3. Implement wine preservation and quality control. (2)
4. Describe wine filtration, wine filtration systems, and reverse osmosis. (3,4)
5. Explain wine phenolic chemistry and anthocyanin co-pigmentation. (3,4)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

**Course Attributes:**

Info Literacy (IL), Scientific (SL)

**VEN 202 - Science of Winemaking III****COURSE DESCRIPTION:**

VEN 202. Science of Winemaking III (3). Basic sensory science and how sensory evaluation relates to oak barrel selection. Exploration of fining and filtration, blending, wine defects, and compounds responsible for specific aroma and flavor components. Must be 21 years of age or older to enroll. Prerequisite: VEN 201. Two lecture. Two lab.

**COURSE CONTENT:**

1. Basic sensory science
2. Wine aromas and defects
3. Post-fermentation winemaking techniques and practices
4. Production of stabilized wine for aging and bottling

**LEARNING OUTCOMES:**

1. Diagnose common wine faults/tasting. (1)
2. Determine primary aroma and flavor compounds. (1)
3. Determine secondary aroma and flavor compounds. (1)
4. Recognize common wine defects and their origin. (2)
5. Calculate and prepare addition trials (acid, fining agents). (3)
6. Diagnose potential wine instabilities and their prevention. (3)
7. Discuss closures and bottling quality control. (4)
8. Describe micro-oxygenation. (4)
9. Use basic barrel flavor chemistry. (3,4)
10. Apply principles of fining and fining agents. (4)
11. Analyze enzymes and their uses. (4)

3.000 Credit hours  
2.000 Lecture hours  
2.000 Lab hours

**Levels:** Credit

**Schedule Types:** Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Agriculture Science Department

**VG D 121 - Video Game Development for Game Engines I****COURSE DESCRIPTION:**

VG D 121. Video Game Development for Game Engines I (3). Introduction to the creation of video games primarily through the use of drag and drop techniques. Covers the creation of single player games, use of image and sound files in games, creation of simple code logic structures, and the deployment of games. Three lecture.

**COURSE CONTENT:**

1. Application software
2. Development environment
3. Interface navigation
4. Basic game program
5. Game sprite objects and variables
6. Backgrounds
7. Sounds
8. Decision logic
9. Game play loops
10. Game levels
11. Publishing a game

**LEARNING OUTCOMES:**

1. Install and launch game development software. (1-3)
2. Create a basic playable game. (4-7)
3. Use the logical structures found in software design. (8-10)
4. Develop game software for deployment to others. (11)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**Course Attributes:**

Digital Lit (DL)

**VDG 122 - Video Game Development for Game Engines II****COURSE DESCRIPTION:**

VDG 122. Video Game Development for Game Engines II (3). Techniques and skills necessary to create games in multiple genres for recreational and educational uses. Includes the applications of coding, interactive game logic, variables and simple probability when developing video games. Design and construction of multiplayer games. Prerequisite: VGD 121. Three lecture.

**COURSE CONTENT:**

1. Screen based text and audio files
2. Multiple camera use
3. Advanced Particle System coding
4. Basic animation sequence coding
5. Use of variables to maintain object states
6. Fuzzy Logic and simple probability in determining decision outcomes
7. Common game genres
8. Multiplayer games

**LEARNING OUTCOMES:**

1. Create interactive game logic to guide game players through tasks. (1,2,5,6)
2. Utilize advanced game design and coding techniques for creating audio and visual user feedback. (1-7)
3. Develop games in multiple genres. (2, 7)
4. Determine appropriate game genre for proposed game tasks. (7)
5. Utilize artificial intelligence techniques for game responses to players. (1,5,6)
6. Create game programs for multiple users. (8)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**Course Attributes:**

Info Literacy (IL)

**VDG 151 - 3D Modeling and Animation I****COURSE DESCRIPTION:**

VDG 151. 3D Modeling and Animation I (3). Introduction to the techniques used to create 3D objects and animation for games, TV, and movies using professional 3D modeling and animation software. Includes modeling solid objects, object surfacing and shaders, object animation, lighting techniques, camera parameters, and the configuration of rendering engines. Three lecture.

1. Software interface
2. Files and projects
3. 3D geometry
4. Geometry manipulation tools
5. Attribute Editor
6. Object hierarchies
7. Basics of materials
8. Surface maps
9. Animation timeline
10. Key frames
11. Lights and lighting types
12. Ray trace principles
13. Camera parameters and properties
14. Batch rendering
15. Export objects

**LEARNING OUTCOMES:**

1. Install and configure 3D modeling and animation software. (1)
2. Construct configured project file structures. (2,6)
3. Use 3D software tools to create object models. (3-5)
4. Create and apply simple surface textures to 3D objects. (7,8)
5. Design and create simple animations. (9,10)
6. Apply camera and lighting principles to animation. (11-13)
7. Apply the rendering process to create short video animation sequences. (14)
8. Prepare 3D objects for use in games. (2, 15)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit

**Schedule Types:** Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**VDG 152 - 3D Modeling and Animation II****COURSE DESCRIPTION:**

VDG 152. 3D Modeling and Animation II (3). Modeling and animation skills used to develop 3D objects. Includes application of techniques used to create landscapes and objects with organic shapes. Prerequisite: VGD 151. Three lecture.

**COURSE CONTENT:**

1. Organic effects in modeling
2. Tools for landscape creation
3. Considerations for landscape design
4. Creation of complex organic models
5. Topology designs for animated organic models
6. 3D Paint Tools
7. Bone structures for animation

8. Animation control rigs
9. Surface texturing for organic objects

## LEARNING OUTCOMES:

1. Create a landscape for use in games or video animation sequences. (1-3,9)
2. Create models of animals for use in 3D projects. (1, 4-9)
3. Rig 3D models for use in creating animated sequences for use in 3D projects. (8)

3.000 Credit hours  
3.000 Lecture hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

## Course Attributes:

Creative Thinking (CR)

**VG D 171 - Video Game Development I**

## COURSE DESCRIPTION:

VG D 171. Video Game Development I (3). Introduction to modern Object Oriented Programming through the development of video games for the PC and Xbox Consoles. Utilizes the C# language with XNA Framework language extensions and related software. Three lecture.

## COURSE CONTENT:

1. Microsoft Visual Studio Express and related software
2. XNA Projects
3. XNA Code
4. Visual Studio IDE Familiarization
5. Editing C# code using the Visual Studio IDE
6. Intellisense in the Visual Studio IDE
7. Visual Studio IDE Debugger
8. C# Variable Types and Variable Casting
9. Math operations in C# and XNA
10. Logical branching tests in C#
11. Code loops
12. C# methods
13. Classes in C# and class signatures
14. Overloading
15. Inheritance
16. XNA game sprites and sprite motion
17. Testing for object collisions
18. Sounds in XNA game programs
19. Coding for user input capture from keyboard, mouse, and game controller
20. Game text elements and game scores
21. Coding File Read/Write operations
22. Coding Try/Catch logic
23. Creating game state
24. Game deployment

## LEARNING OUTCOMES:

1. Install Microsoft Visual Studio and related development software. (1)
2. Use the Visual Studio IDE to create C# software applications. (2-7)
3. Use coding techniques to translate logical processes into C# programming code. (8-15)
4. Create a functioning C# XNA game. (16-24)
5. Formulate and incorporate logic structures to connect software applications to data files. (21, 22)
6. Show the value and use of Object Oriented Programming (OOP) through the creation of software applications. (12-15)
7. Prepare applications for deployment. (24)

3.000 Credit hours  
3.000 Lecture hours

Levels: Credit

Schedule Types: Additional Activity, [Lecture](#)

Business & Computer ScienceOBS Division  
Computer Information Systems Department

## Course Attributes:

Civic Engagement (CE)

**VG D 172 - Video Game Development II**

## COURSE DESCRIPTION:

VG D 172. Video Game Development II (3). General object oriented programming and specialized coding techniques to build a basic 3D video game. Topics include 3D space coordinate programming for cameras, camera targets, models, object collisions in 3D space and scene lighting. Prerequisite: VG D 171. Three lecture.

1. 3D space coordinates for games
2. Camera and camera target parameters and coding
3. Camera and target movement and tracking in 3D space
4. User input coding for camera and model control
5. 3D models in video game projects
6. 3D object collision detection and resolution
7. Lighting techniques for 3D game space
8. Coding techniques and structures for larger game projects

## LEARNING OUTCOMES:

1. Construct a project framework for a 3D Video Game. (1,2,5,8)
2. Use programming techniques to create camera, camera target, 3D Model, and light object structures. (2,3,5,7)
3. Write code to accurately move cameras, camera targets, and models in 3D space. (3-6)
4. Apply refined programming concepts to game structure and assets to create a functional 3D video game. (8)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**Course Attributes:**  
Quantitative Lit (QL)

### VGD 173 - Algorithms for Video Game Programming I

#### COURSE DESCRIPTION:

VGD 173. Algorithms for Video Game Programming I (3). Introductory math, physics, and artificial intelligence algorithms such as: resolution of angles and distances in 2D space, basic principles and equations of Newtonian kinematics, direct chase and evade, indirect chase, swarm, and flocking/schooling. Includes the translation of equations and theory into code for use in video games. Prerequisite: VGD 171. Three lecture.

1. Basic trigonometric ratios
2. Algebraic equation review
3. Calculating the effects of gravity
4. Ballistic trajectories
5. Concepts and coding of chase and evade algorithms
6. Translation of equations into game code

#### LEARNING OUTCOMES:

1. Incorporate basic principles and equations of physics into game logic. (1-4)
2. Prepare code methods that apply laws of motion in a gravitational field to objects. (3, 4,6)
3. Create code that incorporates elementary algorithms into game coding. (5,6)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### VGD 221 - Video Game Development for Game Engines III

#### COURSE DESCRIPTION:

VGD 221. Video Game Development for Game Engines III (3). Advanced work in game development emphasizing creation of games for smartphones and other handheld devices. Prerequisite: VGD122. Three lecture.

#### COURSE CONTENT:

1. Coding for touchpad input
2. Coding for device movement input
3. Coding for communication with mobile device message center
4. Handheld device splash screen considerations
5. Using the game deployment system

#### LEARNING OUTCOMES:

1. Construct games to use the input channels available on handheld devices. (1,2)
2. Construct games suitable for use on handheld devices. (1-5)
3. Deploy games to handheld devices. (4,5)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### VGD 222 - Video Game Development for Game Engines IV

#### COURSE DESCRIPTION:

VGD 222. Video Game Development for Game Engines IV (3). Advanced work in game development emphasizing techniques for development of games for smartphones and tablets including the deployment, sale, and distribution of games through online marketplaces. Prerequisite: VGD122. Three lecture.

#### COURSE CONTENT:

1. Game content limitations for handheld devices
2. Advanced software tools for creating special effects viewable on handheld devices
3. Game sound files suitable for games deployed on handheld devices
4. Device to device communication coding
5. Game levels on handheld devices
6. Account establishment for selling created content
7. Marketing games

#### LEARNING OUTCOMES:

1. Build commercial grade games for smartphone and tablet devices. (1-5)
2. Create multiplayer networked games. (1-5)
3. Distribute games through online marketplaces. (6,7)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**Course Attributes:**  
Scientific (SL)

### VG D 251 - 3D Modeling and Animation III

**COURSE DESCRIPTION:**

VG D 251. 3D Modeling and Animation III (3). Modeling and animation skills with emphasis on advanced character modeling and animation techniques and the use of specialized surfac mapping tools and techniques. Prerequisite: VGD152. Three lecture.

**COURSE CONTENT:**

1. Advanced character rigging
2. Character rig control objects
3. Character animation
4. Surfacing tools to create layered object surfaces incorporating color, texture, and displacement

**LEARNING OUTCOMES:**

1. Apply professional character animation paradigms to rigged 3D character models. (1-3)
2. Create facial animation sequences including expressions and speech lip synch models using object morph techniques. (2,3)
3. Use advanced surfacing techniques to create realistic and stylized object surfaces. (4)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

### VG D 252 - 3D Modeling and Animation IV

**COURSE DESCRIPTION:**

VG D 252. 3D Modeling and Animation IV (3).Advanced animation and modeling skills with an emphasis on techniques and tools to create and edit motion capture data files. Prerequisite: VGD251. Three lecture.

**COURSE CONTENT:**

1. Motion capture data formats
2. Motion capture data tools
3. Use and limitations of motion capture in animation
4. Manipulation and transfer of motion capture data files between software packages
5. Scrubbing motion capture data errors
6. Editing motion capture animation sequences

**LEARNING OUTCOMES:**

1. Discuss the capabilities and appropriate use of motion capture data formats and tools for various animation projects. (1-3)
2. Create and edit motion capture data files for use in animation. (3,4)
3. Import motion capture files to an animation environment. (4)
4. Edit animation sequences created with motion capture data. (5,6)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**Course Attributes:**  
Diversity (DA)

### VG D 281 - Game Design I

**COURSE DESCRIPTION:**

VG D 281. Game Design I (3). Introduction to major topics in video game design, including game mechanics and dynamics, genres, storyline, characters, player psychology, and marketing. Emphasis on the principles of game design through identifying, comparing, and contrasting examples of design elements in various pre-existing games. Prerequisite: VGD121 or VGD 171. Three lecture.

**COURSE CONTENT:**

1. Sources of game design ideas
2. Game rules, mechanics, and dynamics
3. Psychological factors involved in the player's experience
4. Types of challenges
5. Strategy vs. reflex
6. Balancing chance vs. skill
7. Game puzzles
8. Engaging the player
9. Enjoyment vs. frustration
10. Goals and achievements
11. Difficulty progression
12. Popular game genres
13. Games as teaching tools
14. Storyline and characters
15. Intellectual property considerations
16. Targeting the game audience
17. Marketing the game

**LEARNING OUTCOMES:**

1. Discuss and explain major aspects of the game design process. (1-17)



2. Identify, compare, and contrast examples of specific design elements in various pre-existing games. (1-17)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**Course Attributes:**  
Written Comm (WC)

#### VG D 282 - Game Design II

**COURSE DESCRIPTION:**

VG D 282. Game Design II (3). Advanced elements for video game design including difficulty progressions, use of villains in games, and creation of game project art pieces. Emphasis on the development of storyboards, and the creation of game design and narrative documents. Prerequisite: VG D122 and VG D172 and VG D281. Three lecture.

**COURSE CONTENT:**

1. Design document considerations
2. Game challenges
3. Villains in games
4. Game project art pieces
5. Storylines and conflict
6. Sequels
7. Non-copyrighted game franchise ideas

**LEARNING OUTCOMES:**

1. Create a game design document detailing gameplay elements. (1-3)
2. Create game storyboards showing the main level look and feel. (1-5)
3. Create a narrative document describing the story elements present in the game and the obstacles to be overcome. (1-7)
4. Discuss the value of a game storyline and franchise. (5-7)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

#### VG D 293 - VG D Project I

**COURSE DESCRIPTION:**

VG D 293.VG D Project I (3). Creation of game design documents to be used in the development of a game. Prerequisite: VG D221 and VG D281. Three lecture.

**COURSE CONTENT:**

1. Game design document package
2. Resource considerations for selected game design and deployment technology
3. Critical path charts for a game
4. Game marketing and deployment requirements

**LEARNING OUTCOMES:**

1. Create a game design document package which includes resources, critical path charts and marketing requirements within a selected game deployment channel to complete a game development project. (1-4)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**Course Attributes:**  
Critical Thinking (CT)

#### VG D 294 - VG D Project II

**COURSE DESCRIPTION:**

VG D 294. VG D Project II (3). Creation and publication of a game using the elements of a self-prepared game design document package. Prerequisite: VG D222 and VG D252, and VG D282. Three lecture.

**COURSE CONTENT:**

1. Creation of a game based on a game design document package
2. Game scope, timelines and employed resources
3. Pre-deployment game testing
4. Physical deployment through selected game publication channel

**LEARNING OUTCOMES:**

1. Based on a game design document package, create and deploy a video game through a commercial marketing channel. (1-4)

3.000 Credit hours  
3.000 Lecture hours

**Levels:** Credit  
**Schedule Types:** Additional Activity, Lecture

Business & Computer ScienceOBS Division

Computer Information Systems Department

**Course Attributes:**

Oral Communication (OC)

**WEB 104 - Internet Essentials**

**COURSE DESCRIPTION:**

WEB 104. Internet Essentials (1). Introduction to the world of the Internet. Includes surfing the World Wide Web, using e-mail, search engine and downloading files. This course is cross-listed with CSA 104. Three lab.

**COURSE CONTENT:**

1. Introduction to the Internet and the world wide web;
2. General use and configuration of a browser;
3. Electronic mail;
4. Search engines and subject directories;
5. Downloading files.

**LEARNING OUTCOMES:**

1. Configure and customize browser settings.
2. Navigate the web using history and favorites.
3. Use an e-mail program to send and receive messages and attachments.
4. Download and install programs and updates.
5. Unzip compressed programs.
6. Use a search engine and a subject directory to locate pertinent information.
7. Identify the local connection options for Internet access.
8. Communicate using Usenet Newsgroups and chat.

1.000 Credit hours  
0.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**WEB 130 - Web Site Design I**

**COURSE DESCRIPTION:**

WEB 130. Web Site Design (3) (Fall). Introduction to design and production of Web pages for publishing on the Internet using Adobe Creative Suite software. Application of design principles. This course is cross-listed with ART 130. Prerequisite: ART 137 (may be taken concurrently). Two lecture. Three lab.

**COURSE CONTENT:**

1. HTML
2. Web-safe colors
3. Tour interface
4. Site management
5. Site plan
6. Web images
7. Links and anchors
8. Cascading styles and tables
9. Dreamweaver software skills
10. Application of principles and elements of design
11. Introduction to traditional, historical or contemporary examples of art
12. Critique

**LEARNING OUTCOMES:**

1. Develop web pages using HTML. (1)
2. Develop studies using Adobe Photoshop web-safe color (2)
3. Identify the main elements of the Windows/Mac web interface. (3, 9)
4. Construct a site with local root folder. (4, 9)
5. Implement the three phases of web design (5, 9)
  - a. information
  - b. interaction
  - c. presentation
6. Optimize images using Adobe Photoshop. (6)
7. Use web page functions to enter and format information on a web page. (7, 9)
8. Define the structure on a web page utilizing cascading styles and tables. (8)
9. Identify, analyze and synthesize principles and elements of design. (10)
10. Recognize traditional, historical or contemporary examples of art. (11)
11. Use media design terminology to critique and evaluate works of art. (12)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Visual/Performing/LiberalOBS Division  
Visual Art Department

**WEB 144 - Creating Web Pages Using Dreamweaver**

**COURSE DESCRIPTION:**

WEB 144. Creating Web Pages Using Dreamweaver (3). Create website using Dreamweaver software. Emphasis on creating, publishing to the web and maintaining website. This is cross-listed with CSA 144. Three lecture.

**COURSE CONTENT:**

1. Basic web page elements
2. HTML coding elements

3. Links and URLs
4. Tables
5. Forms
6. Style sheets
7. Website publishing
8. Site management
9. Typography
10. Layout tools and concepts
11. Rollover images
12. Templates and libraries
13. Automation
14. Spry

## LEARNING OUTCOMES:

1. Critique web elements on existing web sites. (1,2)
2. Use tables to present data. (4)
3. Create a website with logical file organization and navigation. (8)
4. Use semantic tags. (2)
5. Import images into a web page. (1)
6. Create text, image, image map, email and file links. (3)
7. Layout a web site using tables, absolute positioned elements, and templates or libraries. (4,5,9,10,12)
8. Use automation tools to alter multiple pages of a site. (13)
9. Apply external style sheets with class and tag selectors. (6)
10. Create forms with validation. (5,14)
11. Create image rollovers and disjoint image rollovers. (11)
12. Publish a web site. (7,8)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**WEB 150 - HTML5 & CSS: Concepts and Techniques**

## COURSE DESCRIPTION:

CSA 150. HTML: HTML5 & CSS: Concepts and Techniques (3). Fundamentals of web page and website creation using basic HTML/CSS and the new HTML5 and CSS3 features for layout, text formatting, lists, hypertext links, multimedia, and uploading to a live web server. Cross-listed with WEB 150. Three lecture.

## COURSE CONTENT:

1. Internet and browsers
2. HTML document structure, basic elements, anchors, links, tables and lists
3. HTML5 new elements - semantic/structural Elements, input types & form elements
4. Cascading style sheets - inline, embedded and external style sheets
5. CSS syntax - selectors, custom classes, and pseudo-classes
6. Using HTML to structure web-page content
7. Using CSS to format elements on a web page
8. Adding multimedia content to a web page
9. Integrating JavaScript in web pages
10. Linking pages to create a multi-page website
11. Coding HTML & CSS documents using a text editor
12. Validating HTML & CSS documents
13. Testing web pages
14. Publishing web pages to a web server

## LEARNING OUTCOMES:

1. Create properly coded HTML web pages. (1-14)
2. Use basic elements, anchors, links, tables and/or lists. (2)
3. Employ inline CSS style. (4,5,7)
4. Contain and use an embedded style sheet. (4)
5. Link to an external style sheet. (4,10)
6. Incorporate new HTML5 elements. (3,6)
7. Contain multimedia content - graphics, audio and/or video. (8)
8. Use JavaScript for dynamic effects. (9)
9. Create properly coded external style sheets. (4)
10. Link multiple web pages to create a multi-page website. (10)
11. Identify HTML and CSS code errors using validators. (12)
12. Upload web page files to a web server. (13,14)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

**WEB 151 - Buying and Selling on Ebay**

## COURSE DESCRIPTION:

WEB 151. Buying and Selling on Ebay (.5). How to buy and sell on Ebay. This course is cross-listed with CSA 151. .5 lecture.

## COURSE CONTENT:

1. Opening a buyer's account
2. Bidding on items
3. Buying safely
4. Creating a seller's account

5. Listing an item
6. Pricing strategies

## LEARNING OUTCOMES:

1. Create a buyer's account. (1)
2. Bid on an item. (2)
3. Identify security issues when buying and selling on eBay. (3)
4. Create a seller's account. (4)
5. List an item. (5)
6. Set a selling price. (6)

0.500 Credit hours  
0.500 Lecture hours  
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**WEB 167 - PHP and MySQL Programming**

## COURSE DESCRIPTION:

WEB 167. PHP and MySQL Programming (3). Principles and techniques of developing small to medium scale database applications, and creating web databases that are accessed by Web pages. This course is cross-listed with CSA 167. Two lecture. Three lab.

## COURSE CONTENT:

1. Basic Vocabulary
2. Loops
3. Arrays
4. Strings
5. Regular Expressions
6. Time and Date Functions
7. Integer and Float Functions
8. Database Basics
9. Querying
10. Connecting to a MySQL Database
11. Formatting Results
12. User-Driven Queries
13. Writing to Web Databases
14. Validation
15. Keeping State
16. Session Management
17. Protecting Data

## LEARNING OUTCOMES:

1. Identify PHP language syntax. (1)
2. Compose web pages for upload. (10,13)
3. Incorporate PHP code into HTML. (2-5)
4. Explain how MySQL is used as a web database. (10)
5. Identify HTML tags. (1,6-9)
6. Create and prepare a MySQL database. (11,12,14-17)
7. Identify, analyze and synthesize design principles. (1-9)
8. Use PHP functions appropriately in effective web page design. (2-5)
9. Explain the relationship between query strategies. (10)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

**WEB 177 - Surfing the Internet**

## COURSE DESCRIPTION:

WEB 177. Surfing the Internet (2). Basic to intermediate techniques of using the full features of the Internet and its resources. Emphasis on accessing the information of the rapidly expanding and ever changing "Information Superhighway." This course is cross-listed with CSA 177. Preparedness recommendation: Basic windows skills and general computer literacy. One lecture. Three lab.

## COURSE CONTENT:

1. History of the Internet and its evolution
2. Discussion of the TCP/IP Internet protocol
3. Email (Eudora); etiquette and proper verbiage on the Net
4. Listservs, usegroups
5. Surfing the World Wide Web and use of links
6. URLs (Uniform Resource Locators)
7. Using Telnet to connect to remote sites
8. Accessing files from remote public FTP sites
9. Archie searches for FTP file access
10. FTP downloads and uploads
11. Usenet newsgroup access; reading and posting messages
12. Access to public Gopher servers
13. Internet chat (mIRC); download client software, configure and install on local machine
14. Discussion of the legal, ethical, moral considerations of the Communication Decency Act (CDA)
15. Setup of an Internet account, the local providers, and considerations of remote on-line services
16. Basic HTML coding

## LEARNING OUTCOMES:

1. Configure, send and receive email.
2. Use several World Wide Web browsers (www) such as Netscape and Internet Explorer to traverse the Web.
3. Use World Wide Web search engines such as Yahoo, Lycos, Infoseek, Alta Vista to perform subject/keyword searches on the web, including composing search queries.
4. Download files from public FTP sites on the Internet, including the unzipping of compressed files and use of FTP software.
5. Use PKUNZIP, WinZip or other decompression software.
6. Identify the legal and ethical issues of dealing with accessibility and information and information on the Net.
7. Discuss the history of the Internet, the role of government, and future considerations.
8. Use mIRC chat to converse with others.
9. Use Windows 95 software applications to accomplish Internet tasks.

2.000 Credit hours  
 1.000 Lecture hours  
 3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
 Computer Information Systems Department

#### WEB 180 - Web Site Implementation and Management

##### COURSE DESCRIPTION:

WEB 180. Web Site Implementation and Management (3). Initiation and organization of a Web site with a Web hosting provider. Emphasis on Web site administrative tasks such as folder and file organization, E-mail and FTP account management, and security settings using an industry standard Web site control panel. Includes installation of Web add-on applications and scripts and monitoring of Web site traffic statistics. This course is cross-listed with CNT 180. Three lecture.

##### COURSE CONTENT:

1. Domain name registration
2. Web hosting services
3. Directory organization
4. FTP settings and operations
5. Directory management
6. Email accounts
7. Basic HTML concepts
8. Web scripts
9. Web applications
10. Website traffic statistics
11. General account settings
12. Advanced features
13. Web site backup

##### LEARNING OUTCOMES:

1. Research and select a domain name. (1)
2. Research and select a Web host. (2)
3. Plan and implement a directory tree. (3)
4. Use and manage FTP. (4)
5. Manage file folders. (5)
6. Create and configure email accounts. (6)
7. Work with HTML to create basic Web pages. (7)
8. Install and customize CGI (Common Gateway Interface) scripts. (8)
9. Install, configure and customize Web applications. (9)
10. Analyze statistics, logs, and bandwidth server reports. (10)
11. Manage Web site account settings and observe server status. (11)
12. Configure advanced features. (12)
13. Back up a Web site. (13)

3.000 Credit hours  
 3.000 Lecture hours  
 0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Business & Computer ScienceOBS Division  
 Computer Networking Technology Department

#### WEB 266 - Advanced Web Enhancement - ASP.NET 4

##### COURSE DESCRIPTION:

WEB 266. Advanced Web Enhancement ASP.NET 4 (3) (Fall). Advanced Web Enhancement using ASP.NET 4 as used in Microsoft Visual Web Developer 2010 Express. Building an ASP.NET web site using both user and server controls. Includes both LINQ and a look at communicating with databases. This course is cross-listed with CSA 266. Prerequisite: CSA 161. Three lecture.

##### COURSE CONTENT:

1. Introduction to ASP.NET 4
2. Building an ASP.NET web site
3. Designing web pages
4. Server controls
5. User controls
6. Introduction to databases
7. LINQ and the ADO.NET Entity Framework
8. Security in an ASP.NET 4 web site
9. Personalizing web sites
10. Deploying web sites

##### LEARNING OUTCOMES:

1. Compose web pages using Microsoft Visual Web Developer 2010 Express. (1-4,8,9)
2. Use both user and server controls. (4,5)
3. Incorporate LINQ and C# code behind fields. (7)
4. Incorporate security controls into the login feature of a web site. (8)
5. Identify and analyze how connections to databases can be made. (6)
6. Deploy web pages. (10)

3.000 Credit hours  
3.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Business & Computer ScienceOBS Division  
Computer Information Systems Department

#### **WLD 110 - Welding for Artists Sculpture**

**COURSE DESCRIPTION:**

WLD 110. Welding for Artists Sculpture (2) (Spring). Application of oxyacetylene, shielded metal arc, and gas metal arc welding to metal sculpture. Emphasis on safety, welding technology, equipment use and basic welding skills. One lecture. Three lab.

**COURSE CONTENT:**

1. Safety equipment and shop procedures
2. MIG welding machine operation
3. Arc welding machine operation
4. Oxyacetylene welding machine operation
5. Welding techniques
6. Welding vocabulary
7. Welding tasks and positions

**LEARNING OUTCOMES:**

1. Fusion weld two pieces of steel together in the flat and horizontal position.
2. Braze two pieces of metal together in the flat and horizontal position.
3. Demonstrate knowledge of theory and practice of oxyacetylene welding.
4. Perform general welding tasks.
5. Manually and machine cut carbon steel plate.
6. Demonstrate knowledge of the theory and practice in Arc welding.
7. Select, set up and shut down the appropriate equipment and materials.
8. Perform various arc welding tasks in flat and horizontal position.
9. Demonstrate knowledge of the theory and practice of MIG welding.
10. Perform various MIG welding tasks.
11. Practice welding safety procedures.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Welding Technology Department

#### **WLD 112 - Basic Welding I**

**COURSE DESCRIPTION:**

WLD 112. Basic Welding I (2). A basic course in oxyacetylene welding, including safety, welding techniques, basic metallurgy and welding gases. One lecture. Three lab.

**COURSE CONTENT:**

1. Safety equipment and shop procedures
2. MIG welding machine operation
3. ARC welding machine operation
4. Oxyacetylene welding machine operation
5. Welding techniques
6. Welding vocabulary
7. Welding tasks and positions

**LEARNING OUTCOMES:**

1. Fusion weld two pieces of steel together in the flat and horizontal position.
2. Braze two pieces of metal together in the flat and horizontal position.
3. Demonstrate knowledge of theory and practice of oxyacetylene welding.
4. Perform general welding tasks.
5. Manually and machine cut carbon steel plate.
6. Demonstrate knowledge of the theory and practice in Arc welding.
7. Select, set up and shut down the appropriate equipment and materials.
8. Perform various arc welding tasks in flat and horizontal position.
9. Demonstrate knowledge of the theory and practice of MIG welding.
10. Perform various MIG welding tasks.
11. Practice welding safety procedures.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Welding Technology Department

#### **WLD 113 - Basic Welding II**

**COURSE DESCRIPTION:**

WLD 113. Basic Welding II (2). A basic course in electric arc welding, welding equipment, and gas-shielded arc welds. One lecture. Three lab.

**COURSE CONTENT:**

1. Safety

2. Welding electrodes
3. Metallurgy of welding
4. Welding vocabulary
5. Symbols
6. Welding currents
7. Arc welding equipment
8. Inert gases used in welding

**LEARNING OUTCOMES:**

1. Electric arc weld in the flat, vertical and horizontal positions.
2. Choose the proper electrode by its AWS classification.
3. Use and apply the basic vocabulary of arc welding.
4. Apply the basic principles and elements of the TIG welding process.
5. Apply the basic principles and elements of the MIG welding process.

**REQUIRED ASSESSMENT:**

1. Pass a written examination on course content with a score of 70% or higher.

2.000 Credit hours  
1.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Dual Enrollment (1st Time), Dual Enrollment (Repeat), Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Welding Technology Department

**WLD 130 - Oxyacetylene****COURSE DESCRIPTION:**

WLD 130. Oxyacetylene (4). Safety, oxyacetylene welding, flame cutting, brazing fundamentals and fuel gases. Competency mastery required. Two lecture. Six lab.

**COURSE CONTENT:**

1. Safety in the workplace
2. Oxyacetylene safety and equipment
3. Welding vocabulary
4. Welding fuel gases
5. Oxyacetylene fillet and groove welds
6. Manual and machine cutting
7. Fillet and groove braze welds
8. Identifying proper and improper welds and cuts

**LEARNING OUTCOMES:**

1. Explain and use oxyacetylene safety procedures. (1,2)
2. Explain oxyacetylene welding theory, based on its method of operation, equipment and application. (2-8)
3. Operate oxyacetylene equipment to weld, cut, braze, and braze weld to industry requirements. (4-8)
4. Identify and use welding vocabulary. (2-8)

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Welding Technology Department

**WLD 140 - Arc I****COURSE DESCRIPTION:**

WLD 140. Arc I (4). Fundamentals of basic shielded metal arc welding (SMAW) procedures, equipment and safety. Two lecture. Six lab.

**COURSE CONTENT:**

1. SMAW safety and equipment
2. Machine adjustments and operation
3. SMAW techniques in various positions
4. Selection of electrodes for shielded metal arc welding.
5. Terminology and symbols

**LEARNING OUTCOMES:**

1. Explain and use shielded metal arc welding safety procedures. (1)
2. Explain shielded metal arc welding theory, based on its method of operation, equipment and application. (2-5)
3. Operate shielded metal arc welding equipment to industry requirements. (1-5)

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Welding Technology Department

**WLD 145 - Arc II****COURSE DESCRIPTION:**

WLD 145. Arc II (4). Advanced shielded metal arc welding procedures, equipment, safety and cutting techniques. Prerequisite: WLD 140. Two lecture. Six lab.

**COURSE CONTENT:**

1. Safety

2. Multiple pass welds in all positions
3. Single V-groove joint welds with backing in all positions
4. Single V-groove joint welds without backing in all positions
5. Preparation, welding, testing and evaluation of V-groove bend specimens to American Welding Society standards.
6. Cutting with carbon arc, plasma arc cutting, and oxy-fuel cutting equipment

## LEARNING OUTCOMES:

1. Explain and use shielded metal arc welding safety procedures. (1)
2. Explain shielded metal arc welding theory, based on its method of operation, equipment, and applications. (1-6)
3. Operate shielded metal arc welding equipment to industry requirements. (1-5)
4. Operate shielded metal arc welding equipment to industry requirements. (1-5)
5. Operate carbon arc cutting, plasma arc cutting, and oxy-fuel cutting equipment. (6)

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Welding Technology Department

**WLD 156 - Blueprint Reading**

## COURSE DESCRIPTION:

WLD 156. Blueprint Reading (4). Fundamentals of reading and interpreting blueprints and welding symbols as they apply to the welding trade. Three lecture. Three lab.

## COURSE CONTENT:

1. Symbols for welding
2. Fillet weld symbols
3. Plug, slot, spot and seam weld symbols
4. Groove weld symbols
5. Orthographic views
6. Standard drawing lines and symbols
7. Surface and centerline relationships
8. Auxiliary views
9. Mathematics for welders and fitters
10. Interpreting blueprint information
11. Dimensional tolerance and stock allowance
12. Set-up tools

## LEARNING OUTCOMES:

1. Interpret welding symbols. (1-4)
2. Interpret types of lines, views, symbols, structural shapes and sectional views on master welding blueprints. (5-8)
3. Interpret various note specifications and dimensions found on master welding blueprints. (9-12)

4.000 Credit hours  
3.000 Lecture hours  
3.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Welding Technology Department

**WLD 200 - Tig I**

## COURSE DESCRIPTION:

WLD 200. Tig I (4). Selection of electrode, gas, cups and filler rod for inert-gas-tungsten arc (Tig) welding. Techniques and practice in welding butt-joint, t-joint, lap and corner joints in various positions. Prerequisite: WLD 140. Two lecture. Six lab.

## COURSE CONTENT:

1. Safety equipment and shop procedures
2. Grinding operations
3. Machine adjustments and operation
4. Electrode, filler metal, gases and cup selection
5. Tig welding machine operation
6. Welding techniques

## LEARNING OUTCOMES:

1. Demonstrate knowledge of the theory and practice of Tig welding.
2. Demonstrate the ability to perform various Tig welding tasks.
3. Demonstrate safety techniques.
4. Demonstrate the ability to select, set up and shut down the appropriate equipment and materials.

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Welding Technology Department

**WLD 210 - Gas Metal Arc Welding**

## COURSE DESCRIPTION:

WLD 210. Gas Metal Arc Welding (4). Setup and safe operation of gas metal arc welding (GMAW) equipment, GMAW welding of carbon steel plate, aluminum plate and sheet metal. Two lecture. Six lab.



**COURSE CONTENT:**

1. Gas metal arc welding (GMAW) safety and equipment
2. Machine adjustments and operation
3. GMAW techniques in various positions
4. Selection of gases and wire for GMAW
5. Flux cored arc welding (FCAW) self-shielded and gas shielded wire

**LEARNING OUTCOMES:**

1. Explain and use GMAW safety procedures. (1)
2. Explain gas metal arc welding theory based on its method of operation, equipment and application. (2-5)
3. Operate gas metal arc welding equipment to industry requirements. (1-5)

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Welding Technology Department

**[WLD 240 - Welding Test and Inspection](#)****COURSE DESCRIPTION:**

WLD 240. Welding Test and Inspection (3) (Fall). Study of techniques used in industry to test welds. Emphasis on preparing and testing plates. Includes destructive and non-destructive testing of welds. Prerequisite: WLD 145. One lecture. Six lab.

**COURSE CONTENT:**

1. Basic metallurgy
2. Material specification
3. Weld faults and causes
4. Welding distortion and residual
5. Mechanical testing and welds
6. Ultrasonic inspection of welds
7. Radiographic inspection of welds
8. Surface inspection of welds stresses

**LEARNING OUTCOMES:**

1. Possess a better understanding of the basics of metallurgy and the welding phenomena occurring in such metals.
2. Recognize the causes of weld faults and the responsibility for identifying and elimination.
3. Explore concepts dealing with welding distortion residual stresses.
4. Develop proper welding procedures to assure minimum distortion and stresses.
5. Be familiar with various testing procedures, such as an ultrasonic inspection, radiographic inspection and surface inspection of welds.

3.000 Credit hours  
1.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Welding Technology Department

**[WLD 250 - Welded Metal Fabrication](#)****COURSE DESCRIPTION:**

WLD 250. Welded Metal Fabrication (4). Metal used in manufacturing fabrication and welding techniques. Emphasis on project planning, layout and blueprint reading. Prerequisite: WLD 130 and WLD 140 and WLD 156 and WLD 210. Two lecture. Six lab.

**COURSE CONTENT:**

1. Personal and equipment welding shop safety
2. Steel shapes and sizes
3. Layout tools and their use
4. Use of fabrication equipment
5. Ordering steel from drawing
6. Layout and cutting of steel
7. Square and tack welding
8. Finish welding
9. Applying finishes to metal

**LEARNING OUTCOMES:**

1. Identify the different structural shapes of steel.
2. Identify the difference between gauge steel and plate steel.
3. Order, layout and cut material as required by a blueprint.
4. Identify layout tools and fabrication equipment and demonstrate proper use.
5. Use correct fabrication techniques.

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, [Lecture/Lab](#)

Career & Technical Education Division  
Welding Technology Department

**Course Attributes:**  
Creative Thinking (CR)

**WLD 255 - Advanced Projects in Welded Metal Fabrication****COURSE DESCRIPTION:**

WLD 255. Advanced Projects in Welded Metal Fabrication (3) (Fall). Design, layout and fabrication of larger metal projects. Emphasis on structural design and welding techniques.

Prerequisite: WLD 130 and WLD 140 and WLD 156 and WLD 210. Two lecture. Three lab.

**COURSE CONTENT:**

1. Tool layout and usage
2. Blueprint production
3. Fabrication

**LEARNING OUTCOMES:**

1. Use tool layouts and fabrication equipment. (1)
2. Order, layout, cut, and weld material as required by blueprint. (2)
3. Construct a structural project using blueprints. (3)
4. Produce a project blueprint, acquire materials, and fabricate project according to blueprint. (3)

3.000 Credit hours  
2.000 Lecture hours  
3.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Welding Technology Department

**WLD 282 - Pipe Welding I****COURSE DESCRIPTION:**

WLD 282. Pipe Welding I (4). Welding of pipe in cross-country pipe lines in industry: chemical, petroleum, salt water, fresh water, fuel system, hydraulic systems, mining and others.

Prerequisite: WLD 145 and WLD 200 and WLD 210. Two lecture. Six lab.

**COURSE CONTENT:**

1. Safety and orientation
2. Types of pipe
3. Uses of pipe
4. Joint fitting
5. Methods of joining
6. Preparing pipe for welding
7. Layout
8. Mechanical methods of cutting pipe
9. Mechanical methods of welding pipe
10. Methods of welding pipe
11. Methods of testing and inspecting pipe welds
12. Symbols and terminology
13. Use of tools and machines

**LEARNING OUTCOMES:**

1. Demonstrate safe work habits.
2. Demonstrate proper welding skills for fabricating pipe.
3. Lay out, assemble and weld different types of pipe in the various positions.
4. Identify and describe various piping systems

4.000 Credit hours  
2.000 Lecture hours  
6.000 Lab hours

**Levels:** Credit

**Schedule Types:** Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division  
Welding Technology Department

**WLD 296 - Internship: Welding****COURSE DESCRIPTION:**

WLD 296. Internship: Welding (3). Supervised field experience with businesses, corporations, government agencies, schools and community organizations to expand career interests and apply subject knowledge relevant to the workplace. Individualized internship placements to develop personal and professional skills, including professional ethics, leadership, and civic responsibility. Prerequisite: Student must have a GPA of 2.0; have completed specific degree requirements as required by the program; and have completed the internship application process. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.] S/U grading only.

**COURSE CONTENT:**

1. Organizational overview of assigned placement
2. Integration of job description and organization's requirements
3. Elements of documentation of experience
4. Planning and time management
5. Professional, legal, and ethical issues
6. Communication, critical thinking, and problem solving
7. Specialized equipment, tools, and software required in the placement

**LEARNING OUTCOMES:**

1. Exhibit appropriate workplace behaviors and professional ethics.
2. Apply discipline specific knowledge and skills in the professional workplace.
3. Define and utilize technical terms in written and oral communications.
4. Use critical thinking, problem solving, ethical awareness, and effective writing
5. Interpret written and oral instructions.
6. Initiate and complete assigned responsibilities.
7. Maintain documentation required to comply with government employer or nonprofit agency regulations.
8. Use specialized equipment, software, and tools as required.
9. Analyze and interpret data for specified reports.
10. Identify opportunities for improvement in process and documentation related to the workplace.
11. Articulate job description and position in assigned organization.

**REQUIRED ASSESSMENT:**

1. Record of Student Internship workplace hours.
2. Individual Education Plan (IEP) as approved by supervision faculty.
3. A daily journal, or work log of tasks, including dates, descriptive comments, problems and solutions.
4. A reflective paper or project as specified by the supervision faculty.
5. A minimum of two evaluations by the workplace employer or supervisor.
6. Student's self-evaluation of experience.

3.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Internship

Career & Technical Education Division  
Welding Technology Department

**WLD 299 - Independent Study Welding****COURSE DESCRIPTION:**

WLD 299: Independent Study Welding (1-6). Supervised special project in this field of study. Approval of supervising Division Dean is required.

**COURSE CONTENT:**

1. Applied knowledge and skills
2. Learning objectives and competencies relevant to the discipline area and the community service setting
3. Critical analysis of the service-learning experience
4. Effective leadership, interpersonal, and writing skills
5. Evaluation and improvement of performance

**LEARNING OUTCOMES:**

1. Demonstrate the ability to apply discipline-specific knowledge and skills to a community-service setting.
2. Develop the individual educational plan with the faculty liaison and agency/business.
3. Accomplish the specific learning objectives and competencies.
4. Demonstrate critical thinking, problem-solving, ethical awareness, and effective writing skills through discussions, a daily journal and an analytic paper.
5. Exhibit personal development and leadership foundation skills such as: acceptance of responsibility; self-confidence; respect for others and their views; social and interpersonal skills; initiative and follow-through.
6. Formulate a critical perception about civic responsibility, social problems, economic systems, cultural patterns, and policy issues.
7. Conduct a self-appraisal, evaluate the structured service-learning experience, and identify ways students may contribute to the local and regional needs of the community.

1.000 TO 6.000 Credit hours  
0.000 Lecture hours  
0.000 Lab hours

**Levels:** Credit

**Schedule Types:** Independent Study

Career & Technical Education Division  
Welding Technology Department

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