YAVAPAI COLLEGE

CATALOG 2015-16

2015/16
YAVAPAI COLLEGE CATALOG
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2015/16 YAVAPAI COLLEGE CATALOG INDEX

The following steps will guide you through the process of quickly becoming a registered student so that you can take credit classes at Yavapai College.

1

Apply for admission to Yavapai College.

Go to **YC 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 the website. 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. Process for International Students.**

2

Apply for Financial Aid.

- **FAFSA:** Free Application for Federal Student Aid (use Yavapai College code: 001079)
- **YC Scholarships:** Log onto the YC website and go to **My Services > Students > My Financial Aid.**
- **Outside Scholarships:** For information or help, call (928) 776-2152 or (928) 634-6502
- **Use the Net Price Calculator:** use this tool to estimate your cost for tuition to attend school at Yavapai College.

3

Take the COMPASS Skills Assessment.

Reading Comprehension/ Math/ English Composition.

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 record requires an official transcript to be sent from the previous institution directly to:

> **Yavapai College Answer Center**
> 1100 E. Sheldon
> Prescott, AZ 86301

Transcripts are evaluated in the order they are received. Students will be notified via their YC email address when transcripts have been received and when they've been evaluated.

5

See an Academic Advisor.

See an Academic Advisor.
Call 928.776.2106 or 928.634.6510 for more information, or to schedule a phone or in-person appointment with an academic advisor to discuss and plan for your academic & career goals.

6

Register for classes.

Log into the YC website from the login button in the upper right hand corner of this or any YC page. Type in your username and password. **Go to My Services > Students > Search and Register for Classes.**

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. Your first ID is free. *(a fee applies for replacing lost or damaged IDs).*

9

Attend New Student Orientation.

New student orientation is required for your success! Students new to college: Watch for an email invitation after you have enrolled in your classes.

Questions? Call 928.776.2149 or visit the **Answer Center** on the Prescott Campus in Building #1 or on the Verde Valley Campus in Building I.

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, 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. Inquiries regarding admission to Yavapai College should be emailed to 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 Associate Dean of Student Development, who serves as Title IX Coordinator at Yavapai College at 928.776.2129.

Welcome from the President

Let me offer a brief but enthusiastic introduction to our on-line college catalog. This publication gives you an idea of 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

Dr. Patricia McCarver, Board Chair
Mr. Steve Irwin, Board Secretary
Mr. Albert Filardo, Board Member
Ms. Deb McCasland, Board Member
Mr. Ray Sigafoos, 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 and Supporting our Communities

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.

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

Scholarships – Over 125 endowed funds benefit hundreds of students each year, with more than $1,000,000 awarded to deserving undergraduates over the last decade.

Yavapai College Foundation through our auxiliaries and volunteers support the needs and opportunities in our communities across our county.

Friends of Music
Supports the Music Department's students and Programs, thereby providing a desirable environment for new and existing students. Through their financial contributions FOM have ensured that exceptional students are drawn into the Music Program and continue to educate future teachers/performers who will carry the universal language of music to this and future generations. FOM had their first Annual Fundraiser Handel's "Messiah sing-along" this last December in the Performing Arts Center at Yavapai College. Come join us!

Friends of the Family Enrichment Center
A group of individuals and companies dedicated to early childhood development and education. At the FEC, children are learning all the time! Teachers support and challenge them to develop new skills, to think creatively, and to work together to solve problems. FEC's program also provides hands-on teaching experience for Yavapai College students, an invaluable resource for elementary and early childhood education. Each spring the auxiliary supports an event highlighting the learning that takes place in the FEC classroom called Framing the Future Luncheon.

Friends of the Southwest Wine Center
Support and raise funds for the Southwest Wine Center located on the Yavapai College Verde Valley Campus. The center will serve as a hub of education, research and rural economic development activity designed to support a young viticulture industry in achieving its potential as a significant US wine producing region. At the core of the center will be five key components: academic programs, student-run vineyard, full-production teaching winery, knowledge gateway and date repository, business linkages. FoSWC supports the center through outreach events such as "Plant a Vine" in May and hosts the annual Southwest Wine & Dine in the Vines in the fall.

Join and/or donate to YCF @ www.yc.edu/YCF.

Executive Committee

Perry Massie, President
Howard Moody, Immediate Past President
Steve Rutherford, First Vice President
Valerie Wood, Second Vice President
Karen Rizk, Treasurer
Jim Messerschmitt, Secretary
Dr. Penelope Wills, Yavapai College President
Steve Walker, VP of College Development and Foundation, Ex-Officio

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 Semester 2015: August 24 – December 12

Faculty/Staff Development Day ....August 17

Faculty Activities Week ....August 17-21

Fall Regular Semester Begins .... August 24

Labor Day Holiday (no classes, offices closed) ....September 7

Veterans Day (no classes, offices closed) ....November 11

Thanksgiving Holiday .... November 25-27

Northern Arizona Regional Training Academy Completion Ceremony TH ....December 10

Fall Regular Semester Ends ....December 12

Nursing Pinning Ceremony..December 12

Final Grades Due...December 16

Offices Closed - Holiday Break ....Dec 21-Jan 1

Spring Semester 2016: January 19 – May 7

Faculty/Staff Development Day ....January 13

Faculty Activities Week ....January 13-15

Martin Luther King Day Holiday (no classes, offices closed) ....January 18

Spring Regular Semester Begins..January 19

Spring Break (offices closed)..March 6-12

Northern Arizona Regional Training Academy Completion Ceremony ....May 5

Spring Regular Semester Ends at 3:00 PM ....May 6

Verde Valley Graduation ....May 6

Nursing Pinning Ceremony..May 7

Prescott Graduation ....May 7

Final Grades Due...May 13

Offices Closed – Memorial Day..May 30

Summer Session 2016: June 6 – July 28

Summer Session begins... June 6

Independence Day Observed (no classes, offices closed)......................................July 4

Summer Session Ends ....July 28

August 2015

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April 2016

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May 2016

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June 2016

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July 2016

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Admissions

Yavapai College invites qualified individuals who demonstrate evidence of potential success as adult learners in an institution of post-secondary higher education to seek admission.

In accordance with Arizona state law, 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; or

2. Has obtained a high school certificate of equivalency; or

3. Is 18 years of age or older and demonstrates evidence of potential success in the College; or

4. Is a student transferring from another regionally accredited college or university in good standing (2.0 cum GPA).

B. A person who is under 18 years of age and has not satisfied the requirements above may be admitted upon achievement of:

1. A composite score of 93 or more on the preliminary Scholastic Aptitude Test (PSAT); or

2. A composite score of 930 on the Scholastic Aptitude Test (SAT) ; or

3. A composite score of 22 on the American College Test (ACT); or

4. A passing score on the relevant portions of the Arizona Instrument to Measure Standards (AIMS) test; or

5. A satisfactory score on a College placement test designated by the College that indicates the student is at the appropriate college level for the course.

- Yavapai College reserves the right to restrict enrollment.

- Admission to Yavapai College does not guarantee admission to specific programs.

- Specialized application materials may be required for certain programs, 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: Enrollment Services, 1100 East Sheldon Street, Prescott, AZ 86301.

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. 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 members

This event is reservation only. To sign up for this event please go to 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

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

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 Answer Center: 928-776-2149.

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 1st day of classes. The student still is responsible for payment of regular tuition and fees.

Office of the Registrar

www.yc.edu/registrar

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 the Answer Center 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 for application forms and additional information
- Admitted international students are required to enroll for a full-time course load (miniumum 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

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

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. Transcripts will be evaluated 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 secure log in at 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.

**Office of the
Registrar**

www.yc.edu/registrar

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 secure log in at www.yc.edu. For deadlines and effects of changes, see www.yc.edu "Dates & Deadlines".

A student-initiated withdrawal prior to the deadline will results 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 and type of credit hours 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.

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. See 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.

Office of the Registrar

www.yc.edu/registrar

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 the class. 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; 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 Yavapai College Answer center, 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 the Yavapai College Answer Center, 1100 E. Sheldon St., Prescott, AZ 86301. It is recommended that students transferring credit from another institution meet with an academic advisor to achieve maximum benefit when establishing their educational plan. Students receiving veteran education benefits are required by VA regulations to submit official transcripts from all colleges, universities, technical schools, military training and non-accredited institutions.

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 secure log in at www.yc.edu, or by contacting the Answer Center via email at answercenter@yc.edu.

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:

Delivery Types	Description
Regular Session	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.
Open Entry Classes	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.
Video Conferencing	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.
Online Courses	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.
Independent Study Classes	Supervised special project which is undertaken with the direction of an assigned faculty member. Certain requirements must be met. Consult with the Instructional Dean.
Internships	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.
Classroom and Web (Hybrid)	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.
Individually Paced Instruction (IPI)	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 share 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 that correct course placement is a powerful factor in student retention and success. Therefore, the college requires assessment of competency in reading, writing and mathematics.

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

Prescott Campus
Testing Center
928.776.2200

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
928.717.7911

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 identity 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.

Attention Veterans: Veterans seeking to improve their skills assessment scores can contact the TRIO Veterans Upward Bound Program which is designed to prepare veterans before enrolling in college courses. Visit www.yc.edu/vub for more details.

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 certificate or degree information call Academic Advising:

Prescott Area
928.776.2106

Verde Valley Area
928.634.6510

Academic and Career Advising

Advisors at Yavapai College are here to help you identify and clarify your life and career goals and construct an educational plan to reach those goals. Advisors can assist students in adjusting to college life, provide study skills, and provide information and resources about careers, majors, and degree requirements.

Advisors assist students in connecting their personal interests, abilities, values, life goals, career goals, occupational goals, and educational goals to academic and career fields they may be considering. Advisors can provide you with resources on self-assessment, career exploration, decision making, and an appropriate course of study. Advisors provide support during your entire college experience.

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

- Student athletes
- International students
- Majors in 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 for current advisor specialties, phone numbers, and e-mail addresses. Advising services are available at the Prescott, Verde Valley, Career and Technical Education Center, and the Prescott Valley Campus.

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 to connect to a personal counselor: 928-776-2106 in the Prescott area or 928-634-6510 in the Verde Valley area.

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.

Internship credit is available at Yavapai College on a limited basis, and only if a student is enrolled in a program that requires an internship for program completion.

Specific requirements must be met before students are approved for internships. See 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.

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.

How to contact the Financial Aid Office:

Prescott Campus
928.776.2152

Verde Valley Campus
928.634.6502

Email
prescott.financial.aid@yc.edu

Toll Free 800.922.6787

**Apply Online
It's Faster
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 requirements 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.

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 Subsidized and Unsubsidized Direct Student Loan
- Federal Direct Plus 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

Federal Financial Aid Title IV Student Assistance Programs

Federal Pell Grant (Pell)

Federal Supplemental Educational Opportunity Grant (SEOG)

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
- Complete and submit the 2015-16 FAFSA (to the Department of Education). It's available online.

  It's available online (www.fafsa.ed.gov) January 1st. Be sure to include the Yavapai College code: 001079.
- Check your YC email frequently. You will be notified by email when we receive your FAFSA results instructing you to check your eligibility requirements by logging into the YC website, clicking on My Services, Students, and My Financial Aid.
- Have an award posted 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 may then receive a disbursement for any remaining credit balance.

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 Standards include: Minimum cumulative grade point average of 2.0; Rate of Progression 66% or greater; Maximum time frame for completion of a degree or certificate. 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/v5content/financial-aid/policies.htm.

Withdrawal/Repayment Policy for Federal Financial Aid Recipients

Students who withdraw from ALL of their classes will have their financial aid reevaluated to determine the amount of aid that has been earned, and any unearned aid will be required to be paid back. 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. For further details consult your financial aid advisor and/or the Withdrawal/Repayment Policy for Federal Financial aid at: www.yc.edu/financial-aid.

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 or visit: www.yc.edu/studentjobs or contact the Student Employment office at 928-776-2100.

For more information on Yavapai College Veteran Services:

Visit our website at:
www.yc.edu/veterans

District Office
928.717.7613
Toll free: 800.922.6787

Also, visit the VA's website at: www.gibill.va.gov

Veterans Education Benefits

Individuals eligible to receive Veterans Administration (VA) education benefits including veterans, reserve and national guard members, or dependents must complete and submit all required VA and Yavapai College documents to the Veteran Education Services Office. Processing may take up to eight weeks, so early planning and class registration is highly recommended.

Students who have submitted the required documents for VA education benefits are eligible to sign up for an interest-free payment plan to defer the cost of tuition, fees and books. Students eligible for VA education benefits may also be eligible for other types of financial aid such as Pell Grant and scholarships and are encouraged to apply. Once initial required documents are submitted, a VA education benefits request form must be submitted each semester thereafter. Instructions pertaining to new and continuing VA education requests are available at www.yc.edu/veterans.

To receive VA education benefits, students must:

- Only enroll in applicable classes which satisfy declared program requirements at Yavapai College. Please note that special conditions in accordance VA and state regulations may be applicable to specific programs.
- Request official transcripts from all colleges, universities, technical schools, military training, and non-accredited institutions. Official transcripts must be sent directly to Yavapai College, Enrollment Services, 1100 E. Sheldon Street, Prescott, Arizona, 86301.
- Maintain good academic standing in accordance with Yavapai College Standards of Academic Progress.
- Be aware that veteran education benefits may be required to be repaid to the VA for repeated courses.
- **Immediately** notify the Veteran Education Services Office of any enrollment changes to avoid debt owed to the VA.
- Be aware that varying course lengths can affect veteran education benefit payments and contact the Veterans Education Services Office to clarify how course lengths are required to be reported to the VA.

Veterans seeking to refresh or improve their academic skills should contact the TRIO Veterans Upward Bound Program (TRIO VUB) designed to prepare eligible veterans **before enrolling** in college courses. Free college prep courses include mathematics through pre-calculus, writing, reading, study skills, computers, and other core academic subjects. Visit the TRIO VUB website at www.yc.edu/vub for more details.

Search for private scholarship information at:

www.yc.edu/financialaid
www.fastweb.com
www.saltmoney.org

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. The YC Foundation application is available beginning January 5th by logging onto the YC website and selecting My Services, Students, 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.

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 by logging onto the YC website and selecting My Service, Students, My Bills and Payments, Payment Plans. Contact the Business Office or Financial Aid Office for additional details.

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

Library Services

Library services are available to all Yavapai College students, faculty and staff as well as open to 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). Library staff assistance is available in person, by phone at 928-776-2261 (Prescott campus) and 928-634-6541 (Verde Valley campus) or use our Ask a Librarian service on 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
- Subject-specific and general interest article databases
- 24/7 access to millions of online magazine and newspaper articles
- Individual and class support for research projects
- Study rooms for group use
- Library instruction for YC classes
- 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 make their YC ID their 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.
- Any Yavapai Library Network card is valid to use in the library.

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: www.yc.edu/wepa.

Learning Centers

The Mission of the Learning Center is to provide individualized attention in a supportive and comfortable learning environment, which nurtures academic independence and success for all students.

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.

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 Americans 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.

Students 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 or call us at 928-776-2085 for more information.

TRIO is a set of college opportunity programs funded by the U.S. Department of Education and are designed to motivate and support eligible students and veterans in their pursuit of a college education. Of nearly 3,000 programs in the nation, Yavapai College is the fortunate recipient of three TRiO Programs including Student Support Services, Educational Talent Search, and Veterans Upward Bound. General eligibility criteria is based on low income status, first generation college attendance, and/ or disability. Other program-specific eligibility requirements may apply.

Student Support Services - TRIO Program (SSS-TRIO)

The SSS-TRiO 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 include:

- Individualized tutoring
- Assistance with financial aid and scholarships
- Additional time for academic advising
- University field trips and transfer counseling
- Student success 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. Visit online at www.yc.edu/sss.

Educational Talent Search – TRiO 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 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. Program details can also found online at www.yc.edu/ets.

Veterans Upward Bound - TRiO Program (VUB-TRiO)

The primary mission of the VUB-TRIO Program is to prepare eligible veterans *before enrolling in college* to ensure academic success and completion of postsecondary education at a college, university, or vocational/technical school. In addition to low income status and/or neither parent having a four-year degree, eligible veterans must also have a discharge other than dishonorable with at least 180 days of active duty or a release for medical reasons. Members of the reserve component may also be considered for program eligibility.

Free VUB TRiO services provided to eligible veterans throughout northern Arizona include:

- Individualized, self-paced refresher modules in basic mathematics through pre-calculus, computers, composition, literature and more.
- Academic skills assessment
- Student success workshops and tutoring
- Guidance on postsecondary programs and career exploration
- Assistance with applying for college admissions, scholarships, financial aid, and veterans education benefits
- Referral and assistance with securing support services from local resources such as the Vet Center, Veterans Administration, and other veteran serving agencies.

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

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

www.yc.edu/studentlife
studentactivities@yc.edu

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 www.yc.edu/studentlife.

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, notary 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.

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/. 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.

Housing

Yavapai College has two residence halls on the Prescott Campus. Students live in two-person rooms. 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
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 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.

**Office of the
Registrar**

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

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 issues 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))

Office of the Registrar

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

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. The policies and protocols for preventing, reporting and adjudicating incidents of Sexual Misconduct, Sexual Violence and Stalking are all outlined in the Code of Conduct. Students are responsible for understanding and following the Code of Conduct.

Harrassment

Yavapai College maintains a Zero Tolerance policy for unlawful or discriminatory harassment. The College is committed to creating a harassment free environment for all employees and students. Necessary action will be taken to prevent, correct, and if needed, discipline persons whose behavior violates this policy. Disciplinary action may result in measures up to and including termination of employment or expulsion from enrollment.

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.

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

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.

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

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 District Director of Academic Advising or designee 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.

State Authorization

The U.S. Department of Education requires institutions that offer distance education in a state where it is not physically located meet individual state requirements. Arizona was approved as a State Authorization Reciprocity Agreement (SARA) state effective November 11, 2014 and Yavapai College adheres to the *Interregional Guidelines for the Evaluation of Distance Education Programs (Online Learning)* for best practices in postsecondary distance education developed by leading practitioners of distance education and adopted by the Council of Regional Accrediting Commissions (C-RAC). This regulation applies only to distance education courses for students who reside outside the state of Arizona.

If a student has a complaint against a higher education state agency responsible for state authorizations, please see the **Distance Learning Complaint Process for Out of State Students**.

Further information on State Authorization: **www.yc.edu/stateauthorization**

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)

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.

D	Unsatisfactory	1 grade points per semester hour
F	Failure	0 grade points per semester hour
U	Unsatisfactory	not computed in GPA

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	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
			Totals	**7**		**24**

Total Grade Points (24) *divided by* Total Credit Hours (7)=3.4 GPA

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** 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 or veteran education benefits

- 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 45 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.

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 an error in computing or recording a final grade, a student may request a grade change by faculty no later than 45 calendar days after the date the final grade has been posted to the student's permanent record. Once a grade for a course has been officially posted to the student's permanent record by the Registrar, the instructor may change the grade due to the following:

1. An error occurred in the computer and/or recording of the grade or,

2. An incomplete classification (I)

A Change of Grade request after 45 calendar days must be completed with appropriate signatures including the instructor, and Dean or designee. The request is then submitted to the Registrar.

Student Appeal of Academic or Instructional Decisions by Faculty

A student may appeal an academic or instructional decision by faculty if s/he deems the decision to be made in error. The appeal must be made in a timely manner in accordance with established procedures.

Procedure

A student may only appeal a decision that affects him/her directly and must represent themselves in the appeal process. The appeal of an academic or instructional decision requires documentation that the decision was incorrect.

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 made within 30 calendar days of the official notification date of the decision. For appeals concerning a final grade, official notification is considered to be the date the grades is posted to the student's permanent record.

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 resolve the appeal, the student may then appeal to the appropriate Dean or designee.

   The appeal to the Dean must be made in writing using the official form, "Academic or Instructional Decision Appeal to the Dean." All documentation supporting the reason for the appeal must be provided at the time the appeal is submitted. This appeal must succinctly describe the issues involved, evidence that an error was made, and any relevant information. Missing, incomplete or erroneous information may cause the appeal to be rejected. The appeal must be submitted to the Dean within 30 days of notification of the decision by the faculty member.

3. The Dean will review the student's appeal and make a decision based on the documentation provided by the student, the faculty member, and other relevant information that may include meetings with appropriate individuals. The Dean's investigation and decision must be concluded within 30 calendar days of the date the student appealed the decision to the Dean. The Dean will provide written documentation of the decision to the student and faculty member.

4. In the event the student is dissatisfied with the decision of the Dean, a further appeal may be made to the Vice President for Instruction and Student Services. The appeal must be made in writing within 30 calendar days of the date the student received notification of the results of the appeal to the Dean.

   This formal, written appeal must relate only to the original decision that is being appealed. No additional claims or issues will be included or addressed in the review of the appeal.

5. The Vice President for Instruction and Student Services or designee will conduct a formal review of the appeal as presented by the student, including review of relevant policy, review of information provided by the faculty member, and review of the decision by the Dean.

   The formal review and decision by the Vice President for Instruction and Student Services must be completed within 30 calendar days of the receipt of the student's written appeal. The decision must be communicated in writing to all involved parties. The decision of the Vice President for Instruction and Student Services is considered final. A revised appeal of the same academic or instructional decision may not be submitted.

Resources

Academic or Instructional Decision Appeal to the Dean Form: **www.yc.edu/studentcomplaint**

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 students 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) 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).

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.

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. 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.

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.

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	CHM 151
	5	10	CHM 151 & CHM 152
Economics: Macro	4/5	3	ECN 235
Economics: Micro	4/5	3	ECN 236
English Language & Composition	4/5	3	ENG 101 or Dept Elective
English Literature	4/5	3	ENG 101 or Dept Elective
Environmental Science	4/5	3	Elective Credit
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 1 (Mechanics)	4/5	4	PHY 111
Physics 2 (Elect. & Magnetism)	4/5	4	PHY 112
Physics B (Discontinued in 2014)	4	4	PHY 111
	5	8	PHY 111 & 112
Physics C (Mechanics)	3/4/5	4	PHY 111
Physics C (Elect. & Magnetism)	3/4/5	4	PHY 112
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 AZ Transfer Steering Committee.

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

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 below). 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
Business		
Information Systems & Computer Applications	3	CSA 110
Introductory Business Law	3	BSA 238
Financial Accounting	3	Elective Credit
Principles of Macroeconomics	3	ECN 235
Principles of Microeconomics	3	ECN 236
Principles of Management	3	BSA 220
Principles of Marketing	3	BSA 230
Composition & Literature		
Analyzing & Interpreting Literature	3	Elective Credit
College Composition	3	ENG 101 or Elective Credit
History & Social Science		
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
Science & Mathematics		
Biology	3	BIO Dept Elective
Pre-Calculus	5	MAT 187
Calculus	5	MAT 220
Chemistry	5	CHM 151
College Algebra	3	MAT 152

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

	Credits	Equivalency
American Literature or English Literature		
Score of 55	3	Elective Credit
College Composition		
Score of 60	3	ENG 101 or Dept Elective
Natural Sciences		
Score of 53	3	Elective Credit
Score of 56	6	Elective Credit
Spanish		
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

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

Exam	Score	Credits	YC Equivalent
Biology	4/5	4	BIO 100
	6 or higher	8	BIO 181 & BIO 182
Business & Management	5 or higher	3	Elective Credit
Chemistry	4	5	CHM 151
	5 or higher	10	CHM 151 & CHM 152
Economics	5 or higher	6	ECN 235 & ECN 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 111
	6 or higher	8	PHY 111 & PHY 112
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
Visual Arts	4	3	ART 110
	5 or higher	6	ART 110 & ART 112

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).

YAVAPAI COLLEGE
REDC
REGIONAL ECONOMIC
DEVELOPMENT CENTER

928.776.2378 Prescott
928.649.4272 Sedona

www.yc.edu/redc

Regional Economic Development Center

The Yavapai College Regional Economic Development Center provides analysis and services that facilitate economic development throughout Yavapai County and build wealth in our local communities, including:

- Regional economic and policy analysis

- Economic impact and contribution analysis

- Customized training for regional employers

- Native American economic development

- Entrepreneurial education and resources

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.

Associate Degrees

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

AAS in Accounting
AAS in Administration of Justice
AAS in Agriculture Technology Management
AAS in Applied Pre-Engineering
AAS in Automotive Technology
AAS in Aviation Technology
AAS in Computer Networking Technology
AAS in Computer Systems
  and Applications
AAS in Diesel Technician
AAS in Early Childhood Education
AAS in Electrical and
  Instrumentation Technology
AAS in Emergency Management Applications
AAS in Fire Science
AAS in Graphic Design
AAS in Gunsmithing
AAS in Health Information Technology
AAS in Industrial Machine Mechanic
AAS in Management
AAS in Nursing
AAS in Office Administration
AAS in Paralegal Studies
AAS in Paramedicine
AAS in Radiologic Technology
AAS in Social and Human Services
AAS in Video Game Development
AAS in Viticulture and Enology

AGEC Certificates

AGEC-A
AGEC-B
AGEC-S

Certificates

Accounting Assistant
Administrative Professional
Advanced Bookkeeping
Animal Care and Management
Athletic Coaching
Auto Body Paint and
  Collision Technology
Automotive Master Technician
Automotive Technician
Basic Tax
Bookkeeping
Canine Care and Handling
Cisco Networking Specialist

Certificates

Computed Tomography
Computer Application Specialist
Computer Networking Technician
Computer Numerical Controlled
  (CNC) Machining
Creative Writing
Criminal Justice and Security
Culinary Arts Fundamentals
Diesel Technician
Early Childhood Education - Advanced
Early Childhood Education - Basic
Electric Utility Technology
Electrical Instrumentation Technician
Electronics Technology
Emergency Medical Technician
Enology
Equine Practitioner
Exercise Science/Sports Medicine
Fire Science - Basic Firefighter
Fire Science Community Risk Manager
Fire Science Driver/Operator
Fire Service Officer/Manager
Fitness Trainer/Instructor
Gerontology
Graphic Design Technician
Gunsmithing - Advanced
Gunsmithing
Hotel and Restaurant Management
Industrial Machine Mechanic
Integrated Systems Engineering Technician
Justice Studies
Law Enforcement and Corrections
Legal Office Clerk
Magnetic Resonance
Management
Media Production
Media Writing and Producing
Medical Assistant
Medical Records Technician
Nursing Assistant
Paralegal Studies - Post Degree
Paramedicine
Pharmacy Technician
Phlebotomy Technician
Photography
Production Horticulture
Therapy and Service Dog Team Skills
Video Game Developer
Viticulture
Welding - Gas Metal Arc
Welding - Gas Tungsten Arc
Welding - Pipe Welding
Welding - Structural
Windows Server Administrator

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. A maximum of 12 credit hours of Independent Study courses may be applied toward any Yavapai College degree/certificate program.

   c. Special interest and developmental education courses (courses numbered below 100) will not be applied toward degrees and certificates.

   d. 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. If the certificate program requires 12-29 semester hours, a minimum of half the total hours must be completed in residence; if the certificate program requires 11 or fewer credits, all of the 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: Initiate a Petition for Graduation Application

Deadlines: Fall graduates October 1

Spring & Summer graduates March 1

Students who complete certificate or degree requirements but who did not apply for graduation will be automatically conferred.

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.

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 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 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.

Requirements for Admission to the Nursing Program
Admission to the program occurs in the Fall and in the Spring semesters. Students must have an Arizona Department of Public Safety Fingerprint Clearance Card; immunizations as outlined in application; pre-requisites completed; and must pass a standardized Pre-Admission Exam. Additional information and an application packet are available online at 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; and math and reading proficiency. An application for the program is available online at 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 Arizona 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.

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.

Requirements for Admission to the Radiologic Technology Program
An information packet is available from the Academic Advising Center, or online at: www.yc.edu/radiology.

Continuous Enrollment

A semester in which a degree or certificate seeking student earns course credit required for their declared program of study 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 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.

General Education

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 AGEC (Arizona General Education Curriculum) and the YC GECCO (Yavapai College General Education Core Curriculum Outcomes). The former, mandates 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.

Arizona General Education Curriculum (AGEC) - 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.**

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 fulfills the lower division general education requirements of liberal arts majors (e.g., social science, fine arts, humanities).

   b. Arizona General Education Curriculum B—AGEC-B fulfills the lower division general education requirements of business majors.

   c. Arizona General Education Curriculum S—AGEC-S fulfills the lower division general education requirements of majors with more stringent mathematics and mathematics-based science requirements.

Five degrees have been designated to include the 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

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.

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.

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 AGEC 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 communication 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 AGEC requirements mandated by the state of Arizona for all community college General Education courses intended for transfer to a state university.

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.

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.

I. 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 an educational plan. Approved General Education courses are listed below, in their respective categories.

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

Foundation Studies, Core Studies, and Area Studies

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

AGEC - Special Requirements incorporate additional university requirements. 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.

Intensive Writing and Critical Inquiry (IWR) - At least one course beyond the First-Year Composition requirement shall involve the development of competence in written discourse and involve the gathering, interpretation, and evaluation of evidence.

Awareness Areas

1. **Ethnic/Race/Gender (ERG) awareness** - One course emphasizing ethnic/race/gender awareness is required.

2. **Global/International or Historical (GIH) awareness** - One course emphasizing contemporary global/international awareness or historical awareness is required.

Designated general education courses **below** have met these special requirements (ERG, GIH, IWR).

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)[ERG/GIH/IWR]
HIS 132	United States History II (3)[ERG/GIH/IWR]
HIS 201	Western Civilization I (3)[ERG/GIH/IWR]
HIS 202	Western Civilization II (3)[ERG/GIH/IWR]
HIS 205	World History (3)[ERG/GIH/IWR]

2. Critical Thinking. Approved courses are:

AHS 230	Complementary and Alternative Health Therapies (3)
AJS 123	Ethics and Criminal Justice (3)
BSA 118	Practical Creative Thinking and Problem Solving (3)
CHP 190	Honors Colloquium (1)*
COM 217	Introduction to Argumentation and Debate (3)
EDU 210	Cultural Diversity in Education (3)[ERG]
ENG 140	Reading the World (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 105	Introduction to Ethics (3)
PHI 110	Introduction to Critical Thinking (3)
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 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)
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 116   Geology of the Verde Valley (2)
           GLG 117   Implications of Plate Tectonics (2)
           GLG 118   Evolution of the Basin and Range (2)
           GLG 119   Geology of Grand Canyon (2)
           GLG 120   Geology of Northern Arizona (2)
           GLG 121   Volcanoes and Earthquakes of Northern Arizona (2)
           GLG 122   Geology of Death Valley (2)
           GLG 123   Geology of Bryce and Zion (2)
           GLG 124   Geology of the Prescott Region (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 111   General Physics I (4)
PHY 112   General Physics II (4)
PHY 140   The Physical World (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:
    ART 200   Art History I (3)[ERG/GIH/IWR]
    ART 201   Art History II (3)[ERG/GIH/IWR]
    ART 202   History of Modern and Contemporary Art (3)[ERG/GIH/IWR]
    ART 203   History of Photography (3)[ERG/GIH/IWR]
    ENG 211   Major Issues in British Literature I (3)[ERG/IWR]
    ENG 212   British Literature 1798 to Present (3)[ERG/IWR]
    ENG 216   Major Issues in Ancient Literature (3)[IWR]
    ENG 217   Major Issues in World Literature (3)[ERG/IWR]
    ENG 219   Major Issues in Modern Drama (3)[IWR]
    ENG 230   Introduction to Literature (3)[IWR]
    ENG 237   Women in Literature (3)[ERG/IWR]

ENG 240   American Literature to 1865 (3)[ERG/IWR]
ENG 241   American Literature 1865 to Present (3)[ERG/IWR]
ENG 242   Introduction to Shakespeare (3)[IWR]
ENG 298   Special Topics in Literature (3)[IWR]
HUM 202   Introduction to Mythology (3)[IWR]
HUM 205   Technology and Human Values (3)[IWR]
HUM 236   American Arts and Ideas (3)[ERG/IWR]
HUM 241   Humanities in the Western World I (3)[ERG/IWR]
HUM 242   Humanities in the Western World II (3)[ERG/IWR]
HUM 243   History of Film (3)[IWR]
HUM 248   Introduction to Folklore (3)[IWR]
HUM 250   American Cinema (3)[IWR]
HUM 260   Intercultural Perspectives (3)[ERG/IWR]
MUS 240   Music Appreciation (3)[IWR]
MUS 245   Music of World Cultures (3)[IWR]
PHI 101   Introduction to Philosophy (3)
PHI 122   Science, Religion and Philosophy (3)
PHI 210   Environmental Ethics and Philosophy (3)[IWR]
PHI 245   Introduction to Eastern Philosophy (3)[IWR]
REL 201   Comparative Religions (3)[IWR]
REL 203   Native Religions of the World (3)[IWR]
REL 273   Introduction to Jewish Studies (3)[ERG/IWR]
SPA 135   Introduction to Spanish Literature (3)[ERG/GIH]
SPA 201   Intermediate Spanish I (4)[ERG/GIH]
SPA 202   Intermediate Spanish II (4)[ERG/GIH]
THR 135   Introduction to Theatre (3)
THR 243   History of Film (3)[IWR]
THR 250   American Cinema (3)[IWR]

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)[ERG]
PSY 234   Child Development (3)
PSY 238   Psychology of Play (3)[ERG]
PSY 240   Personality Development (3)
PSY 245   Human Growth and Development (3)
PSY 250   Social Psychology (3)
PSY 277   Human Sexuality (3) [ERG]

4. Social Science Requirement. Approved courses are:
ANT 101   Stones, Bones and Human Origins (3)
ANT 102   Introduction to Cultural Anthropology (3)[ERG]
ANT 104   Buried Cities and Lost Tribes (3)

ANT 214   Magic, Witchcraft and Healing (3)[ERG]
ANT 231   Southwestern Archeology (3)
ANT 232   Indians of the Southwest (3)[ERG]
ECN 235   Principles of Economics-Macro (3)
GEO 101   World Geography - West (3)[GIH]
GEO 102   World Geography - East (3)[GIH]
GEO 105   Introduction to Cultural Geography (3) [ERG/GIH]
HIS 260   History of Native Americans in the United States (3)[ERG]
SOC 101   Introduction to Sociology (3)[ERG]
SOC 140   Sociology of Intimate Relationships & Family (3)[ERG]
SOC 142   Race & Ethnic Relations (3)[ERG]
SOC 212   Gender and Society (3)[ERG]
SOC 250   Social Problems (3)[ERG]

II. Yavapai College Communication Requirement

Three credit hours of communication coursework are required for the Associate of Arts, Associate of Business, Associate of Science and Associate of General Studies degrees. Approved courses are:

COM 100 Introduction to Human Communication (3)
COM 131 Fundamentals of Speech Communication (3)
COM 134 Interpersonal Communication (3)
COM 200 Communication Theory (3)
COM 271 Small Group Communication (3)

ARIZONA GENERAL EDUCATION CURRICULUM TRANSFER PROGRAMS

(Intended for students transferring to an Arizona public university)

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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 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.

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. <u>Foundation Studies (9 credits)</u>
       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. <u>Core Studies (6 credits)</u>
       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. <u>Area Studies (20 credits)</u>
       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

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.

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. <u>Foundation Studies (9 credits)</u>
       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. <u>Core Studies (3 credits)</u>
       1. Historical Perspective (3 credits). Select and complete one course from the approved list of General Education Courses 3

    C. <u>Area Studies (20 credits)</u>
       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

    D. <u>Computer Systems and Applications (3 credits)</u>
       1. CSA 110 Introduction to Computer Information Systems.. 3

Total Credit Hours   **35**

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 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.

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 111 and PHY 112 -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 111 General Physics I 4
        PHY 112 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 DEGREE PROGRAMS

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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 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 AGEC with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

Three credit hours of **communication** 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 and curriculum transfer guides available from advisors. Transfer guides are also available from each university's web site.

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. Communication 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 200 Communication Theory... 3
5. 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.

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*, ECE, ECN, EDU, ENG, ENV, FYE, GEO, GLG, GRN, HIS, HUM, 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, SOC, SPA, STU, THR, VGD, and WEB.

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

The Associate of Arts in Elementary Education degree requires completion of 62 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 62 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 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 their Yavapai College transcript.

Three credit hours of **communication** coursework are required for this degree. Twenty-four credit hours of coursework in this degree are in **major** and **elective studies**.

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.

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 (except ECE 210) 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. Choose any 200-level course on the General Education Course List 3
    b. Choose a different 3 credit hour course from the following 3
        ART 200 Art History I 3
        ART 201 Art History II 3
        ART 202 History of Modern and Contemporary Art 3
        ART 203 History of Photography 3
        MUS 240 Music Appreciation 3
        MUS 245 Music of World Cultures 3
        THR 135 Introduction to the Theater 3
        THR 243 History of Film 3
        THR 250 American Cinema 3
    3. Behavioral Science (3 credits)
    a. ECE/PSY 234 Child Development 3
    4. Social Science (3 credits)
    Select and complete one course from the approved list of General Education Courses 3

II. Communication 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 200 Communication Theory 3
    5. COM 271 Small Group Communication 3

III. Major and Elective Studies (24 credits)
A. Students must complete the following:
    1. ECE/EDU 222 Introduction to the Exceptional Learner 3
    2. ECE/EDU 230 Language and Literacy Experiences 3
    3. ECE 240 Family and Community Partnerships 3
    4. EDU 200 Introduction to Education 3
    5. EDU 210 Cultural Diversity in Education 3
    6. EDU 239 Structured English Immersion Provisional Endorsement 3
    7. MAT 156 Mathematics for Elementary Teachers I 3
    8. MAT 157 Mathematics for Elementary Teachers II 3

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 AAFA degree will also allow students as declared fine arts (art and music) 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 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 AGEC with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

Three credit hours of **communication** coursework are required for this degree. Twenty-six credit hours of coursework in this degree are in **major** and **elective studies** divided into Art and Music Concentrations. 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 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 Equivalency Guide and curriculum transfer guides available from academic advisors. Transfer guides are also available from each university's web site.

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 Concentration
        ART 200 Art History I 3
        ART 201 Art History II 3
    b. Music Concentration
        MUS 240 Music Appreciation 3
        MUS 245 Music of World Cultures... 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. Communication 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 200 Communication Theory... 3
    5. COM 271 Small Group Communication 3

III. Major and Elective Studies (26 credits) – Choose Art or Music Concentration
A. Art Concentration
    1. Art Core Requirements (17 credits)
    ART 110 Drawing I 3
    ART 112 Two-Dimensional Design 3
    ART 113 Three-Dimensional Design 3
    ART 114 Color Theory 3
    ART 137 Adobe Photoshop I 3
    ART 232 Portfolio Development 2
    2. Art Electives: Select 9 credit hours
    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

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)

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 195 Watercolor II 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

B. Music Concentration
    1. Music Core Requirements (18 credits)
        MUS 129 Theory Preparation.. 2
        MUS 131 Basic Integrated Theory I 4
        MUS 132 Basic Integrated Theory II 4
        MUS 231 Advanced Integrated Theory I 4
        MUS 232 Advanced Integrated Theory II.. 4
    2. Music Electives: Select 8 credit hours
        MUS 101 Private Music I.. 1
        MUS 102 Private Music II 1
        MUS 103 Piano Class I 1
        MUS 104 Piano Class II 1
        MUS 105 Voice Class I... 1
        MUS 106 Voice Class II.. 1
        MUS 107 Guitar Class I 1
        MUS 108 Guitar Class II 1
        MUS 109 Guitar Class III 1
        MUS 110 Concert Band 1
        MUS 111 Symphonic Band 1
        MUS 112 Jazz/Rock Ensemble 1
        MUS 113 Big Band I.. 1
        MUS 114 Big Band II... 1
        MUS 115 Instrumental Ensemble 1
        MUS 116 Jazz Combo 1
        MUS 117 Symphony Orchestra 1
        MUS 151 Applied Music I.. 2
        MUS 152 Applied Music II... 2
        MUS 190 Oratorio Workshop 1
        MUS 198 Music Topics.. 1
        MUS 201 Private Music III 1
        MUS 202 Private Music IV 1
        MUS 203 Piano Class III 1
        MUS 204 Piano Class IV 1
        MUS 222 Chamber Singers 1
        MUS 223 Vocal Ensemble... 1
        MUS 224 Master Chorale 1
        MUS 225 Community Chorale 1
        MUS 226 Chamber Choir.. 1
        MUS 227 Women's Chorale 1
        MUS 228 Gospel Choir 1
        MUS 251 Applied Music III.. 2
        MUS 252 Applied Music IV 2
        MUS 296 Internship: Music... 3

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 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 AGEC with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

Three credit hours of **communication** 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 and curriculum transfer guides available from advisors. Transfer guides are also available from each university's web site.

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 ECN 235) 3
D. Computer Systems and Applications (3 credits)
   1. CSA 110 Introduction to Computer Information Systems 3

II. Communication 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 200 Communication Theory... 3
   5. 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 237 Legal Environment of Business 3
   4. ECN 232 Business Statistical Analysis 3
   5. ECN 234 Quantitative Methods (3) **-or-** MAT 172 Finite Math 3
   6. ECN 235 Principles of Economics -Macro 3
   7. ECN 236 Principles of Economics - Micro 3
   8. Select and complete one course from the following options:
     a. BSA 131 Introduction to Business 3
     b. BSA 233 Business Communications 3

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 a minimum 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 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 AGEC with a grade of "C" or higher, the student will receive recognition of completion on their Yavapai College transcript.

Three credit hours of **communication** 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 and curriculum transfer guides available from advisors. Transfer guides are also available from each university's web site.

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. <u>Foundation Studies (9 credits)</u>
    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. <u>Area Studies (20 credits)</u>
    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. <u>Other Requirements (6-8 credits)</u>
    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 111 General Physics I 4
    PHY 112 General Physics II 4
    PHY 150 Physics for Scientists and Engineers I 5
    PHY 151 Physics for Scientists and Engineers II 5

II. Communication 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 200 Communication Theory.. 3
    5. 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** 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*:

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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 111 General Physics I ........................................................................... 4
PHY 112 General Physics II .......................................................................... 4
PHY 150 Physics for Scientists and Engineers I .......................................... 5
PHY 151 Physics for Scientists and Engineers II ......................................... 5
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*Other courses may also apply with advisor approval.

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 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 **communication** 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. <u>Foundation Studies (9 credits)</u>
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
2. Numeracy (3 credits)
   Select and complete any mathematics course numbered 100 or higher 3

B. <u>Core Studies (6 credits)</u>
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. <u>Area Studies (13 credits)</u>
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 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 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. Communication 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 200 Communication Theory.. 3
5. 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.

ASSOCIATE OF APPLIED SCIENCE DEGREE PROGRAMS

Yavapai
COLLEGE
life explored

The Associate of Applied Science degree ranges from 60-78 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.

Associate of Applied Science Degree

The Associate of Applied Science degree ranges from 60-78 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. **Students must meet specific program admission and prerequisite requirements as indicated in the individual degree program.**

Forty-one to 59 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 a more 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 Applied Pre-Engineering, Aviation Technology, Nursing and Radiologic Technology, will be considered complete for students who have already earned a baccalaureate degree at a regionally accredited institution. Those students will have their completed general education coursework evaluated on an individual basis.

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.

The Associate of Applied Science degree ranges from 60-78 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 or 2
   Option 1 - Complete 6 credits in Group A.
   Option 2 - Complete 3 credits in Group A and 3 credits in Group B.

   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 Mediawriting 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 3
   COM 135 Workplace Communication Skills 3
   COM 200 Communication Theory... 3
   COM 271 Small Group Communication 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 or 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 (41-59 credits)
   Forty-one to 59 credits as specified in the individual degree program the student is pursuing.

CERTIFICATE PROGRAMS

Yavapai
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life explored

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.

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*

FUEMMELER, 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*

PRESIDENT and VICE PRESIDENTS

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

BLACKLAW, STUART, Ph.D.
Provost and Vice President for Instruction and Student Development

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, Health and Public Safety
Director of Athletics (1987)

FITZGERALD, JILL, M.A.
Dean for Business, Education and Social Sciences (2001)

GARVEY, DENNIS, M.S.W.
Dean for Lifelong Learning (2002)

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

HOLBROOK, DEAN, M.A.
Dean for Foundation Studies, ABE, Dual Enrollment (1994)

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

PEREY, JAMES, Ed.D.
Executive Dean, Verde Valley Campus (2003)

RALSTON, CRAIG, Ph.D.
Dean for Arts and Humanities (2014)

SHELDAHL, TANIA, M.Ed.
Dean of Student Development (1986)

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 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.

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 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 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 for semester-specific withdraw deadlines.

Yavapai COLLEGE

YAVAPAI COLLEGE
CATALOG 2015-16

Prescott Campus
1100 East Sheldon Street
Prescott, Arizona 86301
(928) 445.7300

Verde Valley Campus
601 Black Hills Drive
Clarkdale, Arizona 86324
(928) 634.7501

Prescott Valley Center
6955 Panther Path
Prescott Valley, Arizona 86314
(928) 717.7911

Career & Technical Education Center
220 Ruger Road
Prescott, Arizona 86301
(928) 776.2002

Chino Valley Center
2275 Old Home Manor Way
P.O. Box 4048
Chino Valley, Arizona 86323
(928) 717.7720

Sedona Center
4215 Arts Village Drive
Sedona, Arizona 86336
(928) 649.4265

For callers outside the (928) area code, please call 1.800.922.6787

Yavapai COLLEGE

YC 166-15

Yavapai
COLLEGE

2015-2016 Degree & Certificate Programs at Yavapai College

Yavapai College's diverse and comprehensive offerings allow students to create a bright future. Browse YC programs below for descriptions, major requirements, career opportunities and interest areas. Degree & Certificate Archives. ⊕ = programs that can be completed entirely online.

Degrees

Associate Degrees

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

AAS in Accounting ⊕
AAS in Administration of Justice   **Updated**   ⊕
AAS in Agriculture Technology Management
AAS in Applied Pre-Engineering
AAS in Automotive Technology
AAS in Aviation Technology (Airplane/Helicopter/Ops/UAS)   **Updated**
AAS in Computer Networking Technology
AAS in Computer Systems and Applications
AAS in Diesel Technician
AAS in Early Childhood Education
AAS in Electrical and Instrumentation Technology
AAS in Emergency Management Applications ⊕
AAS in Fire Science
AAS in Graphic Design
AAS in Gunsmithing
AAS in Health Information Technology
AAS in Industrial Machine Mechanic
AAS in Management ⊕
AAS in Nursing
AAS in Office Administration
AAS in Paralegal Studies   **Updated**   ⊕
AAS in Paramedicine
AAS in Radiologic Technology
AAS in Social and Human Services   **Updated**
AAS in Video Game Development ⊕
AAS in Viticulture and Enology

Online Degrees & Certificates

Yavapai College offers fully online programs. Click here for online program information.

Certificates

AGEC Certificates

AGEC-A ⊕
AGEC-B ⊕
AGEC-S

Certificates

Accounting Assistant ⊕
Administrative Professional   **Updated**   ⊕
Advanced Bookkeeping   **New!**   ⊕
Animal Care and Management
Athletic Coaching
Auto Body Paint and Collision Technology
Automotive Master Technician
Automotive Technician
Basic Tax   **New!**   ⊕
Bookkeeping   **New!**   ⊕
Canine Care and Handling
Cisco Networking Specialist
Computed Tomography   **New!**
Computer Application Specialist ⊕
Computer Networking Technician
Computer Numerical Controlled (CNC) Machining
Creative Writing ⊕
Criminal Justice and Security ⊕
Culinary Arts Fundamentals   **New!**
Diesel Technician
Early Childhood Education - Advanced
Early Childhood Education - Basic
Electric Utility Technology
Electrical Instrumentation Technician
Electronics Technology
Emergency Medical Technician
Enology   **New!**
Equine Practitioner
Exercise Science/Sports Medicine
Fire Science - Basic Firefighter
Fire Science Community Risk Manager ⊕
Fire Science Driver/Operator
Fire Service Officer/Manager ⊕
Fitness Trainer/Instructor   **Updated**
Gerontology
Graphic Design Technician

College Catalog and Course Outlines
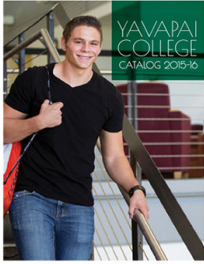
- [Catalog in PDF format](#) (1mb PDF)
- [Course Outlines](#)
- [Archived catalogs](#)

[Gunsmithing - Advanced](#)

[Gunsmithing](#)

[Hotel and Restaurant Management](#)   **New!**

[Industrial Machine Mechanic](#)

[Integrated Systems Engineering Technician](#)   **New!**

[Justice Studies](#) 🌐

[Law Enforcement and Corrections](#) 🌐

[Legal Office Clerk](#)   **Updated**   🌐

[Magnetic Resonance](#)   **New!**

[Management](#) 🌐

[Media Production](#)   **New!**

[Media Writing and Producing](#)   **New!**

[Medical Assistant](#)

[Medical Records Technician](#)

[Nursing Assistant](#)

[Paralegal Studies - Post Degree](#)   🌐

[Paramedicine](#)

[Pharmacy Technician](#)

[Phlebotomy Technician](#)

[Photography](#)

[Production Horticulture](#)

[Therapy and Service Dog Team Skills](#)

[Video Game Developer](#) 🌐

[Viticulture](#)

[Welding - Gas Metal Arc](#)

[Welding - Gas Tungsten Arc](#)

[Welding - Pipe Welding](#)

[Welding - Structural](#)

[Windows Server Administrator](#)

Yavapai COLLEGE

Associate of Arts in Elementary Education 🌐

Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Instructional Specialist	Mitzi Martin	(928) 776-2157
Program Director	Tara O'Neill	(928) 717-7621
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 62
This program can be completed entirely online
Transfer Options: Multiple - See Advisor
View the Degree Plan

About the Associate of Arts in Elementary Education

The vision for the Teacher Preparation Program at Yavapai College is one of a quality program that adapts to the dynamic needs of students, children, their families and the community.

The YC Teacher Education Program serves:

1. Students interested in pursuing careers in teaching in public and private infant-grade 12 schools and Child Care Centers.
2. Students who transfer to four year programs in Early Childhood/Elementary Education or Secondary Education.
3. In-service teachers seeking to improve their teaching skills through additional coursework and/or professional development activities.

The Associate of Arts in Elementary Education degree requires completion of 62 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-four 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)
Ethnic/Race/Gender (ERG) awareness
Global/International or Historical (GIH) awareness

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, EDU/ECE 222, EDU/ECE 230, EDU 239)
2. Design and present appropriate classroom activities intended to achieve specific student learning outcomes. (EDU 200, EDU/ECE 230, EDU 239)
3. Analyze teaching styles as they relate to student learning styles. (EDU 200, EDU/ECE 222, EDU 239, MAT 156, MAT 157)
4. Articulate the concept of multicultural education and its implementation in the public school classroom. (ECE 240, EDU 210, EDU 239)
5. Describe how the concepts of equity and equal educational opportunity have evolved into educational policy. (ECE 240, EDU 210, EDU/ECE 222, EDU 239)
6. Discuss society's historical identification and treatment of exceptional children and youth. (EDU/ECE 222)
7. Explain the relative affects of parents, siblings, peers, teachers, the community, and culture on child development. (EDU/ECE 222)

General Educational Requirements

Course	Course Title	Hours
I. General Education (35 credits)		
A. Foundation Studies (9 credits)		
1. College Composition (6 credits)		
ENG101	College Composition I	3
OR ENG103	College Composition I Honors	3
ENG102	College Composition II	3
OR ENG104	College Composition II Honors	3
2. Numeracy (3 credits)		
MAT142	College Mathematics	3
OR MAT152	College Algebra	3
OR MAT167	Elementary Statistics	3
OR MAT172	Finite Mathematics	3
OR MAT187	Precalculus	5
OR MAT212	Survey of Calculus	3
OR MAT220	Calculus & Analytic Geometry I	5
OR MAT230	Calculus & Analytic Geomtry II	5
OR MAT241	Calculus III	4
OR MAT262	Elementary Differential Equatn	3
B. Core Studies (6 credits)		
1. Historical Perspective (3 credits)		
HIS131	United States History I	3
2. Critical Thinking (3 credits)		

EDU 210 may not be used to fulfill this requirement

☐ Show / hide all critical thinking (agec) courses

C. Area Studies (20 credits)

1. Physical and Biological Science (8 credits)　1

See note below for details on selection

☐ Show / hide all physical & biological science courses

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2. Arts and Humanities (6 credits)

Choose a 3 credit hour course from the following:

ART200	Art History I	3
ART201	Art History II	3
ART202	History Mod/Contemp Art	3
ART203	History of Photography	3
ENG211	Major Issues Brit Lit I	3
ENG212	British Lit 1798-Present	3
ENG217	Major Issues World Lit	3
ENG219	Major Issues Modern Drama	3
ENG237	Women in Literature	3
ENG238	Unavailable	
ENG240	American Lit to 1865	3
ENG241	American Lit 1865 to Present	3
ENG242	Intro to Shakespeare	3
ENG298	Special Topics in Literature	3
HUM202	Introduction to Mythology	3
HUM205	Technology and Human Values	3
HUM236	American Arts & Ideas	3
HUM241	Humanities Western World I	3
HUM242	Humanities West World II	3
HUM243	History of Film	3
HUM248	Introduction to Folklore	3
HUM250	American Cinema	3
HUM260	Intercultural Perspectives	3
MUS240	Music Appreciation	3
MUS245	Music of World Cultures	3
PHI245	Intro Eastern Philosophy	3
REL201	Comparative Religions	3
REL203	Native Religions of the World	3
REL273	Introduction to Jewish Studies	3
THR243	History of Film	3
THR250	American Cinema	3

Choose a different 3 credit hour course from the following:

ART200	Art History I	3
ART201	Art History II	3
ART202	History Mod/Contemp Art	3
ART203	History of Photography	3
MUS240	Music Appreciation	3
MUS245	Music of World Cultures	3
THR135	Intro to Theater	3
THR243	History of Film	3
THR250	American Cinema	3

    3. Behavioral Science (3 credits)

| | PSY234 | Child Development | 3 |
| OR | ECE234 | Child Development | 3 |

    4. Social Science (3 credits)

     ☐ Show / hide all social science (agec) courses

II. Communication Requirement (3 credits)

	COM100	Intro Human Communication	3
OR	COM131	Fund Speech Communication	3
OR	COM134	Interpersonal Communication	3
OR	COM271	Small Group Communication	3

III. Major and Elective Studies (24 credits)

	ECE222	Intro Exceptional Learner	3
OR	EDU222	Intro Exceptional Learner	3
	.		
	ECE230	Language & Literacy Experience	3
OR	EDU230	Language & Literacy Experience	3
	.		
	ECE240	Family & Comm Partnerships	3
	EDU200	Intro to Education	3
	EDU210	Cultural Diversity Education	3
	EDU239	SEI Provisional Endorsement	3
	MAT156	Math/Elementary Teachers I	3
	MAT157	Math/Elementary Teachers II	3

1 - 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)

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Arts in Fine Arts

Click here to request more info

Program Contacts

Prescott Advising	Prescott Academic Advising	(928) 776-2106
Verde Advising	Verde Valley Academic Advising	(928) 634-6510
Instructional Specialist	Michelle Peters	(928) 776-2035
Dean	Craig Ralston	(928) 776-2311

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 64
Transfer Options: Multiple - See Advisor
View the Degree Plan
Click for more information

About the Associate of Arts in Fine Arts

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 (art and music) 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" of 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 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 divided into Art and Music Concentrations. 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 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 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 Outcomes

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

Art Concentration:

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.

Music Concentration:

1. Perform at a required level of artistry and technical proficiency on an instrument.

2. Develop and perform a required level of music analytical competence.

3. Exhibit a required level of aural recognition.

4. Explain the historical and cultural development of music throughout the ages.

5. Communicate informed personal reactions to recorded and live music.

General Educational Requirements

Course	Course Title	Hours
I. General Education (35 credits)		
A. Foundation Studies (9 credits)		
1. College Composition (6 credits)		
ENG101	College Composition I	3
OR ENG103	College Composition I Honors	3
ENG102	College Composition II	3
OR ENG104	College Composition II Honors	3
2. Numeracy (3 credits)		
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 MAT172	Finite Mathematics	3
OR MAT187	Precalculus	5
OR MAT212	Survey of Calculus	3
OR MAT220	Calculus & Analytic Geometry I	5
OR MAT230	Calculus & Analytic Geomtry II	5
OR MAT241	Calculus III	4
OR MAT262	Elementary Differential Equatn	3
B. Core Studies (6 credits)		
1. Historical Perspective (3 credits)		

Choose from Approved List

       Show / hide all historical perspective (agec) courses

---

2. Critical Thinking (3 credits)

Choose from Approved List

☐ Show / hide all critical thinking (agec) courses

C. Area Studies (20 credits)

   1. Physical and Biological Science (8 credits)

Choose from Approved List - GLG100 must be taken with one other 2 credit GLG course

☐ Show / hide all physical & biological science courses

   2. Arts and Humanities (6 credits) - Choose Option a or b:

     a. Art Concentration

ART200	Art History I	3
ART201	Art History II	3

     a. Music Concentration

MUS240	Music Appreciation	3
MUS245	Music of World Cultures	3

   3. Behavioral Science (3 credits)

Choose from Approved LIst

☐ Show / hide all behavioral science (agec) courses

   4. Social Science (3 credits)

Choose from Approved LIst

☐ Show / hide all social science (agec) courses

II. Communications Requirement (3 credits)

	COM100	Intro Human Communication	3
OR	COM131	Fund Speech Communication	3
OR	COM134	Interpersonal Communication	3
OR	COM271	Small Group Communication	3

III. Major and Elective Studies (26 credits) - Choose Art or Music Concentration

A. Art Concentration

   1. Art Core Requirements (17 credits)

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

   2. Art Electives: Select 9 credit hours

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
ART150	Photography I	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
ART195	Watercolor II	3
ART196	Portraiture I	3
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

B. Music Concentration

   1. Music Core Requirements (18 credits)

MUS129	Theory Preparation	2
MUS131	Basic Integrated Theory I	4
MUS132	Basic Integrated Theory II	4
MUS231	Adv Integrated Theory I	4
MUS232	Adv Integrated Theory II	4

   2. Music Electives: Select 8 credit hours

MUS101	Private Music I	1
MUS102	Private Music II	1
MUS103	Piano Class I	1
MUS104	Piano Class II	1
MUS105	Voice Class I	1
MUS106	Voice Class II	1
MUS107	Guitar Class I	1
MUS108	Guitar Class II	1
MUS110	Concert Band	1
MUS111	Symphonic Band	1
MUS113	Big Band I	1
MUS114	Big Band II	1
MUS115	Instrumental Ensemble:	1

MUS116	Jazz Combo	1
MUS117	Symphony Orchestra	1
MUS151	Applied Music I	2
MUS152	Applied Music II	2
MUS190	Oratorio:	1
MUS198	Music Topics:	1
MUS201	Private Music III	1
MUS202	Private Music IV	1
MUS203	Piano Class III	1
MUS204	Piano Class IV	1
MUS222	Chamber Singers	1
MUS223	Vocal Ensemble	1
MUS224	Master Chorale	1
MUS225	Community Chorale	1
MUS226	Chamber Choir	1
MUS227	Women's Chorale	1
MUS228	Gospel Choir	1
MUS251	Applied Music III	2
MUS252	Applied Music IV	2
MUS296	Internship: Music	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Arts 🌐

[Click here to request more info]

Program Contacts

Prescott Advising	Prescott Academic Advising	(928) 776-2106
Verde Advising	Verde Valley Academic Advising	(928) 634-6510
Dean	Dean Holbrook	(928) 717-7693

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 60
This program can be completed entirely online
Transfer Options: Multiple - See Advisor
View the Degree Plan

About the Associate of Arts

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 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)
Ethnic/Race/Gender (ERG) awareness
Global/International or Historical (GIH) awareness

General Educational Requirements

Course	Course Title	Hours
I. General Education (35 credits)		
A. Foundation Studies (9 credits)		
1. College Composition (6 credits)		
ENG101	College Composition I	3
OR ENG103	College Composition I Honors	3
ENG102	College Composition II	3

OR	ENG104	College Composition II Honors	3

    2. Numeracy (3 credits)

	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	MAT172	Finite Mathematics	3
OR	MAT187	Precalculus	5
OR	MAT212	Survey of Calculus	3
OR	MAT220	Calculus & Analytic Geometry I	5
OR	MAT230	Calculus & Analytic Geomtry II	5
OR	MAT241	Calculus III	4
OR	MAT262	Elementary Differential Equatn	3

  B. Core Studies (6 credits)

    1. Historical Perspective (3 credits)

    Choose from Approved List

      ☐ Show / hide all historical perspective (agec) courses

    2. Critical Thinking (3 credits)

    Choose from Approved List

      ☐ Show / hide all critical thinking (agec) courses

  C. Area Studies (20 credits)

    1. Physical and Biological Science (8 credits)

    Choose from Approved List - GLG100 must be taken with one other 2 credit GLG course

      ☐ Show / hide all physical & biological science courses

    2. Arts and Humanities (6 credits)

    Choose from Approved List

      ☐ Show / hide all arts & humanities (agec) courses

    3. Behavioral Science (3 credits)

    Choose from Approved LIst

      ☐ Show / hide all behavioral science (agec) courses

    4. Social Science (3 credits)

    Choose from Approved LIst

      ☐ Show / hide all social science (agec) courses

 II. Communication Requirement (3 credits)

	COM100	Intro Human Communication	3
OR	COM131	Fund Speech Communication	3
OR	COM134	Interpersonal Communication	3
OR	COM271	Small Group Communication	3

  III. Major and Elective Studies (22 credits)   1

1 - 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. 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*, ECE, ECN, EDU, ENG, ENV, GEO, GLG, GRN, HIS, HUM, JRN, MAT (except MAT 100 and MAT 122), MUS, NSG (except NSG 114, NSG 124, NSG 130 and NSG 133), NTR, PHE*, PHI, PHY, POS, PSY, REC*, REL, SOC, SPA, STU, THR, VGD, and WEB. *DAN, PHE and REC are limited to 4 activity-based credit hours each.

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Business 🌐

<div style="float:right;border:1px solid #ccc;padding:10px">Click here to request more info</div>

Program Contacts

Prescott Advising	Prescott Academic Advising	(928) 776-2106
Verde Advising	Verde Valley Academic Advising	(928) 634-6510
Instructional Specialist	Holly Molina	(928) 776-2295
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 62
This program can be completed entirely online
Transfer Options: Multiple - See Advisor
View the Degree Plan
Click for more information

About the Associate of Business

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" of 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

General Educational Requirements

Course	Course Title	Hours
I. General Education (35 credits)		
A. Foundation Studies (9 credits)		
1. College Composition (6 credits)		

	ENG101	College Composition I	3
OR	ENG103	College Composition I Honors	3
	ENG102	College Composition II	3
OR	ENG104	College Composition II Honors	3

2. Numeracy (3 credits)

	MAT212	Survey of Calculus	3
OR	MAT220	Calculus & Analytic Geometry I	5
OR	MAT230	Calculus & Analytic Geomtry II	5
OR	MAT241	Calculus III	4
OR	MAT262	Elementary Differential Equatn	3

B. Core Studies (3 credits)

1. Historical Perspective (3 credits)

Choose from Approved List

   Show / hide all historical perspective (agec) courses

C. Area Studies (20 credits)

1. Physical and Biological Science (8 credits)

Choose from Approved List - GLG100 must be taken with one other 2 credit GLG course

   Show / hide all physical & biological science courses

2. Arts and Humanities (6 credits)

Choose from Approved List

   Show / hide all arts & humanities (agec) courses

3. Behavioral Science (3 credits)

Choose from Approved List

   Show / hide all behavioral science (agec) courses

4. Social Science (3 credits)   1

Choose from Approved List - EXCEPT BSA 235

   Show / hide all social science (agec) courses

D. Computer Systems and Applications (3 credits)

CSA110	Intro Computer Info System	3

II. Communications Requirement (3 credits)

	COM100	Intro Human Communication	3
OR	COM131	Fund Speech Communication	3
OR	COM134	Interpersonal Communication	3
OR	COM271	Small Group Communication	3

III. Major and Elective Studies (24 credits)

ACC131	Principles of Accounting I	3
ACC132	Principles of Accounting II	3

	BSA131	Intro to Business	3
OR	BSA233	Business Communication	3
	BSA237	Legal Environment Business	3
	ECN232	Business Statistical Analysis	3
	ECN234	Quantitative Methods	3
OR	MAT172	Finite Mathematics	3
	ECN235	Principles of Economics-Macro	3
	ECN236	Principles of Economics-Micro	3

1 - Choose from any approved course except ECN 235

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai
COLLEGE

Associate of General Studies 🌐

Program Contacts

Prescott Advising	Prescott Academic Advising	(928) 776-2106
Verde Advising	Verde Valley Academic Advising	(928) 634-6510
Dean	Dean Holbrook	(928) 717-7693

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 60
This program can be completed entirely online
View the Degree Plan

About the Associate of General Studies

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.

General Educational Requirements

Course	Course Title	Hours
I. General Education (28 credits)		
A. Foundation Studies (9 credits)		
1. College Composition I and II (6)		
ENG101	College Composition I	3
OR ENG103	College Composition I Honors	3
ENG102	College Composition II	3
OR ENG104	College Composition II Honors	3
2. Numeracy (3 credits)		
Choose from Approved List		
☐ Show / hide all quantitative literacy courses		
B. Core Studies (6 credits)		
1. Historical Perspective (3 credits)		
Choose from Approved List		
☐ Show / hide all historical perspective (agec) courses		

   2. Critical Thinking (3 credits)

Choose from Approved List

☐ Show / hide all critical thinking (agec) courses

C. Area Studies (13 credits)

   1. Physical and Biological Science (4 credits)

Choose from Approved List - GLG100 must be taken with one other 2 credit GLG course

☐ Show / hide all physical & biological science courses

   2. Arts and Humanities AND Behavioral and Social Science (9 credits)

Select Option a or b:

  a. Arts and Humanities (3 credits)

☐ Show / hide all arts & humanities (agec) courses

Behavioral Science (3 credits)

☐ Show / hide all behavioral science (agec) courses

Social Science (3 credits)

☐ Show / hide all social science (agec) courses

  b. Arts and Humanities (6 credits)

☐ Show / hide all arts & humanities (agec) courses

Behavioral Science (3 credits)

☐ Show / hide all behavioral science (agec) courses

Social Science (3 credits)

OR ☐ Show / hide all social science (agec) courses

II. Communications Requirement (3 credits)

	COM100	Intro Human Communication	3
OR	COM131	Fund Speech Communication	3
OR	COM134	Interpersonal Communication	3
OR	COM271	Small Group Communication	3

III. Major and Elective Studies (29 credits)   1

1 - 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.

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Associate of Science

<div style="border:1px solid">Click here to request more info</div>

Program Contacts

Prescott Advising	Prescott Academic Advising	(928) 776-2106
Verde Advising	Verde Valley Academic Advising	(928) 634-6510
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 60
Transfer Options: Multiple - See Advisor
View the Degree Plan

About the Associate of Science

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 AGEC with a grade of "C" of 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) 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)
Ethnic/Race/Gender (ERG) awareness
Global/International or Historical (GIH) awareness

General Educational Requirements

Course	Course Title	Hours
I. General Education (35 credits)		
A. Foundation Studies (9 credits)		
1. College Composition (6 credits)		
ENG101	College Composition I	3

OR	ENG103	College Composition I Honors	3
	ENG102	College Composition II	3
OR	ENG104	College Composition II Honors	3

2. Numeracy (3 credits)

	MAT220	Calculus & Analytic Geometry I	5
OR	MAT230	Calculus & Analytic Geomtry II	5
OR	MAT241	Calculus III	4
OR	MAT262	Elementary Differential Equatn	3

B. Area Studies (20 credits)

1. Physical and Biological Science (8 credits)

Complete one of the following two-course sequences appropriate to your major:

	BIO181	General Biology I	4
AND	BIO182	General Biology II	4
	CHM151	General Chemistry I	5
AND	CHM152	General Chemistry II	5
	PHY111	General Physics I	4
AND	PHY112	General Physics II	4
	PHY150	Physics Scientists/Engineer I	5
AND	PHY151	Physics Scientists/Engineer II	5

2. Arts and Humanities (6 credits)

Choose from Approved LIst

    Show / hide all arts & humanities (agec) courses

3. Behavioral Science (3 credits)

Choose from Approved List

    Show / hide all behavioral science (agec) courses

4. Social Science (3 credits)

Choose from Approved LIst

    Show / hide all social science (agec) courses

C. Other Requirements (6-8 credits)

1. Select 2 other courses based on your major from the following list:

	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
AND	CHM235L	Gen Organic Chemistry I Lab	1

	CHM236	General Organic Chemistry II	4
AND	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
	PHY111	General Physics I	4
	PHY112	General Physics II	4
	PHY150	Physics Scientists/Engineer I	5
	PHY151	Physics Scientists/Engineer II	5

II. Communications Requirement (3 credits)

	COM100	Intro Human Communication	3
OR	COM131	Fund Speech Communication	3
OR	COM134	Interpersonal Communication	3
OR	COM271	Small Group Communication	3

III. Major and Elective Studies - Select 22 credits from the following list:

	AGS103	Plant Biology 1	4
OR	BIO103	Plant Biology	4
	BIO105	Environmental Biology	4
OR	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
AND	CHM235L	Gen Organic Chemistry I Lab	1
	CHM236	General Organic Chemistry II	4
AND	CHM236L	Gen Organic Chemistry II Lab	1
	ENV110	Environmental Geology	4
OR	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
	MAT230	Calculus & Analytic Geomtry II	5
	MAT241	Calculus III	4

MAT262	Elementary Differential Equatn	3
PHY111	General Physics I	4
PHY112	General Physics II	4
PHY150	Physics Scientists/Engineer I	5
PHY151	Physics Scientists/Engineer II	5

1 - 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. A transfer educational plan should be developed in consultation with an academic advisor and students should consult their transfer school�s transfer guides and choose courses from those listed (other courses may also apply with Advisor approval).

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Accounting 🌐

Click here to request more info

Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year _view other years_
Minimum Credits Required: 60
This program can be completed entirely online
View the Degree Plan

About the Associate of Applied Science - Accounting

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 Outcomes

Upon successful completion of the Accounting Degree program, the learner will be able to:

1. Perform financial accounting functions using proper format and procedure based on Generally Accepted Accounting Principles (GAAP) and the International Financial and Reporting Standards (IFRS). (ACC 121, ACC 122, ACC 131, ACC 132, ACC 161, ACC 231)
2. Perform managerial accounting functions using proper format and procedure. (ACC 132)
3. Prepare, analyze, and interpret financial statements and reports for service, merchandising and manufacturing companies. (ACC 121, ACC 131, ACC 132, ACC 161, ACC 162, ACC 231)
4. Analyze and communicate the effects of tax rules on individuals, partnerships and corporations, and prepare complex tax returns for each. (ACC 115, ACC 116)
5. Utilize professional business communication skills. (ACC 296, BSA 102, CSA 126)
6. Use current technology and software applications to input, manage, and interpret financial information. (ACC 115, ACC 116, ACC 122, ACC 161, ACC 162, ACC 296, BSA 102, CSA 126)
7. Identify, research, and recommend resolution of business issues, including ethical implications of alternatives. (ACC 131, ACC 132, ACC 231, BSA 131, BSA 132, BSA 236)

General and Program-Specific Requirements

Course   Course Title   Hours

I. General Education

  A. Foundation Studies (12 credits)

    1. College Composition or Applied Communication - Select Option a or b:

    a. Writing (6 credits)

    Choose two courses from approved list

      Show / hide all applied communication/writing courses

    b. Writing AND Communication (6 credits)

Choose one course from each list

☐ Show / hide all applied communication/writing courses

AND ☐ Show / hide all applied communication/comm. courses

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2. Numeracy (3 credits)

☐ Show / hide all quantitative literacy courses

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3. Critical Thinking (3 credits)

☐ Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)

1. Physical and Biological Science (4 credits)

Choose from Approved List - GLG100 must be taken with one other 2 credit GLG course

☐ Show / hide all physical & biological science courses

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2. Behavioral OR Social Science (3 credits)

Choose one course from either list

☐ Show / hide all behavioral science (agec) courses

OR ☐ Show / hide all social science (agec) courses

II. Accounting Requirements

ACC115	Basic Tax Planning	3
ACC116	Adv Tax Planning and Prep	4
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

III. Business Administration Requirements

BSA102	Career Search and Success	1

IV. Select 12 credit hours from the following courses:

ACC296	Internship: Accounting	3
BSA131	Intro to Business	3
BSA132	Ethics in Business	3
CSA126	Microsoft Office	3
ECN236	Principles of Economics-Micro	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Administration of Justice 🌐

Click here to request more info

Program Contacts

Program Director	Michael Davis	(928) 717-7938
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 61
This program can be completed entirely online
View the Degree Plan
Click for more information

About the Associate of Applied Science - Administration of Justice

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 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. Define investigation and describe the goals of criminal investigation. (AJS 275)
14. 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)
15. (A) Discuss selected social problems (SOC250), OR (B) Describe the ways society shapes and defines the positions and roles of both men and women (SOC 212), OR (C) Analyze contemporary racial and ethnic intergroup relations emphasizing cultural origins, developments, and problems of minority groups in the United States (SOC142)

General and Program-Specific Requirements

Course	Course Title	Hours
I. General Education		

A. Foundation Studies (12 credits)

   1. College Composition or Applied Communication - Select Option a or b:

    a. Writing (6 credits)   1

    Choose two courses from list - if preparing for transfer, choose College Comp I & II

       ☐   Show / hide all applied communication/writing courses

    b. Writing AND Communication (6 credits)

    Choose one course from each list

       ☐   Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

   2. Numeracy (3 credits)   2

    Choose from approved list - If preparing for transfer, choose MAT 152

       ☐   Show / hide all quantitative literacy courses

   3. Critical Thinking (3 credits)

    AJS123   Ethics & Criminal Justice   3

B. Area Studies (7 credits)

   1. Physical and Biological Science (4 credits)

    Choose from Approved List - GLG100 must be taken with one other 2 credit GLG course

       ☐   Show / hide all physical & biological science courses

   2. Behavioral OR Social Science (3 credits)

    Strongly Recommended: SOC 142, SOC 212 or SOC 250

    Choose one course from either list

       ☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

II. Administration of Justice Requirements

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

Select and complete 12 credits from the following courses:

AJS103	[Public Safety Report Writing](#)	3
AJS192	[Serial Killers and Mass Murder](#)	3
AJS226	[Victimology and Crisis Interv](#)	3
AJS252	[Homeland Security](#)	3
AJS256	[Terrorism](#)	3
AJS275	[Criminal Investigations](#)	3
AJS278	[Neuroscience and the Law](#)	3

1 - Students preparing for transfer must complete College Composition I & II

2 - Students preparing for transfer must complete MAT 152

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* [Learn more about Academic Advising](#).

Yavapai
COLLEGE

Associate of Applied Science - Agriculture Technology Management

Click here to request more info

Program Contacts

Instructional Specialist	Karen Smith	(928) 717-7760
Professor	Justin Brereton	(928) 717-7724
Professor	Marnee Zazueta	(928) 717-7727
Associate Dean	Karla Phillips	(928) 717-7725
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 60
View the Degree Plan
Click for more information

About the Associate of Applied Science - Agriculture Technology Management

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 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, AGS 252, AGS 261, AGS 264, AGS 274)
7. Develop and implement a comprehensive management program for exotic and domestic animals. (AGS 280, AGS 282)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

A. Foundation Studies (12 credits)

1. College Composition or Applied Communication - Select Option a or b:

a. Writing (6 credits)

Choose two courses from approved list

☐ Show / hide all applied communication/writing courses

b. Writing AND Communication (6 credits)

Choose one course from each list

☐   Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

2. Numeracy (3 credits)

☐   Show / hide all quantitative literacy courses

3. Critical Thinking (3 credits)

☐   Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)

1. Physical and Biological Science (4 credits)

	AGS103	Plant Biology	4
OR	BIO103	Plant Biology	4

2. Behavioral OR Social Science (3 credits)

Choose one course from either list

☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

II. Agriculture Technology Management Requirements

	AGS101	Microcomputers in Agriculture	3
OR	CSA126	Microsoft Office	3

.

AGS102	Agribusiness Management	3
AGS105	Soils	3
AGS107	Entomology	3
AGS120	Intro Animal Industry	4
AGS157	Community Supported Agric	3
AGS215	Agricultural Mechanics	3
AGS274	Water Management	3

Select and complete 16 credits from the following courses:

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

Yavapai COLLEGE

Associate of Applied Science - Applied Pre-Engineering

Click here to request more info

Program Contacts

| Instructional Specialist | Stephanie Wiltcher | (928) 717-7107 |
| Dean | John Morgan | (928) 717-7721 |

Quick Facts

2015-2016 Catalog Year *view other years*

Minimum Credits Required: 62

View the Degree Plan

Click for more information

About the Associate of Applied Science - Applied Pre-Engineering

The Associate of Applied Science Degree in Applied Pre-Engineering is designed to provide students with a working knowledge of engineering concepts.

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)

General and Program-Specific Requirements

	Course	Course Title	Hours
	I. General Education		
	A. Foundation Studies (14 credits)		
	1. College Composition (6 credits)		
	ENG101	College Composition I	3
OR	ENG103	College Composition I Honors	3
	ENG102	College Composition II	3
OR	ENG104	College Composition II Honors	3
	2. Numeracy (5 credits)		
	MAT187	Precalculus	5
	3. Critical Thinking (3 credits)		
		Show / hide all critical thinking (agec) courses	
	B. Area Studies (8 credits)		
	1. Physical and Biological Science (5 credits)		
	CHM151	General Chemistry I	5

2. Behavioral OR Social Science (3 credits)

Choose one course from either list

	Show / hide all behavioral science (agec) courses

OR

	Show / hide all social science (agec) courses

II. Applied Pre-Engineering Requirements

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

III. Related Requirements

MAT220	Calculus & Analytic Geometry I	5
MAT230	Calculus & Analytic Geomtry II	5
PHY150	Physics Scientists/Engineer I	5
PHY151	Physics Scientists/Engineer II	5

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Associate of Applied Science - Automotive Technology

| Click here to request more info |

Program Contacts

Professor	Jerrad Smith	(928) 717-7379
Instructional Specialist	Stephanie Wiltcher	(928) 717-7107
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 60
View the Degree Plan
Click for more information

About the Associate of Applied Science - Automotive Technology

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 ASE Certified Automobile Technicians. 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 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)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

 A. Foundation Studies (12 credits)

   1. College Composition or Applied Communication - Select Option a or b:

   a. Writing (6 credits)

   Choose two courses from approved list

   ☐ Show / hide all applied communication/writing courses

   b. Writing AND Communication (6 credits)

   Choose one course from each list

   ☐ Show / hide all applied communication/writing courses

AND   ☐   [Show / hide all applied communication/comm. courses](#)

2. Numeracy (3 credits)

     ☐   [Show / hide all quantitative literacy courses](#)

3. Critical Thinking (3 credits)

     ☐   [Show / hide all critical thinking (agec) courses](#)

B. Area Studies (7 credits)

   1. Physical and Biological Science (4 credits)

     ☐   [Show / hide all physical & biological science courses](#)

   2. Behavioral OR Social Science (3 credits)

     Choose one course from either list

     ☐   [Show / hide all behavioral science (agec) courses](#)

OR   ☐   [Show / hide all social science (agec) courses](#)

II. Automotive Technology Requirements

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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* [Learn more about Academic Advising](#).

Yavapai COLLEGE

Associate of Applied Science - Aviation Technology (Airplane/Helicopter/Ops/UAS)

Click here to request more info

Program Contacts

Instructional Specialist	Renee Alanis	(928) 776-2002
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 60
View the Degree Plan
Click for more information

About the Associate of Applied Science - Aviation Technology (Airplane/Helicopter/Ops/UAS)

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 Outcomes

Upon successful completion of the Aviation Technology (Airplane/Helicopter/Ops/UAS) Degree program, the learner will be able to:

1. Fly or operationally control an aircraft under normal conditions. (AVT104, AVT 105, AVT 106, AVT 109, AVT 110, AVT 111, AVT 113, AVT 117, AVT 118, AVT 120, AVT 121, AVT 130, AVT 133, AVT 135, AVT 204, AVT 205, AVT 209, AVT 210, AVT 245, UAS 100, UAS 103,UAS 110, UAS 115, UAS 120, UAS 200, UAS 215, UAS 250)
2. Fly or operationally control an aircraft at night or under instrument meteorological conditions. (AVT 115, AVT 116, AVT 118, AVT 120, AVT 121, AVT 214, AVT 290)
3. Fly or operationally control an aircraft under emergency conditions. (AVT 106, AVT 107, AVT 111, AVT 112, AVT 113, AVT 116, AVT 117, AVT 118, AVT 121, AVT 133, AVT 204, AVT 207, AVT 212, AVT 214, AVT 215, AVT 216, AVT 220, AVT 221, AVT 226, AVT 231, AVT 245, AVT 247, AVT 281, AVT 282, AVT 285, AVT 290)
4. Meet industry requirements to enter the aviation career field flying or operationally controlling aircraft. (ART 139, AVT104, AVT 105, AVT 106, AVT 109, AVT 110, AVT 111, AVT 113, AVT 117, AVT 118, AVT 120, AVT 121, AVT 130, AVT 133, AVT 135, AVT 201, AVT 204, AVT 205, AVT 209, AVT 210, AVT 245, BSA 100+, EGR 180, EMA 101, EMA 140, MET 100, UAS 100, UAS 103, UAS 110, UAS 115, UAS 120, UAS 200, UAS 215, UAS 250)
5. Make safe aeronautical decisions using scenarios and/or actual flying conditions. AVT104, AVT 105, AVT 106, AVT 109, AVT 110, AVT 111, AVT 113, AVT 117, AVT 118, AVT 120, AVT 121, AVT 130, AVT 133, AVT 135, AVT 204, AVT 205, AVT 209, AVT 210, AVT 245, UAS 100, UAS 103,UAS 110, UAS 115, UAS 120, UAS 200, UAS 215, UAS 250)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

  A. Foundation Studies (12 credits)

    1. College Composition or Applied Communication - Select Option a or b:

    a. Writing (6 credits)

    Choose two courses from approved list

      ☐ Show / hide all applied communication/writing courses

b. Writing AND Communication (6 credits)

Choose one course from each list

☐   Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

2. Numeracy (3 credits)

☐   Show / hide all quantitative literacy courses

3. Critical Thinking (3 credits)

☐   Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)

1. Physical and Biological Science (4 credits)

GEO212   Intro to Meteorology   4

2. Behavioral OR Social Science (3 credits)

Choose one course from either list

☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

II. Concentrations - Select one or more

A. Airplane Operations Concentration (52-54 credits)

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
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

1. Select one elective from the following:

	AVT280	Upset Recovery Training	1
	AVT281	Comm Single Eng Seaplane Trn	1
	AVT282	High Altitude CRM Training	1
	CPD104	Career & Personal Development	3

B. Helicopter Operations Concentration (41 credits)

	AVT109	Private Pilot Heli Ground I	2
	AVT110	Private Pilot Heli Ground II	2
	AVT111A	Private Heli Flight I - R22	2
OR	AVT111B	Private Heli Flight I - R44	2
	AVT112A	Private Heli Flight II - R22	4
OR	AVT112B	Private Heli Flight II - R44	4
	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
	AVT211A	Comm Heli Flight I - R22	3
OR	AVT211B	Comm Heli Flight I - R44	3
OR	AVT211C	Comm Heli Flight I - Turbine	3
	AVT212A	Comm Heli Flight II - R22	3
OR	AVT212B	Comm Heli Flight II - R44	3
OR	AVT212C	Comm Heli Flight II - Turbine	3
	AVT220	Flight Inst Helicopter Grnd	2
	AVT221A	Flight Instructor Heli - R22	3
OR	AVT221B	Flight Instructor Heli - R44	3
OR	AVT221C	Flight Instructor Heli - Turb	3
	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

C. Aviation Operations and Management Concentration (42 credits)

	AVT104	Private Pilot Airplane Ground	2
OR	AVT109	Private Pilot Heli Ground I	2
	AVT113	Private Pilot Heli Simulation	1
OR	AVT117	Private Pilot Flight Simulat	1
	AVT122	Fund of Air Traffic Control	3
	AVT123	Air Traffic Control Tower Proc	3
	AVT124	Fund Air Traffic Control Radar	3
	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

D. Unmanned Aircraft Systems Operator Concentration (41-42 credits)

	ART139	Fundamentals of Video Editing	3
	AVT104	Private Pilot Airplane Ground	2
	AVT117	Private Pilot Flight Simulat	1
	EMA101	Prin of Emergency Mgmt	3
	EMA140	Disaster Response & Recovery	3

OR any 3 credit BSA course numbered 100 or higher

	EGR180	CAD with SolidWorks	3
OR	MET100	Intro Manufacturing Technology	4
	UAS100	Introduction to UAS	3
	UAS103	UAS Simulations	3
	UAS110	UAS Fixed-Wing Systems	4
	UAS115	UAS Multirotor Systems	4
	UAS120	UAS Sensing Systems	3
	UAS200	UAS History, Reg & Law	3
	UAS215	UAS Mapping Systems	3
	UAS250	UAS Applications & Analytics	3

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai
COLLEGE

Associate of Applied Science - Computer Networking Technology

Click here to request more info

Program Contacts

Program Director	Greg Tomsho	(928) 776-2104
Dean	Stacey Hilton	(928) 717-7775

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 67
View the Degree Plan
Click for more information

About the Associate of Applied Science - Computer Networking Technology

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 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)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

  A. Foundation Studies (12 credits)

    1. College Composition or Applied Communication - Select Option a or b:

    a. Writing (6 credits)

    Choose two courses from approved list

        Show / hide all applied communication/writing courses

      b. Writing AND Communication (6 credits)

      Choose one course from each list

        ☐   Show / hide all applied communication/writing courses

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AND   ☐   Show / hide all applied communication/comm. courses

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    2. Numeracy (3 credits)

        ☐   Show / hide all quantitative literacy courses

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    3. Critical Thinking (3 credits)

        ☐   Show / hide all critical thinking (agec) courses

  B. Area Studies (7 credits)

    1. Physical and Biological Science (4 credits)

        ☐   Show / hide all physical & biological science courses

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    2. Behavioral OR Social Science (3 credits)

      Choose one course from either list

        ☐   Show / hide all behavioral science (agec) courses

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OR   ☐   Show / hide all social science (agec) courses

  II. Computer Networking Technology Requirements

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 Systm	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

  III. Related Requirements

BSA102	Career Search and Success	1

  IV. Electives: Select a minimum of 5 credits from the following:

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 III	3
CNT296	Internship: Computer Network	3
CSA161	Intro to Computer Science	3
CSA164	C# Programming Fundamentals	3
CSA167	PHP and MySQL Programming	3
CSA282	Database Concepts	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Computer Systems and Applications

Click here to request more info

Program Contacts

| Dean | Stacey Hilton | (928) 717-7775 |

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 64
View the Degree Plan

About the Associate of Applied Science - Computer Systems and Applications

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 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)

General and Program-Specific Requirements

	Course	Course Title	Hours
I.	General Education		
A.	Foundation Studies (12 credits)		
	1. College Composition (6 credits)		
	ENG101	College Composition I	3
OR	ENG103	College Composition I Honors	3
	ENG102	College Composition II	3
OR	ENG104	College Composition II Honors	3
	2. Numeracy (3 credits)		
	MAT152	College Algebra	3
OR	MAT167	Elementary Statistics	3
OR	MAT172	Finite Mathematics	3

OR	MAT187	Precalculus	5
OR	MAT212	Survey of Calculus	3
OR	MAT220	Calculus & Analytic Geometry I	5
OR	MAT230	Calculus & Analytic Geomtry II	5
OR	MAT241	Calculus III	4
OR	MAT262	Elementary Differential Equatn	3

    3. Critical Thinking (3 credits)

         ☐ Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)

    1. Physical and Biological Science (4 credits)

         ☐ Show / hide all physical & biological science courses

    2. Behavioral OR Social Science (3 credits)

    Choose one course from either list

         ☐ Show / hide all behavioral science (agec) courses

OR   ☐ Show / hide all social science (agec) courses

II. Computing Systems & Applications Requirements

	CSA110	Intro Computer Info System	3
	CSA126	Microsoft Office	3
	CSA161	Intro to Computer Science	3
	CSA164	C# Programming Fundamentals	3
	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	Database Concepts	3

.

	CSA294	CSA Project 1	1
AND	CSA294	CSA Project	1

III. Related Requirements

	BSA102	Career Search and Success	1
	CNT100	Intro to Computer Networking	3
	CNT110	A+ Comp Tech Certification	4

.

	ART130	Web Site Design I	3
OR	WEB130	Web Site Design I	3

1 - CSA 294 must be taken for 2 credit hours

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Associate of Applied Science - Diesel Technician

Click here to request more info

Program Contacts

Professor	Ron Luellen	(928) 771-6115
Instructional Specialist	Stephanie Wiltcher	(928) 717-7107
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 61
View the Degree Plan
Click for more information

About the Associate of Applied Science - Diesel Technician

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. Call 717.2002 for details*

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)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

A. Foundation Studies (12 credits)

1. College Composition or Applied Communication - Select Option a or b:

a. Writing (6 credits)

Choose two courses from approved list

☐ Show / hide all applied communication/writing courses

b. Writing AND Communication (6 credits)

Choose one course from each list

    ☐   Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

  2. Numeracy (3 credits)

    ☐   Show / hide all quantitative literacy courses

  3. Critical Thinking (3 credits)

    ☐   Show / hide all critical thinking (agec) courses

  B. Area Studies (7 credits)

    1. Physical and Biological Science (4 credits)

	BIO105	Environmental Biology	4
OR	ENV105	Environmental Biology	4

    2. Behavioral OR Social Science (3 credits)

    Choose one course from either list

    ☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

  II. Diesel Technician Requirements

	AGS101	Microcomputers in Agriculture	3
OR	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

  III. Related Requirements - Select Option A or B

  Option A: Diesel Technician

	AUT126	Auto/Diesel Steer/Suspension	4
	AUT209	Diesel Machine Hydraulics	3
	WLD113	Basic Welding II	2

  Option B: Mining Diesel Technician

	AUT295	Apprenticeship: Diesel 1	3
AND	AUT295	Apprenticeship: Diesel	3

AND	AUT295	Apprenticeship: Diesel	3

AND	AUT295	Apprenticeship: Diesel	3
	MET116	Rigging	1
	MET150	Surface Mine Safety Training	1
	MET160	Basic Machine Hydr& Pneumatics	2
	WLD113	Basic Welding II	2

1 - AUT 295 Apprenticeship must be taken for a total of 12 credit hours

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Early Childhood Education

Click here to request more info

Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Program Director	Leanne Lawhead	(928) 776-2306
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 60
View the Degree Plan

About the Associate of Applied Science - Early Childhood Education

The Associate of Applied Science in Early Childhood Education prepares the student to enter the early care and education profession as a highly skilled teacher of birth-preschool, serve as a paraprofessional in a public school, or to transfer to a bachelor degree program.

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 Outcomes

Upon successful completion of the Early Childhood Education Degree program, the learner will be able to:

1. Build strong relationships with families through understanding, respect and valuing the characteristics of both the families and their communities. (ECE 240)
2. Articulate historical perspectives, as well as current trends, in the field of Early Childhood Education. (ECE 200)
3. Apply relationship-based proactive strategies to promote pro-social development of young children, aged birth through 8 years. (ECE 260)
4. Identify strategies to plan and implement instructional practices to promote literacy in children birth-age eight. (ECE 230)
5. Use formal and informal observation techniques to document the development and learning in young children. (ECE 210, ECE 216, ECE 222, ECE 234, ECE 290, ECE 291)
6. Provide opportunities and environments that support the physical, social, emotional, cognitive, language and creative development and learning in children birth-age eight. (ECE 202, ECE 216, ECE 222, ECE 290, ECE 291)
7. Model leadership, advocacy and management skills in the field of early care and education. (ECE 250, ECE 290, ECE 291)
8. Apply ethical and professional standards that emphasize reflective practices in working with young children, parents, other professionals and self. (ECE 202, ECE 210, ECE 216, ECE 222, ECE 290, ECE 291)
9. Implement basic health, safety, and nutritional practices with young children as required by regulation. (ECE 270, ECE 290, ECE 291)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

A. Foundation Studies (12 credits)

   1. College Composition or Applied Communication - Select Option a or b:

    a. Writing (6 credits)

   Choose two courses from approved list

     ☐ Show / hide all applied communication/writing courses

    b. Writing AND Communication (6 credits)

Choose one course from each list

    ☐   Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

    2. Numeracy (3 credits)

    ☐   Show / hide all quantitative literacy courses

    3. Critical Thinking (3 credits)

    ☐   Show / hide all critical thinking (agec) courses

  B. Area Studies (7 credits)

    1. Physical and Biological Science (4 credits)

    ☐   Show / hide all physical & biological science courses

    2. Behavioral OR Social Science (3 credits)

Choose one course from either list

    ☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

II. Early Childhood Education Requirements

	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
OR	EDU222	Intro Exceptional Learner	3
.			
	ECE230	Language & Literacy Experience	3
OR	EDU230	Language & Literacy Experience	3
.			
	ECE234	Child Development	3
OR	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 1		3
ECE291	Adv Practicum: Supervsd Field		4

III. Related Requirements

BSA102	Career Search and Success		1

1 - Students must apply for practicum placement during the semester prior to enrolling in ECE 290 Practicum: Directed Field Experience and must have completed ECE 200, 202, 222, 230, 234 and 270. Evidence of completed application for fingerprint clearance and completed CPR and First Aid training will be required as part of a completed application.

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai
COLLEGE

Associate of Applied Science - Electrical & Instrumentation Technology

Click here to request more info

Program Contacts

Instructional Specialist	Susie Check	(928) 717-7761
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 60
View the Degree Plan
Click for more information

About the Associate of Applied Science - Electrical & Instrumentation Technology

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. Call (928) 776-2002 for details.*

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)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

A. Foundation Studies (12 credits)

1. College Composition or Applied Communication - Select Option a or b:

a. Writing (6 credits)

Choose two courses from approved list

☐ Show / hide all applied communication/writing courses

b. Writing AND Communication (6 credits)

Choose one course from each list

☐   Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

   2. Numeracy (3 credits)

     ☐   Show / hide all quantitative literacy courses

   3. Critical Thinking (3 credits)

     ☐   Show / hide all critical thinking (agec) courses

  B. Area Studies (7 credits)

   1. Physical and Biological Science (4 credits)

     ☐   Show / hide all physical & biological science courses

   2. Behavioral OR Social Science (3 credits)

   Choose one course from either list

     ☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

II. General Requirements - 21 credits

	AGS101	Microcomputers in Agriculture	3
OR	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
	ELT183	Digital Circuits	3
	MET160	Basic Machine Hydr& Pneumatics	2

III. Concentrations - Select A, B, or C:

  A. Electrical & Instrumentation Technology Concentration - 20 credits

ELT171	Process Control Instrumentatn	3
ELT221	Communication Systems/Circuits	3
ELT258	Electronic Troubleshooting	2
ELT272	Motors and Motor Controls	3

  Select at least 9 credits from the following courses:

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
ELT141	Electrical Apparatus		4
ELT296	Internship: Electrical Tech	1	3
PHY140	The Physical World		4
WLD113	Basic Welding II		2

B. Mining Concentration - 27 credits

	ELT171	Process Control Instrumentatn		3
	ELT221	Communication Systems/Circuits		3
	ELT258	Electronic Troubleshooting		2
	ELT272	Motors and Motor Controls		3
	ELT295	Apprentice: Electrical Inst	2	3
AND	ELT295	Apprentice: Electrical Inst		3
AND	ELT295	Apprentice: Electrical Inst		3
AND	ELT295	Apprentice: Electrical Inst		3
	MET116	Rigging		1
	MET150	Surface Mine Safety Training		1
	WLD113	Basic Welding II		2

C. Lineworker Concentration - 26 credits

CPD104	Career & Personal Development		3
ELT141	Electrical Apparatus		4
ELT201	Introduction to Linework I		2
ELT202	Field Training I (Lineworker)		6
ELT211	Introduction to Linework II		2
ELT212	Field Training II (Lineworker)		6
PPT120	Energy Industry Fundamentals		3

1 - ELT 296 Internship: may be taken for 3 to 9 credit hours.

2 - ELT 295 Apprenticeship: Freeport McMoRan or Asarco must be taken for a total of 12 credit hours.

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Emergency Management Applications 🌐

		Click here to request more info

Program Contacts

Program Director	Kenny Krebbs	(928) 717-7911
Associate Dean	Kim Ewing	(928) 717-7923
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 61
This program can be completed entirely online
View the Degree Plan
Click for more information

About the Associate of Applied Science - Emergency Management Applications

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 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)

General and Program-Specific Requirements

Course	Course Title	Hours
I. General Education		
A. Foundation Studies (12 credits)		
1. College Composition or Applied Communication - Select Option a or b:		
a. Writing (6 credits)		
Choose two courses from approved list		
☐ Show / hide all applied communication/writing courses		

    b. Writing AND Communication (6 credits)

Choose one course from each list

☐ [Show / hide all applied communication/writing courses](#)

AND   ☐ [Show / hide all applied communication/comm. courses](#)

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2. Numeracy (3 credits)

☐ [Show / hide all quantitative literacy courses](#)

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3. Critical Thinking (3 credits)

☐ [Show / hide all critical thinking (agec) courses](#)

B. Area Studies (7 credits)

  1. Physical and Biological Science (4 credits)

☐ [Show / hide all physical & biological science courses](#)

---

  2. Behavioral OR Social Science (3 credits)

Choose one course from either list

☐ [Show / hide all behavioral science (agec) courses](#)

OR   ☐ [Show / hide all social science (agec) courses](#)

II. Emergency Management Applications Requirements

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

III. Related Requirements

AJS258	Info Protect and Comp Security	3
CSA110	Intro Computer Info System	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses. Learn more about Academic Advising.*

Yavapai
COLLEGE

Associate of Applied Science - Fire Science

Click here to request more info

Program Contacts

Program Director	Kenny Krebbs	(928) 717-7911
Associate Dean	Kim Ewing	(928) 717-7923
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 61
View the Degree Plan
Click for more information

About the Associate of Applied Science - Fire Science

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 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)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

  A. Foundation Studies (12 credits)

    1. College Composition or Applied Communication - Select Option a or b   1

      a. Writing (6 credits)

Choose two courses from list - if preparing for transfer, complete College Composition

        ☐   Show / hide all applied communication/writing courses

      b. Writing AND Communication (6 credits)

Choose one course from each list

        ☐   Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

    2. Numeracy (3 credits)   2

Choose from approved list - If preparing for transfer, choose MAT 152

        ☐   Show / hide all quantitative literacy courses

    3. Critical Thinking (3 credits)

        ☐   Show / hide all critical thinking (agec) courses

  B. Area Studies (7 credits)

    1. Physical and Biological Science (4 credits)

        ☐   Show / hide all physical & biological science courses

    2. Behavioral OR Social Science (3 credits)

Choose one course from either list

        ☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

II. Fire Science Requirements

Course	Course Title		Hours
FSC100	Principles of Emergency Srvc	3	3
OR			
FSC104	Haz Mat First Responder Op	4	3
AND FSC105	Firefighter I & II Cert Acad	5	12

And all of the following:

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

III. Related Requirements

BSA102	Career Search and Success	1

1 - Students preparing for transfer must complete College Composition I & II
2 - Students preparing for transfer must take MAT 152
3 - Designed to prepare personnel who wish to work in non-suppression areas
4 - Designed to prepare personnel who wish to work in fire suppression areas
5 - Completion of FSC 105 and its prerequisite prepares the student to sit for the Arizona Fire Fighter I & II Certification exam process

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai
COLLEGE

Associate of Applied Science - Graphic Design

[Click here to request more info]

Program Contacts

Program Director	Lauren McCrea	(928) 717-7616
Instructional Specialist	Michelle Peters	(928) 776-2035
Dean	Craig Ralston	(928) 776-2311

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 62
View the Degree Plan

About the Associate of Applied Science - Graphic Design

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 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 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, BSA 231)
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)

General and Program-Specific Requirements

	Course	Course Title	Hours
	Course	Course Title	Hours
I.	General Education		
A.	Foundation Studies (12 credits)		
1.	College Composition (6 credits)		
	ENG101	College Composition I	3
OR	ENG103	College Composition I Honors	3
	ENG102	College Composition II	3
OR	ENG104	College Composition II Honors	3
2.	Numeracy (3 credits)		

☐ Show / hide all quantitative literacy courses

3. Critical Thinking (3 credits)

☐ Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)

1. Physical and Biological Science (4 credits)

☐ Show / hide all physical & biological science courses

2. Behavioral OR Social Science (3 credits)

Choose one course from either list

☐ Show / hide all behavioral science (agec) courses

OR   ☐ Show / hide all social science (agec) courses

II. Graphic Design Requirements

ART110	Drawing I	3
ART112	Two-Dimensional Design	3
ART114	Color	3
ART131	Graphic Design I	4

.

ART130	Web Site Design I	3
OR 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
OR ART201	Art History II	3

.

ART231	Graphic Design Illustration	4
ART232	Portfolio Development	2
ART236	Digital Pre-Press	2

III. Select and complete 3 credit hours from the following:

ART113	Three-Dimensional Design	3
ART160	Printmaking I	3
ART230	Digital Printing Tech	3
ART237	Adobe Photoshop II	3
ART296	Internship: Art	3

IV. Related Requirements

  BSA231   Social Media Marketing   3

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising.*

![Yavapai COLLEGE]

Associate of Applied Science - Gunsmithing

| Click here to request more info |

Program Contacts

Professor	Alan Lohr	(928) 776-2348
Instructional Specialist	Susie Check	(928) 717-7761
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 60
View the Degree Plan
Click for more information

About the Associate of Applied Science - Gunsmithing

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 for detailed information.

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.

General and Program-Specific Requirements

| Course | Course Title | Hours |

I. General Education

A. Foundation Studies (12 credits)

1. College Composition or Applied Communication - Select Option a or b:

a. Writing (6 credits)

Choose two courses from approved list

☐   Show / hide all applied communication/writing courses

_____

      b. Writing AND Communication (6 credits)

Choose one course from each list

☐   Show / hide all applied communication/writing courses

_____

AND   ☐   Show / hide all applied communication/comm. courses

_____

    2. Numeracy (3 credits)

☐   Show / hide all quantitative literacy courses

_____

    3. Critical Thinking (3 credits)

☐   Show / hide all critical thinking (agec) courses

_____

  B. Area Studies (7 credits)

    1. Physical and Biological Science (4 credits)

☐   Show / hide all physical & biological science courses

_____

    2. Behavioral OR Social Science (3 credits)

Choose one course from either list

☐   Show / hide all behavioral science (agec) courses

_____

OR   ☐   Show / hide all social science (agec) courses

_____

II. Gunsmithing Requirements

GST100	Apprentice Gunsmithing	10
GST150	Journeyman Gunsmithing	10
GST200	Professional Gunsmithing	10
GST250	Master Gunsmithing	10

III. Related Requirements

BSA102	Career Search and Success	1

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Associate of Applied Science - Health Information Technology   Click here to request more info

Program Contacts

Program Director	Nancy Bowers	(928) 776-2252
Instructional Specialist	Stephanie Kallam	(928) 771-6122
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 74
View the Degree Plan
Click for more information

About the Associate of Applied Science - Health Information Technology

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 HIM295 Health Information Management Professional Practice Experience is by application and is dependent on the following: successful completion of all program coursework; results of criminal background check; TB skin test or chest X-ray specifying absence of tuberculosis; CPR for Healthcare Providers card; immunizations as required by program; reading proficiency. Visit www.yc.edu/HIM.

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. (HIM110, HIM150, HIM155, HIM173, HIM176, HIM200, HIM210, HIM220, HIM242, HIM280, HIM295, CSA126)
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. (HIM110, HIM141, HIM150, HIM155, HIM176, HIM210, HIM220, HIM242, HIM280, HIM295, CSA126)
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. (HIM110, HIM141, HIM150, HIM155, HIM176, HIM242, HIM280, HIM295)
5. Apply knowledge of database architecture and design to meet departmental and organizational needs. Domain IV.B.1. (HIM155, HIM295, CSA126)
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. (HIM155, HIM173, HIM210 HIM295, CSA126)
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. (HIM150, HIM155, HIM173, HIM176, HIM210, HIM280, HIM295, CSA126)
8. Participate in the planning, design, selection, implementation, integration, testing, evaluation, and support for organization-wide health information systems. Domain IV.A.5. (HIM110, HIM141, HIM200, HIM295)
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, HIM295)
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. (HIM140, HIM295, AHS140, BIO201, BIO202)
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, HIM295, AHS140, BIO201, BIO202).
12. Use combining forms, suffixes, and prefixes to build medical terms. (HIM140, HIM150, HIM176, HIM280, HIM295, AHS130, BIO201, BIO202)
13. Describe the strategies involved in decision making during a job search. (BSA102)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

  A. Foundation Studies (12 credits)

    1. College Composition or Applied Communication - Select Option a or b:

    a. Writing (6 credits)

Choose two courses from approved list

    ☐   Show / hide all applied communication/writing courses

    b. Writing AND Communication (6 credits)

Choose one course from each list

    ☐   Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

    2. Numeracy (3 credits)

    ☐   Show / hide all quantitative literacy courses

    3. Critical Thinking (3 credits)

    ☐   Show / hide all critical thinking (agec) courses

  B. Area Studies (7 credits)

    1. Physical and Biological Science (4 credits)

Course	Course Title	Hours
BIO156	Human Biology Allied Health	4
OR BIO181	General Biology I	4

    2. Behavioral OR Social Science (3 credits)

Choose one course from either list

    ☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

II. Health Information Technology Requirements

Course	Course Title	Hours
HIM110	Intro to Hlth Info Mgmt	3
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
HIM240	Disease Process	4
HIM242	Hlthcare Reimbursement Method	3
HIM280	ICD-10-CM/PCS Med Coding	4
HIM295	Practicum: HIM Prof Practice	4

III. Related Requirements

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

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses. Learn more about Academic Advising.*

Yavapai COLLEGE

Associate of Applied Science - Industrial Machine Mechanic

[Click here to request more info]

Program Contacts

| Instructional Specialist | Stephanie Wiltcher | (928) 717-7107 |
| Dean | John Morgan | (928) 717-7721 |

Quick Facts

2015-2016 Catalog Year *view other years*

Minimum Credits Required: 66

View the Degree Plan

About the Associate of Applied Science - Industrial Machine Mechanic

The Industrial Machine Mechanic 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 Outcomes

Upon successful completion of the Industrial Machine Mechanic 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 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)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

  A. Foundation Studies (12 credits)

   1. College Composition or Applied Communication - Select Option a or b:

   a. Writing (6 credits)

   Choose two courses from approved list

   ☐ Show / hide all applied communication/writing courses

   b. Writing AND Communication (6 credits)

   Choose one course from each list

   ☐ Show / hide all applied communication/writing courses

AND   ☐ Show / hide all applied communication/comm. courses

2. Numeracy (3 credits)

     ☐   Show / hide all quantitative literacy courses

3. Critical Thinking (3 credits)

     ☐   Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)

1. Physical and Biological Science (4 credits)

	BIO105	Environmental Biology	4
OR	ENV105	Environmental Biology	4

2. Behavioral OR Social Science (3 credits) - Choose one course from either list

    Choose one course from either list

     ☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

II. General Requirements

	AGS101	Microcomputers in Agriculture	3
OR	CSA126	Microsoft Office	3
.			
	MET116	Rigging	1
	MET160	Basic Machine Hydr& Pneumatics	2
	WLD112	Basic Welding I	2
	WLD113	Basic Welding II	2
	WLD250	Welded Metal Fabrication	4

III. Industrial Machine Mechanic Requirements

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

IV. Related Requirements - Select Option A or B

Option A (Mining Students Only)

	IPT295	Apprentice: Industrial Plant 1	3
AND	IPT295	Apprentice: Industrial Plant	3
AND	IPT295	Apprentice: Industrial Plant	3
AND	IPT295	Apprentice: Industrial Plant	3
	MET150	Surface Mine Safety Training	1

Option B (All Others) - Select at least 12 credits from the following courses:

AUT100	Auto/Diesel Preventative Maint	2
AUT151	Auto Engine Repair	2
CNC101	CNC Machine Operator	2
CNC102	CNC Machine Set Up	2
CNC201	Comp Aided Program CNC Mach	3
WLD130	Oxyacetylene	4
WLD140	Arc I	4
WLD156	Blueprint Reading	4
WLD210	Gas Metal Arc Welding	4

1 - IPT 295 Apprenticeship must be taken for a total of 12 credit hours

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Management 🌐

Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Instructional Specialist	Mitzi Martin	(928) 776-2157
Program Director	Joy D'Angelo	(928) 776-2343
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 62
This program can be completed entirely online
View the Degree Plan
Click for more information

About the Associate of Applied Science - Management

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 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. Identify ethical issues and apply the values of professional responsibility.
4. Apply the management principles of planning, organizing, leading and controlling to solve common management issues.

General and Program-Specific Requirements

Course	Course Title	Hours

I General Education

A. Foundation Studies (12 credits)

   1. College Composition or Applied Communication - Select Option a or b:

   a. Writing (6 credits)

Choose two courses from approved list

   Show / hide all applied communication/writing courses

   b. Writing AND Communication (6 credits)

Choose one course from each list

   Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

2. Numeracy (3 credits)

     ☐   Show / hide all quantitative literacy courses

3. Critical Thinking (3 credits)

     ☐   Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)

  1. Physical and Biological Science (4 credits)

     ☐   Show / hide all physical & biological science courses

  2. Behavioral OR Social Science (3 credits)

  Choose one course from either list

     ☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

II. Management Requirements

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 Communication	3

III. Business Administration Requirements

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

IV. Select 6 credit hours from the following courses:

BSA111	Creative Leadership	1
BSA112	Lead: Juggling Mult Priorities	1
BSA113	Leading Out Loud	1
BSA221	Entrepreneurship	3
BSA231	Social Media Marketing	3
BSA296	Internship: Business Admin.	3

CSA126	Microsoft Office	3
ECN232	Business Statistical Analysis	3
ECN235	Principles of Economics-Macro	3
ECN236	Principles of Economics-Micro	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Associate of Applied Science - Nursing

Click here to request more info

Program Contacts

Program Director	Mary Brown	(928) 776-2255
Instructional Specialist	Patricia Naville	(928) 776-2017
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year _view other years_
Minimum Credits Required: 71
View the Degree Plan
Click for more information

About the Associate of Applied Science - Nursing

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 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

Note: _Prerequisite - NSG 114 Nursing Assistant OR CNA licensure within the past 2 years._

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.

General and Program-Specific Requirements

Course	Course Title	Hours
I. General Education		
A. Foundation Studies (12 credits)		
1. College Composition (6 credits)		
ENG101	College Composition I	3
OR ENG103	College Composition I Honors	3
ENG102	College Composition II	3
OR ENG104	College Composition II Honors	3
2. Numeracy (3 credits)		
MAT142	College Mathematics	3
OR MAT152	College Algebra	3
OR MAT157	Math/Elementary Teachers II	3
OR MAT156	Math/Elementary Teachers I	3
OR MAT167	Elementary Statistics	3
OR MAT172	Finite Mathematics	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 Geomtry II	5
OR MAT241	Calculus III	4
OR MAT262	Elementary Differential Equatn	3
3. Critical Thinking (3 credits)		

   ☐ Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)		
1. Physical and Biological Science (4 credits)		
[BIO 181 is preferred]		
BIO156	Human Biology Allied Health	4
OR BIO181	General Biology I	4
2. Behavioral Science (3 credits)		

PSY245	Human Growth and Development		3

II. Nursing Requirements

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 & Leadershp		2

III. Related Requirements

BIO201	Human Anatomy & Physiology I		4
BIO202	Human Anatomy & Physiology II		4
BIO205	Microbiology		4

.

NSG130	Basic Nutrition for Nurses		1
OR NTR135	Human Nutrition		3

PRE-ENTRY Requirements (Must complete prior to applying to Nursing Program)

AHS114	Nursing Assistant		5
BIO181	General Biology I 1		4
BIO201	Human Anatomy & Physiology I		4
ENG101	College Composition I 2		3
MAT142	College Mathematics 3		3

1 - Or BIO 156

2 - Or ENG 103

3 - Or higher level math course

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* <u>Learn more about Academic Advising</u>.

Yavapai COLLEGE

Associate of Applied Science - Office Administration

<div>Click here to request more info</div>

Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 60
View the Degree Plan

About the Associate of Applied Science - Office Administration

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 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)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

A. Foundation Studies (12 credits)

1. College Composition or Applied Communication - Select Option a or b:

a. Writing (6 credits)

Choose two courses from approved list

☐ Show / hide all applied communication/writing courses

b. Writing AND Communication (6 credits)

Choose one course from each list

☐ Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

___

2. Numeracy (3 credits)

☐   Show / hide all quantitative literacy courses

___

3. Critical Thinking (3 credits)

☐   Show / hide all critical thinking (agec) courses

___

B. Area Studies (7 credits)

1. Physical and Biological Science (4 credits)

☐   Show / hide all physical & biological science courses

___

2. Behavioral OR Social Science (3 credits)

Choose one course from either list

☐   Show / hide all behavioral science (agec) courses

___

OR   ☐   Show / hide all social science (agec) courses

___

II. Office Administration Requirements

ACC121	Introductory Accounting	3
BSA102	Career Search and Success	1
BSA105	Business English	3
BSA130	Business Financial Applcations	3
BSA225	Admin Professional: Office Mgt	3
BSA233	Business Communication	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

III. Select one Emphasis - A, B, C or D and complete the requirements

A. Computer Skills Emphasis - Select 13 credit hours:

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:

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

C. Medical Office Emphasis - Select 13 credit hours:

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

D. Legal Office Emphasis - Select 13 credit hours:

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
LAW102	Legal Computer Applications	3
LAW107	Law Office Management	3

Note: It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses. Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Paralegal Studies 🌐

Click here to request more info

Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Program Director	Michael Davis	(928) 717-7938
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 61
This program can be completed entirely online
View the Degree Plan

About the Associate of Applied Science - Paralegal Studies

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 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 knowledge of legal substance and procedures in areas of contract law, real estate law, corporate law, wills, trusts, and probate law, litigation, family law, and criminal law. (LAW 100, 104, 201, 202, 203, 206, 208, 215, 216, 220, 221, 298)
2. Apply written oral and interpersonal skills in the legal and business settings. (LAW 215, 216, 220, 221)
3. Identify and evaluate technology needs and apply and adapt required skills to the rapidly changing legal and business community. (LAW 102)
4. Proficiently use word processing software and identify and adapt to different types of computer applications. (CSA 140, LAW 102)
5. Identify ethical issues and apply the values of professional responsibility. (LAW 101)

General and Program-Specific Requirements

Course	Course Title	Hours
I. General Education		
A. Foundation Studies (12 credits)		
1. College Composition or Technical Writing AND Business English (6 credits)		
ENG101	College Composition I	3
OR ENG103	College Composition I Honors	3
OR ENG136	Technical Writing	3
BSA105	Business English	3
2. Numeracy (3 credits)		

     ☐ Show / hide all quantitative literacy courses

3. Critical Thinking (3 credits)

     ☐ Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)

1. Physical and Biological Science (4 credits)

     ☐ Show / hide all physical & biological science courses

2. Behavioral OR Social Science (3 credits)

Choose one course from either list

     ☐ Show / hide all behavioral science (agec) courses

OR   ☐ Show / hide all social science (agec) courses

II. Paralegal Studies Requirements

CSA140	Microsoft Word	2
LAW100	Intro to Paralegal Studies	3
LAW101	Legal Ethics & Prof Respnsblty	1
LAW102	Legal Computer Applications	3
LAW104	Wills, Trusts and Probate	3
LAW201	Criminal Law and Procedure	2
LAW202	Real Estate Law	3
LAW203	Family Law	3
LAW206	Contracts	2
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
LAW298	Special Legal Topics	2

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Paramedicine

| Click here to request more info |

Program Contacts

Program Director	Nichole Jump	(928) 717-7942
Associate Dean	Kim Ewing	(928) 717-7923
Instructional Specialist	Erin Elsner	(928) 717-7993
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 62
View the Degree Plan
Click for more information

About the Associate of Applied Science - Paramedicine

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 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)

General and Program-Specific Requirements

| Course | Course Title | Hours |

I. General Education

 A. Foundation Studies (12 credits)

   1. College Composition or Applied Communication - Choose Option a or b:

   a. Writing (6 credits)

   Choose two courses from approved list

   | | Show / hide all applied communication/writing courses |

   b. Writing AND Communication (6 credits)

   Choose one course from each list

   | | Show / hide all applied communication/writing courses |

AND ☐ Show / hide all applied communication/comm. courses

___

2. Numeracy (3 credits)

☐ Show / hide all quantitative literacy courses

___

3. Critical Thinking (3 credits)

☐ Show / hide all critical thinking (agec) courses

___

B. Area Studies (7 credits)

1. Physical and Biological Science (4 credits)

☐ Show / hide all physical & biological science courses

___

2. Behavioral OR Social Science (3 credits)

Choose one course from either list

☐ Show / hide all behavioral science (agec) courses

___

OR ☐ Show / hide all social science (agec) courses

___

II. Paramedicine Requirements

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

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Radiologic Technology

| Click here to request more info |

Program Contacts

Program Director	Rich Leclair	(928) 771-4866
Professor	Steve Hayes	(928) 717-7108
Instructional Specialist	Daintry Donovan	(928) 776-2078
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 78
View the Degree Plan
Click for more information

About the Associate of Applied Science - Radiologic Technology

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 Outcomes

Upon successful completion of the Radiologic Technology Degree program, the learner will be able to:

Goal: Graduate students who possess the clinical competency of an entry level radiologic technologist.

1. Position patients for radiographic examinations. (RAD110, 140, 270)

2. apply principles of radiation protection for the patient, self, and others. (RAD 100, 220, 160, 180, 200, 240, 280)

3. Identify and perform basic patient care skills and techniques. (RAD170, 230)

Goal: Graduate students who communicate effectively.

4. Practice effective written communication skills. (RAD100, 150, 220, 260)

5. Employ effective oral communication skills. (RAD160, 180, 200, 240, 280)

6. Use appropriate interpersonal skills and communication in the clinical setting. (RAD160, 180, 200, 240, 280)

Goal: Support students in the development, application, and integration of critical thinking and problem solving in the practice of radiography.

7. Evaluate medical imaging procedures independently and recommend technical modifications to ensure diagnostic quality. (RAD160, 180, 200, 240, 280)

8. Determine exposure factors to achieve optimum radiographic procedures consistent with minimizing dose to patients. (RAD120, 135, 150)

9. Describe radiographic appearances and risks associated with specific forms of pathology. (RAD250)

Goal: Graduate students committed to professional growth.

10. Practice ethical and professional behaviors in the clinical setting. (RAD160, 180, 200, 240, 280)

11. Summarize professional obligations as a radiographer. (RAD100, 270)

General and Program-Specific Requirements

	Course	Course Title	Hours

I. General Education

A. Foundation Studies (12 credits)

   1. College Composition (6 credits)

	ENG101	College Composition I	3
OR	ENG103	College Composition I Honors	3
	ENG102	College Composition II	3
OR	ENG104	College Composition II Honors	3

   2. Numeracy (3 credits)

	MAT152	College Algebra	3
OR	MAT167	Elementary Statistics	3
OR	MAT172	Finite Mathematics	3
OR	MAT187	Precalculus	5
OR	MAT212	Survey of Calculus	3
OR	MAT220	Calculus & Analytic Geometry I	5
OR	MAT230	Calculus & Analytic Geomtry II	5
OR	MAT241	Calculus III	4
OR	MAT262	Elementary Differential Equatn	3

   3. Critical Thinking (3 credits)

	PHI204	Ethical Issues/Health Care	3

B. Area Studies (7 credits)

   1. Physical and Biological Science (4 credits)

	BIO201	Human Anatomy & Physiology I	4

   2. Behavioral Science (3 credits)

	PSY245	Human Growth and Development	3

II. Radiologic Technology Requirements

	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

III. Related Requirements

AHS130   Medical Term for Patient Care   3

BIO202   Human Anatomy & Physiology II   4

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising.*

Yavapai COLLEGE

Associate of Applied Science - Social and Human Services

| Click here to request more info |

Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Program Director	Al Garbagnati	(928) 771-4852
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016   Catalog Year *view other years*
Minimum Credits Required: 60
View the Degree Plan

About the Associate of Applied Science - Social and Human Services

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 Outcomes

Upon successful completion of the Social and Human Services Degree program, the learner will be able to:

1. Describe the history of social problems in the U.S. and policies of the current social welfare delivery system. (SOC 220, SOC 250)
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)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Education

A. Foundation Studies (12 credits)

   1. College Composition or Applied Communication - Select Option a or b: 1

     a. Writing (6 credits)

     Choose two courses from list - if preparing for transfer, choose College Composition

       ☐   Show / hide all applied communication/writing courses

     b. Writing AND Communication (6 credits)

     Choose one course from each list

       ☐   Show / hide all applied communication/writing courses

AND   ☐   Show / hide all applied communication/comm. courses

---

2. Numeracy (3 credits) 2

    Choose from approved List - if preparing for transfer, choose MAT 142 or 152

    ☐   Show / hide all quantitative literacy courses

---

3. Critical Thinking (3 credits)

    ☐   Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)

   1. Physical and Biological Science (4 credits)

     ☐   Show / hide all physical & biological science courses

---

   2. Behavioral Science (3 credits)

PSY101	Introductory Psychology	3

II. Social and Human Services Requirements

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

.

	PSY296	Internship: Psychology 3	3
OR	GRN295	Practicum in Gerontology	2

.

SOC220	Intro to Social Work	3
SOC250	Social Problems	3

II. Related Requirements - Select 18 credit hours from the following courses:

ANT102	Intro Cultural Anthro	3
ECE200	Intro Early Childhood Ed	3

.

	ECE234	Child Development	3
OR	PSY234	Child Development	3

.

GRN100	Intro Social Gerontology	3
GRN101	Psychology of Aging	3
GRN102	Health and Aging	3
GRN294	Practices in Gerontology	3
PSY222	Fund of Prof/Life Coaching	4
PSY223	Adv Coaching Perspectives/Tech	4
PSY240	Personality Development	3

PSY245	Human Growth and Development	3
PSY266	Abnormal Psychology	3
PSY277	Human Sexuality	3
SOC101	Intro to Sociology	3
SOC140	Sociology Intimate Relationshp	3
SOC142	Race and Ethnic Relations	3

1 - Students preparing for transfer must complete College Composition I & II

2 - Students preparing for transfer must complete MAT 142 or MAT 152

3 - Students must complete all Social & Human Services degree requirements prior to enrolling in PSY 296 Internship. A State of Arizona/ Dept. of Public Safety Fingerprint check must be completed prior to internship placement.

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Video Game Development 🌐 [Click here to request more info]

Program Contacts

| Program Director | Ruth Alsobrook-Hurich | (928) 776-2076 |
| Dean | Stacey Hilton | (928) 717-7775 |

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 61
This program can be completed entirely online
View the Degree Plan

About the Associate of Applied Science - Video Game Development

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 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 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 171, VGD 172, 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)

General and Program-Specific Requirements

| Course | Course Title | Hours |

I. General Education

 A. Foundation Studies (12 credits)

  1. College Composition or Applied Communication - Select Option a or b:

  a. Writing (6 credits)

  Choose two courses from approved list

   [ ] Show / hide all applied communication/writing courses

  b. Writing AND Communication (6 credits)

  Choose one course from each list

   [ ] Show / hide all applied communication/writing courses

AND   [ ] Show / hide all applied communication/comm. courses

2. Numeracy (3 credits)

   ☐ Show / hide all quantitative literacy courses

_____

3. Critical Thinking (3 credits)

   ☐ Show / hide all critical thinking (agec) courses

_____

B. Area Studies (7 credits)

1. Physical and Biological Science (4 credits)

   ☐ Show / hide all physical & biological science courses

_____

2. Behavioral OR Social Science (3 credits)

Choose one course from either list

   ☐ Show / hide all behavioral science (agec) courses

_____

OR   ☐ Show / hide all social science (agec) courses

_____

II. Video Game Development Requirements

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
VGD221	Vid Game Dev/Game Engines III	3
VGD222	Vid Game Dev/Game Engines IV	3
VGD251	3D modeling and Animation III	3
VGD252	3D Modeling and Animation IV	3
VGD281	Game Design I	3
VGD282	Game Design II	3
VGD293	VGD Project I	3
VGD294	VGD Project II	3

> **Note:** _It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses._ Learn more about Academic Advising.

Yavapai COLLEGE

Associate of Applied Science - Viticulture and Enology

Click here to request more info

Program Contacts

Executive Dean	James Perey	(928) 634-6513
Enology Director	Michael Pierce	(928) 634-6586
Viticulture Director	Nikki Check	(928) 634-6576
Instructional Specialist	Teresa Schwickerath	(928) 634-6575
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 62
View the Degree Plan
Click for more information

About the Associate of Applied Science - Viticulture and Enology

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 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)

General and Program-Specific Requirements

Course	Course Title	Hours

I. General Requirements

A. Foundation Studies (12 credits)

1. College Composition or Applied Communication - Select Option a or b:

a. Writing (6 credits)

Choose two courses from approved list

☐ Show / hide all applied communication/writing courses

    b. Writing AND Communication (6 credits)

Choose one course from each list

<p style="padding-left:60px">☐   Show / hide all applied communication/writing courses</p>

AND   ☐   Show / hide all applied communication/comm. courses

    2. Numeracy (3 credits)

       ☐   Show / hide all quantitative literacy courses

    3. Critical Thinking (3 credits)

       ☐   Show / hide all critical thinking (agec) courses

B. Area Studies (7 credits)

    1. Physical and Biological Science (4 credits)

CHM130	Fundamental Chemistry	4

    2. Behavioral OR Social Science (3 credits)

Choose one course from either list

       ☐   Show / hide all behavioral science (agec) courses

OR   ☐   Show / hide all social science (agec) courses

II. Viticulture and Enology Requirements

	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 1	2
AND	VEN195E	Winemaking Practicum	2
AND	VEN195E	Winemaking Practicum	2
	VEN195V	Viticulture Practicum 2	2
AND	VEN195V	Viticulture Practicum	2
AND	VEN195V	Viticulture Practicum	2
	VEN200	Science of Winemaking I	3
	VEN201	Science of Winemaking II	3
	VEN202	Science of Winemaking III	3

1 - Students must complete VEN 195E in Fall, Spring and Summer for a total of 6 credits

2 - Students must complete VEN 195V in Fall, Spring and Summer for a total of 6 credits

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai
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Arizona General Education Curriculum (AGEC-A) 🌐

Click here to request more info

Program Contacts

Dean	Dean Holbrook	(928) 717-7693

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 35
This program can be completed entirely online
View the Degree Plan

About the 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 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

General Educational Requirements

	Course	Course Title	Hours
	Course	**Course Title**	**Hours**
	I. General Education (35 credits)		
	A. Foundation Studies (9 credits)		
	1. College Composition (6 credits)		
	ENG101	College Composition I	3
OR	ENG103	College Composition I Honors	3
	ENG102	College Composition II	3
OR	ENG104	College Composition II Honors	3
	2. Numeracy (3 credits)		
	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	MAT172	[Finite Mathematics](#)	3
OR	MAT187	[Precalculus](#)	5
OR	MAT212	[Survey of Calculus](#)	3
OR	MAT220	[Calculus & Analytic Geometry I](#)	5
OR	MAT230	[Calculus & Analytic Geomtry II](#)	5
OR	MAT241	[Calculus III](#)	4
OR	MAT262	[Elementary Differential Equatn](#)	3

B. Core Studies (6 credits)

1. Historical Perspective (3 credits)

Choose from Approved List

- [ ] [Show / hide all historical perspective (agec) courses](#)

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2. Critical Thinking (3 credits)

Choose from Approved List

- [ ] [Show / hide all critical thinking (agec) courses](#)

C. Area Studies (20 credits)

1. Physical and Biological Science (8 credits)

Choose from Approved List - GLG100 must be taken with one other 2 credit GLG course

- [ ] [Show / hide all physical & biological science courses](#)

---

2. Arts and Humanities (6 credits)

Choose from Approved List

- [ ] [Show / hide all arts & humanities (agec) courses](#)

---

3. Behavioral Science (3 credits)

Choose from Approved LIst

- [ ] [Show / hide all behavioral science (agec) courses](#)

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4. Social Science (3 credits)

Choose from Approved LIst

- [ ] [Show / hide all social science (agec) courses](#)

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* [Learn more about Academic Advising](#).

Yavapai
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Arizona General Education Curriculum (AGEC-B) 🌐

Program Contacts

Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 35
This program can be completed entirely online
View the Degree Plan

About the 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.

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

General Educational Requirements

Course	Course Title	Hours
I. General Education (35 credits)		
A. Foundation Studies (9 credits)		
1. College Composition (6 credits)		
ENG101	College Composition I	3
OR ENG103	College Composition I Honors	3
ENG102	College Composition II	3
OR ENG104	College Composition II Honors	3
2. Numeracy (3 credits)		
MAT212	Survey of Calculus	3
OR MAT220	Calculus & Analytic Geometry I	5
OR MAT230	Calculus & Analytic Geomtry II	5
OR MAT241	Calculus III	4
OR MAT262	Elementary Differential Equatn	3

B. Core Studies (3 credits)

   1. Historical Perspective (3 credits)

   Choose from Approved List

   ☐   Show / hide all historical perspective (agec) courses

C. Area Studies (20 credits)

   1. Physical and Biological Science (8 credits)

   Choose from Approved List - GLG100 must be taken with one other 2 credit GLG course

   ☐   Show / hide all physical & biological science courses

   2. Arts and Humanities (6 credits)

   Choose from Approved List

   ☐   Show / hide all arts & humanities (agec) courses

   3. Behavioral Science (3 credits)

   Choose from Approved List

   ☐   Show / hide all behavioral science (agec) courses

   4. Social Science (3 credits)

   Choose from Approved List

   ☐   Show / hide all social science (agec) courses

D. Computer Systems and Applications (3 credits)

   CSA110   Intro Computer Info System   3

   Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Arizona General Education Curriculum (AGEC-S)

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Program Contacts

Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 35
View the Degree Plan

About the 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 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)
Ethnic/Race/Gender (ERG) awareness
Global/International or Historical (GIH) awareness

General Educational Requirements

	Course	Course Title	Hours
I. General Education (35 credits)			
A. Foundation Studies (9 credits)			
1. College Composition (6 credits)			
	ENG101	College Composition I	3
OR	ENG103	College Composition I Honors	3
	ENG102	College Composition II	3
OR	ENG104	College Composition II Honors	3
2. Numeracy (3 credits)			
	MAT220	Calculus & Analytic Geometry I	5
OR	MAT230	Calculus & Analytic Geomtry II	5
OR	MAT241	Calculus III	4
OR	MAT262	Elementary Differential Equatn	3
B. Area Studies (20 credits)			

1. Physical and Biological Science (8 credits)

Complete one of the following two-course sequences appropriate to your major:

	BIO181	General Biology I	4
AND	BIO182	General Biology II	4
	CHM151	General Chemistry I	5
AND	CHM152	General Chemistry II	5
	PHY111	General Physics I	4
AND	PHY112	General Physics II	4
	PHY150	Physics Scientists/Engineer I	5
AND	PHY151	Physics Scientists/Engineer II	5

2. Arts and Humanities (6 credits)

Choose from Approved LIst

☐ Show / hide all arts & humanities (agec) courses

3. Behavioral Science (3 credits)

Choose from Approved List

☐ Show / hide all behavioral science (agec) courses

4. Social Science (3 credits)

Choose from Approved LIst

☐ Show / hide all social science (agec) courses

C. Other Requirements (6-8 credits)

1. Select 2 other courses based on your major from the following list:

	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
AND	CHM235L	Gen Organic Chemistry I Lab	1
	CHM236	General Organic Chemistry II	4
AND	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

PHY111	General Physics I	4
PHY112	General Physics II	4
PHY150	Physics Scientists/Engineer I	5
PHY151	Physics Scientists/Engineer II	5

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Accounting Assistant Certificate 🌐

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Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 27
This program can be completed entirely online
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Accounting Assistant Certificate

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 Outcomes

Upon successful completion of the Accounting Assistant Certificate program, the learner will be able to:

1. Perform financial accounting functions using proper format and procedure based on Generally Accepted Accounting Principles (GAAP) and the International Financial and Reporting Standards (IFRS). (ACC 121, ACC 122, ACC 131, ACC 132, ACC 161, ACC 231)

2. Perform managerial accounting functions using proper format and procedure. (ACC 132)

3. Prepare, analyze, and interpret financial statements and reports for service, merchandising and manufacturing companies. (ACC 121, ACC 131, ACC 132, ACC 161, ACC 162, ACC 231)

4. Analyze and communicate the effects of basic tax rules on individuals, partnerships and corporations, and prepare basic tax returns for each. (ACC 115)

5. Use current technology and software applications to input, manage, and interpret financial information. (ACC 115, ACC 122, ACC 161, ACC 162, ACC 296, BSA 102, CSA 126)

Program-Specific Requirements

Course	Course Title	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
CSA126	Microsoft Office	3

Select Option 1 or 2:

Option 1

    ACC231   Intermediate Accounting I   4

Option 2

    ACC296   Internship: Accounting   3

AND BSA102   Career Search and Success   1

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising.*

Option 1

    ACC231   Intermediate Accounting I   4

Yavapai COLLEGE

Administrative Professional Certificate 🌐

Click here to request more info

Program Contacts

Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 19
This program can be completed entirely online
View the Degree Plan

About the Administrative Professional Certificate

The Administrative Professional certificate program is designed to prepare students for entry- and mid-level clerical positions in a variety of business and office settings.

The program offers a series of skill-building opportunities with related courses in administrative office procedures and information processing. The courses are intended to give a broad introduction to the wide-ranging skills needed in this environment; the work readiness emphasis assists the learner in focusing upon their chosen business or industry while adding needed skills specific to their fields.

Note: Students are expected to have mastered basic keyboarding and computer skills before beginning this program.

Program Outcomes

Upon successful completion of the Administrative Professional Certificate program, the learner will be able to:

1. Communicate in a professional manner using various methods in the context of common business practices. (BSA 102, BSA 105, BSA 225, CSA 126, HIM 110, CSA 140, LAW 100, LAW 101, LAW 102, LAW 107)
2. Design, implement, and maintain efficient procedures for accomplishing various administrative-related tasks. (ACC 121, ACC 115, BSA 130, BSA 225, CSA 126, HIM 110, LAW 107)
3. Work as a member of a team to accomplish the goals of the organization. (BSA 102, BSA 225, LAW 101, LAW 107)
4. Use technology to organize information and complete administrative tasks and responsibilities more effectively and efficiently. (ACC 115, BSA 130, BSA 225, CSA 126, CSA 140, LAW 102, LAW 107)

Program-Specific Requirements

Course	Course Title	Hours
I. Administrative Professional Requirements		
BSA102	Career Search and Success	1
BSA105	Business English	3
BSA130	Business Financial Applcations	3
BSA225	Admin Professional: Office Mgt	3
CSA126	Microsoft Office	3
II. Select one Workplace Readiness Emphasis- A, B or C and complete the requirements		
A. Medical Emphasis		
AHS130	Medical Term for Patient Care	3
HIM110	Intro to Hlth Info Mgmt	3
B. Bookkeeping Emphasis		
ACC115	Basic Tax Planning	3

ACC121	Introductory Accounting	3

C. Legal Office Clerk Emphasis

CSA140	Microsoft Word	2
LAW100	Intro to Paralegal Studies	3
LAW101	Legal Ethics & Prof Respnsblty	1
LAW102	Legal Computer Applications	3
LAW107	Law Office Management	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Advanced Bookkeeping Certificate 🌐

Program Contacts

Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 20
This program can be completed entirely online
View the Degree Plan

About the Advanced Bookkeeping Certificate

The Advanced Bookkeeping certificate will prepare students for entry-level position in a variety of business and office settings where knowledge of bookkeeping and accounting practices is required.

This certificate provides the two-semester foundation for the Accounting Assistant certificate.

Program Outcomes

Upon successful completion of the Advanced Bookkeeping Certificate program, the learner will be able to:

1. Perform financial accounting functions using proper format and procedure based on Generally Accepted Accounting Principles (GAAP) and the International Financial and Reporting Standards (IFRS). (ACC 121, ACC 122, ACC 131, ACC 161)
2. Prepare, analyze, and interpret financial statements and reports for service, merchandising and manufacturing companies. (ACC 121, ACC 131, ACC 161, ACC 162)
3. Analyze and communicate the effects of tax rules on individuals, partnerships and corporations, and prepare basic tax returns for each. (ACC 115)
4. Use current technology and software applications to input, manage, and interpret financial information. (ACC 115, ACC 122, ACC 161, ACC 162, CSA 126)

Program-Specific Requirements

Course	Course Title	Hours
ACC115	Basic Tax Planning	3
ACC121	Introductory Accounting	3
ACC122	Payroll Accounting	3
ACC131	Principles of Accounting I	3
ACC161	Cmptr Acct w/ QuickBooks	2
ACC162	Excel/Access-Accounting	3
CSA126	Microsoft Office	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai
COLLEGE

Animal Care and Management Certificate

Click here to request more info

Program Contacts

Instructional Specialist	Karen Smith	(928) 717-7760
Professor	Marnee Zazueta	(928) 717-7727
Associate Dean	Karla Phillips	(928) 717-7725
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 30
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Animal Care and Management Certificate

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 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-Specific Requirements

Course	Course Title	Hours
AGE100	Intro to Equine Science	4
AGS120	Intro Animal Industry	4
AGS215	Agricultural Mechanics	3
AGS261	Aquaculture Science	4
AGS264	Aquaculture Management	4
AGS280	Zoo and Domestic Animal Care	4
AGS282	Zoo & Domestic Animal Behavior	4

Select and complete 3 credits from the following courses:

AGS101	Microcomputers in Agriculture	3
AGS102	Agribusiness Management	3
CSA126	Microsoft Office	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Athletic Coaching Certificate

Click here to request more info

Program Contacts

Professor	Kara Giannetto	(928) 717-7237
Instructional Specialist	Jennifer Taylor	(928) 776-2304
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 16
View the Degree Plan

About the Athletic Coaching Certificate

The Athletic Coaching Certificate prepares the student for entry level employment through cross disciplinary instruction in the fields of exercise science, biology, psychology, physical education and first aid. In addition, this program prepares the student, or current coaching professional, for successful completion of the national coaching certification exam with American Sport Education Program (ASEP), which is an approved provider of coaching education to the Arizona Interscholastic Association (AIA).

Program Outcomes

Upon successful completion of the Athletic Coaching 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 and sport. (PHE 150, 154; BIO 160 and/or 201)
2. Describe several types of coaching philosophies, objectives, and styles. (PHE 154)
3. Plan regiments of exercise, sport specific fitness and mental training, and apply strategies for team management across diverse populations as they relate to exercise and sport. (PHE 150, 154, 168; PSY 245)
4. Identify different personality styles and use assertive communication techniques to effectively coach players of various skill levels. (PHE 154, 168; PSY 245)
5. Recognize exercise and sport related injuries and illnesses. (PHE 150)

Program-Specific Requirements

	Course	Course Title	Hours
	BIO160	Intro Human Anat & Physiology	4
OR	BIO201	Human Anatomy & Physiology I	4
	PHE150	Preventing Athl Injury/Em Care	3
	PHE154	Coaching/ASEP Cert Prep	3
	PHE168	Intro to Sport Psychology	3
	PSY245	Human Growth and Development	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai
COLLEGE

Auto Body Paint and Collision Technology Certificate

Click here to request more info

Program Contacts

Professor	Ernie Hernandez	(928) 717-7377
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 19
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Auto Body Paint and Collision Technology Certificate

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 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-Specific Requirements

Course	Course Title	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/Collsn Repair	3
AUT275	Basic Automotive Upholstery	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Automotive Master Technician Certificate

| Click here to request more info |

Program Contacts

| Professor | Jerrad Smith | (928) 717-7379 |
| Dean | John Morgan | (928) 717-7721 |

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 41
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Automotive Master Technician Certificate

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 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-Specific Requirements

Course	Course Title	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

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

AUT151 Auto Engine Repair   2

AUT252 Adv Automotive Systems   4

Yavapai COLLEGE

Automotive Technician Certificate

<div style="border:1px solid #000; padding:10px; text-align:center;">Click here to request more info</div>

Program Contacts

Professor	Jerrad Smith	(928) 717-7379
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 18
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Automotive Technician Certificate

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 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-Specific Requirements

Course	Course Title	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

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai
COLLEGE

Basic Tax Certificate 🌐

	Click here to request more info

Program Contacts

Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 19
This program can be completed entirely online
View the Degree Plan

About the Basic Tax Certificate

The Basic Tax certificate prepares the student for an entry-level position in a tax preparation enterprise or a variety of business settings where knowledge of taxation and accounting practices is required.

Program Outcomes

Upon successful completion of the Basic Tax Certificate program, the learner will be able to:

1. Perform financial accounting functions using proper format and procedure based on Generally Accepted Accounting Principles (GAAP) and the International Financial and Reporting Standards (IFRS). (ACC 121, ACC 131)
2. Prepare, analyze, and interpret financial statements and reports for service, merchandising and manufacturing companies. (ACC 121, ACC 131)
3. Analyze and communicate the effects of tax rules on individuals, partnerships and corporations, and prepare complex tax returns for each. (ACC 115, ACC 116, ACC 296)
4. Use current technology and software applications to input, manage, and interpret financial information. (ACC 115, ACC 116, CSA 126, ACC 296)

Program-Specific Requirements

Course	Course Title	Hours
ACC115	Basic Tax Planning	3
ACC116	Adv Tax Planning and Prep	4
ACC121	Introductory Accounting	3
ACC131	Principles of Accounting I	3
ACC296	Internship: Accounting	3
CSA126	Microsoft Office	3

> **Note:** It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses. *Learn more about Academic Advising*.

Yavapai COLLEGE

Bookkeeping Certificate 🌐

Click here to request more info

Program Contacts

Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 9
This program can be completed entirely online
View the Degree Plan

About the Bookkeeping Certificate

The Bookkeeping certificate prepares students for entry-level positions in a variety of business and office settings where basic knowledge of bookkeeping is required.

This certificate provides the foundation for several other certificate programs: Administrative Professional, Advanced Bookkeeping, Basic Tax and Accounting Assistant.

Note: This certificate is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

Program Outcomes

Upon successful completion of the Bookkeeping Certificate program, the learner will be able to:

1. Perform financial accounting functions using proper format and procedure based on Generally Accepted Accounting Principles (GAAP). (ACC 121)
2. Prepare, analyze, and interpret financial statements and reports for service and merchandising companies. (ACC 121)
3. Analyze and communicate the effects of basic tax rules on individuals, partnerships and corporations, and prepare basic tax returns for each. (ACC 115)
4. Use current technology and software applications to input, manage, and communicate financial information. (CSA 126)

Program-Specific Requirements

Course	Course Title	Hours
ACC115	Basic Tax Planning	3
ACC121	Introductory Accounting	3
CSA126	Microsoft Office	3

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Canine Care and Handling Certificate

Click here to request more info

Program Contacts

Instructional Specialist	Karen Smith	(928) 717-7760
Associate Dean	Karla Phillips	(928) 717-7725
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 10
View the Degree Plan

About the Canine Care and Handling Certificate

The Canine Care and Handling Certificate prepares students for entrepreneurship, employment or advancement in a variety of canine fields by developing student/canine handling skills, communication skills, health care and business operations knowledge. Students also complete the training requirements for the Therapy & Service Dog Team Skills Certificate which provides skills needed to take the Canine Good Citizen (CGC) test and a therapy dog evaluation exam offered by evaluators from three national therapy team organizations.

Note: This certificate is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

Program Outcomes

Upon successful completion of the Canine Care and Handling Certificate program, the learner will be able to:

1. Apply positive canine training and handling skills. (AGS 180, AGS 182, AGS 185)
2. Explain canine behavior and psychology and implement into a training and behavior modification program. (AGS 180, AGS 182, AGS 185)
3. Articulate and use canine training concepts and skills in working with service and therapy dogs. (AGS 185)
4. Apply communication skills with the general public. (AGS 184, AGS 185)
5. Use canine handling skills in diverse public environments and with distractions. (AGS 180, AGS 182, AGS 185)
6. Identify and describe general canine anatomy. (AGS 183)
7. Identify a variety of canine illnesses and discuss disease control strategies. (AGS 183)
8. Explain and administer canine first aid. (AGS 183)
9. Apply grooming techniques and skills. (AGS 183)
10. Discuss canine nutritional needs and apply nutrition options. (AGS 183)
11. Explain general breeding practices. (AGS 183)
12. Identify various canine related businesses and explain how they operate. (AGS 184)
13. Develop a canine related business plan. (AGS 184)
14. Enhance an existing canine related business. (AGS 180, AGS 182, AGS 184)

Program-Specific Requirements

Course	Course Title	Hours
AGS180	Canine Behavior and Psych I	2
AGS182	Canine Behavior and Psych II	2
AGS183	Intro to Canine Health Care	2
AGS184	Canine Businesses	2
AGS185	Canine Public Skills	2

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* <u>*Learn more about*</u> <u>*Academic Advising*</u>.

Yavapai COLLEGE

Cisco Networking Specialist Certificate

Click here to request more info

Program Contacts

Program Director	Greg Tomsho	(928) 776-2104
Dean	Stacey Hilton	(928) 717-7775

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 20
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Cisco Networking Specialist Certificate

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 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-Specific Requirements

Course	Course Title	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

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising.*

Yavapai COLLEGE

Computed Tomography Certificate

<div>Click here to request more info</div>

Program Contacts

Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 6
View the Degree Plan

About the Computed Tomography Certificate

The Computed Tomography (CT) Certificate program is comprised of two courses designed as facilitated and self-directed learning for radiologic professionals who are established and presently employed in the field. The program, which can be completed in one semester, offers both didactic coursework and clinical skills experiences necessary to prepare the student to challenge the ARRT Advanced Registry in Computed Tomography certificate exam.

Note:

This certificate is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

Program Outcomes

Upon successful completion of the Computed Tomography Certificate program, the learner will be able to:

1. Explain the design of CT scanner generations.

2. Explain how adjusting operator console parameters affect CT image data.

3. Describe the process and the factors that influence data acquisition.

4. Define the tools used and the postprocessing techniques needed for image enhancement.

5. Discuss the role and ethical considerations of the CT technologist in reducing radiation dose including technical factor selection, positioning, and shielding.

6. Discuss factors that affect CT image quality including artifacts.

7. Perform CT exams as outlined in the competency requirements for post-primary certification of the American Registry of Radiologic Technologists (ARRT) in Computed Tomography.

8. Identify specific organs or structures on a cross-sectional acquired or reformatted CT image.

9. Identify pathologic processes on CT images.

10. Review CT images for quality, accuracy and completeness.

Program-Specific Requirements

Course	Course Title	Hours
ICE100	Computed Tomography	3
ICE110	Computed Tomography Clin Ed I	3

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising.*

Yavapai
COLLEGE

Computer Application Specialist Certificate 🌐

Program Contacts

Dean	Stacey Hilton	(928) 717-7775

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 19
This program can be completed entirely online
Gainful Employment Data: View
View the Degree Plan

About the Computer Application Specialist Certificate

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 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-Specific Requirements

Course	Course Title	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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising.*

Yavapai COLLEGE

Computer Networking Technician Certificate

| Click here to request more info |

Program Contacts

Program Director	Greg Tomsho	(928) 776-2104
Dean	Stacey Hilton	(928) 717-7775

Quick Facts

2015-2016 Catalog Year _view other years_
Minimum Credits Required: 14
Gainful Employment Data: Available
View the Degree Plan

About the Computer Networking Technician Certificate

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 is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

Program Outcomes

Upon successful completion of the Computer Networking Technician 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. (CNT100)
2. Maintain and repair personal computers. (CNT110)
3. Discuss the methods and operation of local and wide area networks. (CNT115)
4. Perform administrative and troubleshooting tasks on Windows server operating systems. (CNT120)

Program-Specific Requirements

Course	Course Title	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

Note: _It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses._ _Learn more about Academic Advising_.

Yavapai COLLEGE

Computer Numerical Controlled (CNC) Machining Certificate | Click here to request more info

Program Contacts

Instructional Specialist	Susie Check	(928) 717-7761
Professor	Dick Hartley	(928) 776-2002
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 18
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Computer Numerical Controlled (CNC) Machining Certificate

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 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-Specific Requirements

Course	Course Title	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 Geomtry II	5
OR	MAT241	Calculus III	4
OR	MAT262	Elementary Differential Equatn	3

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* <u>*Learn more about Academic Advising*</u>.

Yavapai COLLEGE

Creative Writing Certificate 🌐

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Program Contacts

Program Director	Laraine Herring	(928) 776-2266
Instructional Specialist	Michelle Peters	(928) 776-2035
Dean	Craig Ralston	(928) 776-2311

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 18
This program can be completed entirely online
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Creative Writing Certificate

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-Specific Requirements

Course	Course Title	Hours
	Select 6 credit hours from the following courses:	
CRW139	Intro to Creative Writing	3
CRW140	Short Story Writing	3
CRW141	Intro to Poetry Writing	3
	Select 6 credit hours from the following courses:	
CRW142	Creative Nonfiction Writing	3
CRW143	Memoir Writing	3
CRW144	Writing and Healing	3
	Select 3 credit hours from the following courses:	
CRW249	Topics in CRW:	3
CRW295	Writers Wkshp:	3
	Select 3 credit hours from the following courses:	
CRW250	Adv CRW: Poetry	3
CRW251	Adv CRW: Creative Non-Fiction	3
CRW252	Adv CRW: Fiction	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* <u>Learn more about Academic Advising</u>.

Yavapai COLLEGE

Criminal Justice and Security Certificate 🌐

Click here to request more info

Program Contacts

Program Director	Michael Davis	(928) 717-7938
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 21
This program can be completed entirely online
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Criminal Justice and Security Certificate

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 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-Specific Requirements

Course	Course Title	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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Culinary Arts Fundamentals Certificate

Click here to request more info

Program Contacts

Executive Dean	James Perey	(928) 634-6513
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 16
View the Degree Plan

About the Culinary Arts Fundamentals Certificate

The Cerificate in Culinary Arts Fundamentals is designed to equip students with basic skills in culinary arts. The program provides instruction in culinary concepts and terminology, kitchen safety and sanitation, equipment usage, basic nutritional guidelines, standard and metric measurements, food costing, and theory and practice in the production of culinary products. Courses emphasize fundamental cooking techniques and preparation methods for hot foods, breakfast items, salads, sandwiches, dressings, breads and pastries.

Program Outcomes

Upon successful completion of the Culinary Arts Fundamentals Certificate program, the learner will be able to:

1. Identify culinary principles, nutrition practices, safety and sanitation techniques for basic kitchen and food service operation. (CUL 101, CUL 102, CUL 103, CUL 104)
2. Identify fruit and vegetable classifications and demonstrate preparation and usage of products. (CUL 101, CUL 103)
3. Use kitchen small wares, equipment, knives and bakery equipment. (CUL 101, CUL 102, CUL 103, CUL 104)
4. Use food costing techniques and recipe conversions using standard and metric measurements. (CUL 101, CUL 102, CUL 103, CUL 104)
5. Fabricate meat, fish and poultry products. (CUL 102)
6. Produce stocks, sauces and soups. (CUL 102)
7. Use a variety of methods to cook poultry, fish and meat products. (CUL 102)
8. Create a variety of cheeses and pastas. (CUL 103)
9. Make dressings for salads and sandwiches. (CUL103)
10. Make simple salads, sandwiches, breakfast foods, and hors d'oeuvres appropriate for the food service industry. (CUL 103)
11. Prepare basic breads, rolls, cakes, cookies, bakery sauces, icings and fillings. (CUL 104)

Program-Specific Requirements

Course	Course Title	Hours
CUL101	Culinary Principles	4
CUL102	Cul Fundamentals: Hot Foods	4
CUL103	Cul Fund: Brkfast/Garde Manger	4
CUL104	Culinary Fund: Baking & Pastry	4

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Nursing Assistant Certificate

Click here to request more info

Program Contacts

Program Director	Nancy Bowers	(928) 776-2252
Instructional Specialist	Stephanie Kallam	(928) 771-6122
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 5
Gainful Employment Data: Available
View the Degree Plan
Click for more information

About the Nursing Assistant Certificate

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 is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

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-Specific Requirements

Course	Course Title	Hours
AHS114	Nursing Assistant	5

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising.*

Yavapai COLLEGE

Diesel Technician Certificate

Click here to request more info

Program Contacts

Professor	Ron Luellen	(928) 771-6115
Instructional Specialist	Stephanie Wiltcher	(928) 717-7107
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 30
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Diesel Technician Certificate

The Diesel Technician certificate is designed to prepare students for entry-level positions in heavy diesel mechanics.

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-Specific Requirements

Course	Course Title	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

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Early Childhood Education Advanced Certificate

| Click here to request more info |

Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Program Director	Leanne Lawhead	(928) 776-2306
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 30
Gainful Employment Data: View
View the Degree Plan

About the Early Childhood Education Advanced Certificate

A student who completes the Advanced Certificate in ECE is prepared to enter the early care and education profession as a highly skilled teacher of birth-preschool. The Advanced ECE certificate can also fulfill the Early Childhood Endorsement requirements from the Arizona Department of Education to assist elementary education teachers to earn their early childhood endorsement.

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 Outcomes

Upon successful completion of the Early Childhood Education - Advanced Certificate program, the learner will be able to:

1. Build strong relationships with families through understanding, respect and valuing the characteristics of both the families and their communities. (ECE 240)
2. Articulate historical perspectives, as well as current trends, in the field of Early Childhood Education. (ECE 200)
3. Apply relationship-based proactive strategies to promote pro-social development of young children, aged birth through 8 years. (ECE 260)
4. Identify strategies to plan and implement instructional practices to promote literacy in children birth-age eight. (ECE 230)
5. Use formal and informal observation techniques to document the development and learning in young children. (ECE 210, ECE 216, ECE 222, ECE 234, ECE 290, ECE 291)
6. Provide opportunities and environments that support the physical, social, emotional, cognitive, language and creative development and learning in children birth-age eight. (ECE 202, ECE 216, ECE 222, ECE 290, ECE 291)
7. Apply ethical and professional standards that emphasize reflective practices in working with young children, parents, other professionals and self. (ECE 202, ECE 210, ECE 216, ECE 222, ECE 290, ECE 291)
8. Implement basic health, safety, and nutritional practices with young children as required by regulation. (ECE 270, ECE 290, ECE 291)

Program-Specific Requirements

	Course	Course Title	Hours
	ECE200	Intro Early Childhood Ed	3
	ECE202	Early Childhood Curriculum	3
	ECE210	Infant and Toddler Development	3
OR	ECE216	Playing to Learn	3
	ECE222	Intro Exceptional Learner	3

OR	EDU222	Intro Exceptional Learner	3
	ECE230	Language & Literacy Experience	3
OR	EDU230	Language & Literacy Experience	3
	ECE234	Child Development	3
OR	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
OR	ECE291	Adv Practicum: Supervsd Field 1	4

1 - Required for those seeking an Early Childhood Endorsement from the Arizona Department of Education. See an Academic Advisor for detailed information.

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Early Childhood Education Basic Certificate

Click here to request more info

Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Program Director	Leanne Lawhead	(928) 776-2306
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 12
Gainful Employment Data: Available
View the Degree Plan

About the Early Childhood Education Basic Certificate

The Basic Certificate in Early Childhood Education is a point of entry or a continuation of professional development in the field of Early Care and Education. The Basic ECE certificate includes competencies that will prepare a student to apply for the national CDA credential.

Twelve credits earned apply to 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 is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

Program Outcomes

Upon successful completion of the Early Childhood Education - Basic Certificate program, the learner will be able to:

1. Build strong relationships with families through understanding, respect and valuing the characteristics of both the families and their communities. (ECE 240)
2. Articulate historical perspectives, as well as current trends, in the field of Early Childhood Education. (ECE 200)
3. Apply relationship-based proactive strategies to promote pro-social development of young children, aged birth through 8 years. (ECE 260)
4. Identify strategies to plan and implement instructional practices to promote literacy in children birth- age eight. (ECE 230)
5. Apply for a credential from the Council of Professional Recognition (applicable only to students applying for the national CDA credential). (ECE 190)

Program-Specific Requirements

	Course	Course Title	Hours
	ECE200	Intro Early Childhood Ed	3
	ECE230	Language & Literacy Experience	3
OR	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 1 | 3 |

1 - For students who are interested in receiving the CDA National Credential through the Council of Professional Recognition (required for all entry-level Head

Start employees)

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* <u>*Learn more about Academic Advising*</u>.

Yavapai COLLEGE

Electric Utility Technology Certificate

[Click here to request more info]

Program Contacts

Instructional Specialist	Heather Narvesen	(928) 717-7729
Professor	Drew Lindsey	(928) 717-7728
Associate Dean	Karla Phillips	(928) 717-7725
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*

Minimum Credits Required: 33

View the Degree Plan

About the Electric Utility Technology Certificate

The certificate in Electric Utility Technology is designed to prepare the student for a position as an apprentice-level line worker who is familiar with the use of tools, materials, and equipment of the electric utility industry. Students will be trained in power line installation and maintenance, pole climbing and use of tools, truck and equipment operation, and overhead and underground distribution, construction and maintenance of electrical lines.

Program Outcomes

Upon successful completion of the Electric Utility Technology Certificate program, the learner will be able to:

1. Present an overview of line work including the equipment and tools, pole climbing techniques, safety practices and procedures. (ELT201)
2. Explain the basic principles of AC and DC electricity and describe the uses of electricity in the utility industry. (ELT101)
3. Identify and use the components necessary to build series, parallel and series parallel DC circuits. (ELT101)
4. Describe the appropriate care and handling techniques for the types of rope and rigging equipment used in the utility industry. (ELT211)
5. Tie the major types of knots used in the industry and describe the appropriate use of each. (ELT211)
6. Use the appropriate tools and equipment to climb utility poles. (ELT211)
7. Apply techniques approved by the industry to set poles manually and with equipment. (ELT211)
8. Frame single and double cross arms and build single-phase lines. (ELT211)
9. Identify and describe the proper equipment, techniques, procedures and industry safety practices used in hot sticking. (ELT202)
10. Identify and describe the proper equipment and techniques used in lock out and tag out procedures and describe the industry safety practices and procedures related to each. (ELT202)
11. Explain the structure and function of transformers and outline the construction of the major types of transformer connections used in the industry. (ELT141)
12. Safely set up and operate the major types of equipment used in the utility line industry. (ELT212)
13. Construct, install and provide maintenance for two-phase and three-phase systems. (ELT212)
14. Practice rubber gloving and hot sticking techniques and demonstrate the trenching and construction of underground power lines. (ELT212)
15. Apply the procedures used in pole top and bucket truck rescue. (ELT212)
16. Describe personal effectiveness skills including interpersonal skills, integrity, professionalism, motivation, dependability and reliability. (CPD 104)
17. Develop, apply and communicate mathematical concepts and formulas that relate to measurement, percentage, statistics and geometry. (MAT 100)
18. Explain the different types of energy and their conversion to useable energy such as electrical power and how generated electrical power is transmitted and distributed to the point of use. (PPT 120)

Program-Specific Requirements

Course	Course Title	Hours
CPD104	Career & Personal Development	3
ELT101	Basic Electricity: AC & DC	4
ELT141	Electrical Apparatus	4

ELT201	Introduction to Linework I	2
ELT202	Field Training I (Lineworker)	6
ELT211	Introduction to Linework II	2
ELT212	Field Training II (Lineworker)	6
MAT100	Technical Mathematics	3
PPT120	Energy Industry Fundamentals	3

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* <u>*Learn more about Academic Advising*</u>.

Yavapai COLLEGE

Electrical Instrumentation Technician Certificate

Click here to request more info

Program Contacts

Professor	Rick Peters	Unavailable
Instructional Specialist	Susie Check	(928) 717-7761
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 30
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Electrical Instrumentation Technician Certificate

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 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-Specific Requirements

	Course	Course Title	Hours
	AGS101	Microcomputers in Agriculture	3
OR	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
	ELT183	Digital Circuits	3
	ELT272	Motors and Motor Controls	3
	MAT100	Technical Mathematics	3
	MET160	Basic Machine Hydr& Pneumatics	2

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai
COLLEGE

Electronics Technology Certificate

Click here to request more info

Program Contacts

Instructional Specialist	Susie Check	(928) 717-7761
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 20
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Electronics Technology Certificate

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 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-Specific Requirements

Course	Course Title	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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Emergency Medical Technician Certificate

Click here to request more info

Program Contacts

Program Director	Nichole Jump	(928) 717-7942
Associate Dean	Kim Ewing	(928) 717-7923
Instructional Specialist	Erin Elsner	(928) 717-7993
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 10
Gainful Employment Data: Available
View the Degree Plan
Click for more information

About the Emergency Medical Technician Certificate

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 is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

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-Specific Requirements

Course	Course Title	Hours
EMS132	Emergency Medical Technician	10

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising.*

Yavapai COLLEGE

Enology Certificate

Click here to request more info

Program Contacts

Executive Dean	James Perey	(928) 634-6513
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*

Minimum Credits Required: 23

View the Degree Plan

About the Enology Certificate

The Enology certificate is designed to prepare individuals for careers in the wine industry with an emphasis on wine production. Classroom instruction, laboratory and winery applications of enological principles and practices will be covered.

Program Outcomes

Upon successful completion of the Enology Certificate program, the learner will be able to:

1. Select, analyze and process grapes for winemaking. (VEN 195E, VEN 200)
2. Perform steps in the winemaking process. (VEN 195E, VEN 200, VEN 201, VEN 202)
3. Apply chemistry and microbiology concepts needed for winemaking. (CHM 130, VEN 195E, VEN 200, VEN 201, VEN 202)
4. Perform and analyze fermentations. (VEN 195E, VEN 200, VEN 201, VEN 202)
5. Produce wines. (VEN 195E, VEN 200, VEN 201,VEN 202)
6. Analyze wines. (VEN 120, VEN 121, VEN 195E, VEN 200, VEN 201, VEN 202)
7. Evaluate wines. (VEN 120, VEN 121, VEN 195E, VEN 200, VEN 201, VEN 202)

Program-Specific Requirements

Course	Course Title	Hours
CHM130	Fundamental Chemistry	4
VEN120	Wines of the United States	2
VEN121	Wines of the World	2
VEN195E	Winemaking Practicum 1	2
VEN195E	Winemaking Practicum	2
VEN195E	Winemaking Practicum	2
VEN200	Science of Winemaking I	3
VEN201	Science of Winemaking II	3
VEN202	Science of Winemaking III	3

1 - Students must complete VEN 195E Winemaking Practicum in Fall, Spring and Summer for a total of 6 credits.

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising.*

Yavapai COLLEGE

Equine Practitioner Certificate

<div>Click here to request more info</div>

Program Contacts

Instructional Specialist	Heather Narvesen	(928) 717-7729
Associate Dean	Karla Phillips	(928) 717-7725
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 30
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Equine Practitioner Certificate

The Equine Practitioner certificate prepares students for entrepreneurship, employment, or advancement in a variety of equine fields including business/barn management, training, husbandry, grooming, sales, marketing and nutrition.

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 157, AGE 230, AGS 215)
2. Identify external parts of a horse and apply that knowledge to everyday functions of the horse. (AGE 100, AGE 120, AGE 122, AGE 125, AGE 140, AGE 156)
3. Explain herd psychology and implement it into a training program. (AGE 100, AGE 125, AGE 260)
4. Identify and apply overall health and nutrition needs for the newborn to senior equine. (AGE 100, AGE 122)
5. Identify the anatomy of the hoof and explain correct shoeing procedures. (AGE 100, AGE 140)
6. Recognize a variety of horse illnesses, lameness and diseases, and recommend the proper treatment for each. (AGE 100, AGE 120, AGE 122, AGE 140, AGE 158)
7. Identify digestive anatomy and physiology and design a feed program for a variety of equine breeds. (AGE 100, AGE 122)
8. Compare popular training techniques from ground work to under saddle/harness. (AGE 101, 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)
11. Identify and apply barn management skills, including cleaning, horse care, and supply management. (AGE 230)
12. Identify and apply effective grooming, handling, tools, and products for various horse breeds and shows. (AGE 156)

Program-Specific Requirements

Course	Course Title	Hours
AGE100	Intro to Equine Science	4
AGE101	Fundamentals of Riding	2
AGE120	Equine Health & First Aid	2
AGE122	Prin of Equine Nutrition	2
AGE125	Equine Behavior and Psychology	3
AGE140	Equine Hoof Care	3
AGE201	Advanced Riding Methods	2
AGE230	Barn Management	2
AGE260	Ground Skills/Training Tech	3

AGS215	Agricultural Mechanics	3

Select 4 credit hours from the following courses:

AGE156	Equine Grooming Show Hlth	2
AGE157	Equine Event Plan & Mgmt	2
AGE158	Fundamentals of Trail Riding	2

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Exercise Science/Sports Medicine Certificate

Click here to request more info

Program Contacts

Instructional Specialist	Jennifer Taylor	(928) 776-2304
Professor	Josh Schmidt	(928) 717-7176
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 22
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Exercise Science/Sports Medicine Certificate

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 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 152, PHE 157, 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 152, PHE 153, PHE 251)

Program-Specific Requirements

Course	Course Title	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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Fire Science - Basic Firefighter Certificate

Click here to request more info

Program Contacts

Program Director	Kenny Krebbs	(928) 717-7911
Associate Dean	Kim Ewing	(928) 717-7923
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*

Minimum Credits Required: 25

Gainful Employment Data: View

View the Degree Plan

Click for more information

About the Fire Science - Basic Firefighter Certificate

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 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-Specific Requirements

Course	Course Title	Hours
EMS132	Emergency Medical Technician	10
FSC104	Haz Mat First Responder Op	3
FSC105	Firefighter I & II Cert Acad	12

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Fire Science Community Risk Manager Certificate 🌐

Click here to request more info

Program Contacts

Program Director	Kenny Krebbs	(928) 717-7911
Associate Dean	Kim Ewing	(928) 717-7923
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 22
This program can be completed entirely online
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Fire Science Community Risk Manager Certificate

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 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-Specific Requirements

Course	Course Title	Hours
FSC104	Haz Mat First Responder Op	3
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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Fire Science Driver/Operator Certificate

Click here to request more info

Program Contacts

Program Director	Kenny Krebbs	(928) 717-7911
Associate Dean	Kim Ewing	(928) 717-7923
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 18
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Fire Science Driver/Operator Certificate

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 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-Specific Requirements

Course	Course Title	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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Fire Service Officer/Manager Certificate 🌐

| | Click here to request more info |

Program Contacts

Program Director	Kenny Krebbs	(928) 717-7911
Associate Dean	Kim Ewing	(928) 717-7923
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 22
This program can be completed entirely online
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Fire Service Officer/Manager Certificate

The Fire Service Officer/Manager certificate is designed for those interested in fire service leadership/management and in becoming a fire service officer.

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-Specific Requirements

Course	Course Title	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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Fitness Trainer/Instructor Certificate

Click here to request more info

Program Contacts

Instructional Specialist	Jennifer Taylor	(928) 776-2304
Professor	Charles Lohman	(928) 649-5487
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 18
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Fitness Trainer/Instructor Certificate

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 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, PHE 252)
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 152, PHE 153, PHE 157, PHE 251, PHE 252)
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 251, PHE 252)

Program-Specific Requirements

Course	Course Title		Hours
BIO160	Intro Human Anat & Physiology	1	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
PHE251	Integrated Exercise Science		3
PHE252	ACE Personal Trainer Prep		3

1 - Or higher level Anatomy & Physiology course

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai
COLLEGE

Gerontology Certificate

<div style="border:1px solid #ccc;padding:10px;">Click here to request more info</div>

Program Contacts

Dean	Dennis Garvey	(928) 776-2371
Instructional Assistant	Nancy Bennett	(928) 717-7607

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 14
Gainful Employment Data: View
View the Degree Plan

About the Gerontology Certificate

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: This certificate is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

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-Specific Requirements

Course	Course Title	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

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Graphic Design Technician Certificate

Click here to request more info

Program Contacts

Program Director	Lauren McCrea	(928) 717-7616
Instructional Specialist	Michelle Peters	(928) 776-2035
Dean	Craig Ralston	(928) 776-2311

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 29
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Graphic Design Technician Certificate

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 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-Specific Requirements

	Course	Course Title	Hours
	ART110	Drawing I	3
	ART112	Two-Dimensional Design	3
	ART130	Web Site Design I	3
OR	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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Gunsmithing - Advanced Certificate

Click here to request more info

Program Contacts

Professor	Alan Lohr	(928) 776-2348
Instructional Specialist	Susie Check	(928) 717-7761
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 20
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Gunsmithing - Advanced Certificate

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 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-Specific Requirements

Course	Course Title	Hours
Select Two of the Three Following Blocks:		
Block 1 - Guild Firearms		
GST270	Guild Firearms	10
Block 2 - Competition Firearms		
GST280	Competition Firearms	10
Block 3 - CNC Machining		
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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Gunsmithing Certificate

Click here to request more info

Program Contacts

Professor	Alan Lohr	(928) 776-2348
Instructional Specialist	Susie Check	(928) 717-7761
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 40
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Gunsmithing Certificate

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 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-Specific Requirements

Course	Course Title	Hours
GST100	Apprentice Gunsmithing	10
GST150	Journeyman Gunsmithing	10
GST200	Professional Gunsmithing	10
GST250	Master Gunsmithing	10

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Hotel and Restaurant Management Certificate

Click here to request more info

Program Contacts

Executive Dean	James Perey	(928) 634-6513
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 28
View the Degree Plan

About the Hotel and Restaurant Management Certificate

Program Outcomes

Upon successful completion of the Hotel and Restaurant Management Certificate program, the learner will be able to:

1. Identify the elements that comprise the hospitality industry and describe current trends in the industry. (HOS 100, HOS 195)

2. Explain the various components of food service management. (CUL 102, HOS 110, HOS 195)

3. Describe the functions, responsibilities, and controls of the front office/desk operations. (CSA 126, HOS 115, HOS 195)

4. Prepare hot food for commercial production. (CUL 102)

5. Identify principles for planning and operating meetings, conventions, and exhibitions. (CSA 126, HOS 120, HOS 195)

6. Recognize the major safety and legal responsibilities/ liabilities in the hospitality industry. (HOS 150, HOS 195)

7. Categorize the planning, implementation, and monitoring of the hospitality environment. (CSA 126, HOS 150, HOS 195)

Program-Specific Requirements

Course	Course Title	Hours
CSA126	Microsoft Office	3
CUL102	Cul Fundamentals: Hot Foods	4
HOS100	Intro to Hospitality Industry	3
HOS110	Food Service Systems Mgt	3
HOS115	Hospitality Front Office Proc	3
HOS120	Meeting and Convention Mgt	3
HOS150	Hospitality Property Mgt	3
HOS195	Hospitality Practicum	3
HOS195	Hospitality Practicum	3

(Students must complete the Hospitality Practicum two times totaling 6 credit hours.)

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Industrial Machine Mechanic Certificate

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Program Contacts

Instructional Specialist	Stephanie Wiltcher	(928) 717-7107
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 28
Gainful Employment Data: View
View the Degree Plan

About the Industrial Machine Mechanic Certificate

The Industrial Machine Mechanic Certificate is designed to prepare the student for an entry-level career in plant machinery installation, maintenance, and fabrication.

Program Outcomes

Upon successful completion of the Industrial Machine Mechanic Certificate program, the learner will be able to:

1. Troubleshoot, replace, and repair hydraulic and pneumatic system components. (IPT 110, IPT 120, IPT 160, MET 160)
2. Fabricate and repair industrial machinery components. (IPT 160, WLD 112, WLD 113, WLD 250)
3. Utilize machine shop equipment. (AGS 101 or CSA 126, IPT 160, MET 160)
4. Troubleshoot and repair conveyance systems. (IPT 160)
5. Troubleshoot and repair bulk material handlers. (IPT 140, IPT 160)
6. Repair and replace valves. (IPT 130)

Program-Specific Requirements

	Course	Course Title	Hours
	AGS101	Microcomputers in Agriculture	3
OR	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
	MET160	Basic Machine Hydr& Pneumatics	2
	WLD112	Basic Welding I	2
	WLD113	Basic Welding II	2
	WLD250	Welded Metal Fabrication	4

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Integrated Systems Engineering Technician Certificate

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Program Contacts

Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*

Minimum Credits Required: 24

View the Degree Plan

About the Integrated Systems Engineering Technician Certificate

The Integrated Systems Engineering Technician certificate prepares individuals to apply basic engineering principles and technical skills to the identification and resolution of production problems in the manufacture of products. Includes machine operations, production line operations, robotics, system integration, computer-aided drafting (CAD), and computer-aided manufacturing (CAM).

Program Outcomes

Upon successful completion of the Integrated Systems Engineering Technician Certificate program, the learner will be able to:

1. Program and operate a CNC mill and lathe. (CNC 101)
2. Set tools for CNC machining of a given product. (CNC 102)
3. Design a product for CNC machining. (CNC 201, CNC 202)
4. Reverse engineer a product for 3D replication. (CNC 202)
5. Utilize a computer language to program a robot in a robotic-based work cell capable of performing repetitive tasks. (ELT 130)
6. Utilize robot vision for error proofing and single and multi-view pick and place operations. (ELT 140)
7. Create 2D sketches in SolidWorks, demonstrate the different extrusion options, and utilize geometric relations to display and modify parametric relations. (EGR 180)
8. Create drawing layouts from solid models and demonstrate the assembly modeling methodology to place parts using SolidWorks SmartMates. (EGR 180)
9. Identify different types of manufacturing processes from engineering to product shipment. (MET 100)
10. Interpret documentation of products and processes to accomplish manufacturing tasks with application of Statistical Process Control, ISO 9000 and Total Quality Control. (MET 100)

Program-Specific Requirements

Course	Course Title	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
ELT130	Introduction to Robotics	3
ELT140	Robot Vision	3
EGR180	CAD with SolidWorks	3
MET100	Intro Manufacturing Technology	4

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai
COLLEGE

Justice Studies Certificate 🌐

Program Contacts

Program Director	Michael Davis	(928) 717-7938
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 24
This program can be completed entirely online
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Justice Studies Certificate

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 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. Identify and explain victimology and the crisis interventions afforded to victims of crime and their families. (AJS 226)
9. Discuss new discoveries in neuroscience and how our increased understanding of the brain is having direct impact on the criminal justice system. (AJS 278)
10. 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)

Program-Specific Requirements

Course	Course Title	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
AJS226	Victimology and Crisis Interv	3

| AJS278 | Neuroscience and the Law | 3 |
| AJS290 | Constitutional Law/Civil Lib | 3 |

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising.*

Yavapai COLLEGE

Law Enforcement and Corrections Certificate 🌐

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Program Contacts

Program Director	Michael Davis	(928) 717-7938
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 24
This program can be completed entirely online
Gainful Employment Data: Available
View the Degree Plan
Click for more information

About the Law Enforcement and Corrections Certificate

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 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-Specific Requirements

Course	Course Title	Hours

Option 1 Requirements:

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
AJS260	Procedural Criminal Law	3

Option 2 Requirement:

AJS291	Intensive Police Academy	24

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* <u>Learn more about Academic Advising</u>.

Option 1 Requirements:

AJS101	Intro Admin of Justice	3

Yavapai COLLEGE

Legal Office Clerk Certificate 🌐

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Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Program Director	Michael Davis	(928) 717-7938
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 15
This program can be completed entirely online
Gainful Employment Data: Available
View the Degree Plan

About the Legal Office Clerk Certificate

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 is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

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 for the law office setting. (CSA 140, LAW 102, LAW 107)
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. (BSA 225, CSA 140, LAW 102, LAW 107)
5. Perform standard office practices including office communications, telephone skills, mailing methods, time management and prioritizing. (BSA 225, LAW 107)
6. Apply office-related professional etiquette skills. (BSA 225, LAW 107)
7. Use multi-tasking and initiative techniques. (BSA 225, LAW 102, LAW 107)
8. Describe legal office procedures. (LAW 100, LAW 107)
9. Complete law office billing. (LAW 102, LAW 107)
10. Use filing systems as they pertain to the legal office. (BSA 225, LAW 102, LAW 107)
11. File legal documents with the courts using docketing procedures. (LAW 107)
12. Identify confidentiality requirements as set forth in the Ethics Rules. (LAW 101, LAW 107)
13. Use the Harvard Law Review Bluebook uniform system of legal citations. (LAW 107)

Program-Specific Requirements

Course	Course Title	Hours
BSA225	Admin Professional: Office Mgt	3
CSA140	Microsoft Word	2

LAW100	Intro to Paralegal Studies	3
LAW101	Legal Ethics & Prof Respnsblty	1
LAW102	Legal Computer Applications	3
LAW107	Law Office Management	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

| LAW100 | Intro to Paralegal Studies | 3 |
| LAW101 | Legal Ethics & Prof Respnsblty | 1 |

Yavapai COLLEGE

Magnetic Resonance Certificate

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Program Contacts

Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 6
View the Degree Plan

About the Magnetic Resonance Certificate

The Magnetic Resonance (MR) Certificate program is comprised of two courses designed as facilitated and self-directed learning for radiologic professionals who are established and presently employed in the field. The program, which can be completed in one semester, offers both didactic coursework and clinical skills experiences necessary to prepare the student to challenge the ARRT Advanced Registry in Magnetic Resonance certificate exam.

Note:

This certificate is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

Program Outcomes

Upon successful completion of the Magnetic Resonance Certificate program, the learner will be able to:

1. Describe how the MR signal is produced and detected and how the image is acquired.

2. Define and describe magnetism and magnetic properties.

3. Identify the major hardware components in MR imaging.

4. Explain the functionality of the radio-frequency, gradients systems and role of coils in image acquisition.

5. Explain intrinsic and extrinsic parameters that affect image quality.

6. Discuss proper screening, patient preparation, use, and adverse effects of MR contrasts agents.

7. List parameters related to tissue characteristics that affect image quality and apply proper pulse sequences in MR imaging.

8. Describe how imaging parameters determine contrast and resolution on MR images.

9. Define the tools used and the post-processing techniques needed for image enhancement.

10. Perform MR exams as outlined in the competency requirements for Post-Primary Certification of the American Registry of Radiologic Technologists (ARRT) in Magnetic Resonance (MR).

11. Identify specific organs or structures on a cross-sectional acquired or reformatted MR image.

12. Explain the appearance of normal tissue and pathologic processes on MR images.

13. Review MR images for quality, accuracy and completeness.

Program-Specific Requirements

Course	Course Title	Hours
ICE200	Magnetic Resonance	3
ICE210	Magnetic Resonance Clin Ed I	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* <u>Learn more about Academic Advising</u>.

Yavapai COLLEGE

Management Certificate 🌐

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Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Instructional Specialist	Mitzi Martin	(928) 776-2157
Program Director	Joy D'Angelo	(928) 776-2343
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 24
This program can be completed entirely online
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Management Certificate

The Management certificate program prepares students to use management theory to solve basic business problems and formulate plans for the future.

Program Outcomes

Upon successful completion of the Management Certificate program, the learner will be able to:

1. Apply written, oral and interpersonal skills in business settings. (BSA229, BSA233)

2. Apply the management principles of planning, organizing, leading and controlling to solve common management issues. (BSA120, BSA132, BSA140, BSA220, BSA223, BSA229)

3. Identify ethical issues and apply the values of professional responsibility. (BSA132)

Program-Specific Requirements

Course	Course Title	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 Communication	3

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Media Production Certificate

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Program Contacts

Executive Dean	James Perey	(928) 634-6513
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 25
View the Degree Plan

About the Media Production Certificate

Program Outcomes

Upon successful completion of the Media Production Certificate program, the learner will be able to:

1. Exhibit a working knowledge of filmmaking equipment. (FMA102, FMA103, FMA106, FMA107, FMA108, FMA110, FMA201)

2. Create a short screenplay. (FMA101, FMA102, FMA103, FMA108)

3. Produce and direct a three act short film. (All courses in the program)

4. Utilize team building techniques. (FMA106, FMA107, FMA108, FMA110, FMA201)

Program-Specific Requirements

	Course	Course Title	Hours
	FMA101	Film/TV History & Analysis	3
	FMA102	Storytelling thru Image/Sound	3
	FMA103	Writing for the Screen	3
OR	FMA108	YouTube Storytelling/Monetizat	3
	FMA105	Directing/Camera Coverage/Snd	3
	FMA106	Storytelling through Editing	3
	FMA107	Editing & Managing Post-Prod	3
	FMA110	Thesis Film/TV Pre-Prod	3
	FMA201	Thesis Film/TV Production	4

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Media Writing and Producing Certificate

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Program Contacts

Executive Dean	James Perey	(928) 634-6513
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 25
View the Degree Plan

About the Media Writing and Producing Certificate

Program Outcomes

Upon successful completion of the Media Writing and Producing Certificate program, the learner will be able to:

1. Identify and utilize screenplay elements (e.g., genre, structure, characterization and visual language). (All courses in the program)

2. Identify techniques for generating story ideas. (FMA101, FMA103, FMA106, FMA108, FMA109, FMA112, FMA202)

3. Develop knowledge of screenplay outlets for creative growth, marketing, production financing and management, monetization of final product. (FMA101, FMA103, FMA108, FMA109, FMA112, FMA202)

4. Develop proficiency to critically and creatively assess yours and others' writing. (All courses in the program)

Program-Specific Requirements

	Course	Course Title	Hours
	FMA101	Film/TV History & Analysis	3
	FMA102	Storytelling thru Image/Sound	3
	FMA103	Writing for the Screen	3
OR	FMA108	YouTube Storytelling/Monetizat	3
	FMA105	Directing/Camera Coverage/Snd	3
	FMA106	Storytelling through Editing	3
	FMA109	Screenwriting: Iconic Film/TV	3
	FMA112	Film/TV/Media Reviews & Crit	3
	FMA202	Adv Writing for the Screen	4

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Medical Assistant Certificate

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Program Contacts

Program Director	Nancy Bowers	(928) 776-2252
Instructional Specialist	Stephanie Kallam	(928) 771-6122
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*

Minimum Credits Required: 37

Gainful Employment Data: View

View the Degree Plan

Click for more information

About the Medical Assistant Certificate

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 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, AHS 120, AHS 296)
2. Use computer programs commonly found in health care settings. (AHS 296, CSA 126)
3. Deliver health care to clients with multiple health care needs. (AHS 100, AHS 103, AHS 120, AHS 121, AHS 130, AHS 140, AHS 296, BIO 160 or BIO 201 & 202, HIM 140)
4. Document how diversity and culture affect delivery of health care. (AHS 100, AHS 120, AHS 296)
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, HIM 140)
7. Calculate medical dosages. (AHS 121, 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 121, AHS 140, AHS 296)
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. (AHS 130, AHS 296, 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. (AHS 120, AHS 296, HIM 173)

Program-Specific Requirements

Course	Course Title	Hours
AHS100	Fundamentals of Health Care	3
AHS103	Phlebotomy	3
AHS120	Foundations of Med Assisting I	3
AHS121	Foundations of Med Assistng II	4
AHS130	Medical Term for Patient Care	3
AHS140	Pharmacology for Allied Hlth	2
AHS296	Internship: Allied Health Serv 1	3
CSA126	Microsoft Office	3
HIM173	Legal & Ethical Aspects of HIM	2

	HIM240	[Disease Process](#)	4
	MAT100	[Technical Mathematics](#) 2	3

Complete either Option 1 or Option 2:

Option 1

	BIO160	[Intro Human Anat & Physiology](#)	4

Option 2

	BIO201	[Human Anatomy & Physiology I](#)	4
AND	BIO202	[Human Anatomy & Physiology II](#)	4

1 - Students must complete all Medical Assistant requirements before enrolling in the AHS internship. Students must enroll in AHS 296 Internship: Alied Health Medical Assistant within 3 semesters of completing AHS 121 Medical Assisting II. Permission of the program director is also required.

2 - Or higher course or satisfactory score on skills assessment.

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses. [Learn more about Academic Advising](#).*

Yavapai COLLEGE

Medical Records Technician Certificate

| Click here to request more info |

Program Contacts

Program Director	Nancy Bowers	(928) 776-2252
Instructional Specialist	Stephanie Kallam	(928) 771-6122
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year _view other years_
Minimum Credits Required: 16
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Medical Records Technician Certificate

The Medical Records Technician certificate prepares students for employment in a physician's office, acute care setting and/or long-term care setting.

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, BIO160, BIO201, BIO202)
3. Correctly spell and pronounce medical terms. (AHS 130, BIO160, BIO201, BIO202)
4. Apply basic computer skills. (CSA 126)
5. Identify and describe the structure and function of major organs and body systems. (AHS130, BIO 160, BIO 201, BIO 202)
6. Describe the strategies involved in decision making during a job search. (BSA102)

Program-Specific Requirements

Course	Course Title	Hours
AHS130	Medical Term for Patient Care	3
BSA102	Career Search and Success	1
CSA126	Microsoft Office	3
HIM110	Intro to Hlth Info Mgmt	3
HIM173	Legal & Ethical Aspects of HIM	2

Complete Option 1 or 2:

Option 1

BIO160	Intro Human Anat & Physiology	4

Option 2

BIO201	Human Anatomy & Physiology I	4
AND BIO202	Human Anatomy & Physiology II	4

> **Note:** It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses. _Learn more about Academic Advising_.

Yavapai COLLEGE

Nursing Assistant Certificate

Click here to request more info

Program Contacts

Program Director	Nancy Bowers	(928) 776-2252
Instructional Specialist	Stephanie Kallam	(928) 771-6122
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year _view other years_
Minimum Credits Required: 5
Gainful Employment Data: Available
View the Degree Plan
Click for more information

About the Nursing Assistant Certificate

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 is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

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-Specific Requirements

Course	Course Title	Hours
AHS114	Nursing Assistant	5

Note: _It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses._ _Learn more about Academic Advising_.

Yavapai COLLEGE

Paralegal Studies - Post Degree Certificate 🌐

Click here to request more info

Program Contacts

Instructional Specialist	Holly Molina	(928) 776-2295
Program Director	Michael Davis	(928) 717-7938
Instructional Specialist	Mitzi Martin	(928) 776-2157
Dean	Jill Fitzgerald	(928) 776-2277

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 31
This program can be completed entirely online
Gainful Employment Data: View
View the Degree Plan

About the Paralegal Studies - Post Degree Certificate

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 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-Specific Requirements

	Course	Course Title	Hours
	LAW100	Intro to Paralegal Studies	3
	LAW101	Legal Ethics & Prof Respnsblty	1
	LAW102	Legal Computer Applications	3
	LAW202	Real Estate Law	3
OR	LAW203	Family 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
LAW298	Special Legal Topics	2

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

| LAW104 | Wills, Trusts and Probate | 3 |
| LAW201 | Criminal Law and Procedure | 2 |

Yavapai COLLEGE

Paramedicine Certificate

Click here to request more info

Program Contacts

Program Director	Nichole Jump	(928) 717-7942
Associate Dean	Kim Ewing	(928) 717-7923
Instructional Specialist	Erin Elsner	(928) 717-7993
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 43
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Paramedicine Certificate

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 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-Specific Requirements

Course	Course Title	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

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Pharmacy Technician Certificate

Click here to request more info

Program Contacts

Program Director	Nancy Bowers	(928) 776-2252
Instructional Specialist	Stephanie Kallam	(928) 771-6122
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 20
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Pharmacy Technician Certificate

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.

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. (AHS296, 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. (AHS296, PHT110, PHT125)
4. Prepare, dispense, package and label drugs. (AHS296, PHT120)
5. Apply technical skills to unit-dose dispensing, non-sterile asceptic techniques, and controlled substance procedures in an inpatient and outpatient setting. (AHS296, PHT120)
6. Calculate drug dosages: oral, parenteral, pediatric and by body surface area. (AHS296, PHT110)
7. Show mastery of content by passing the Pharmacy Technician Certification Board (PTCB) exam. (AHS296, PHT100, PHT110, PHT120, PHT125, PHT200)

Program-Specific Requirements

Course	Course Title	Hours
AHS296	Internship: Allied Health Serv 1	3
PHT100	Fundamentals of Pharmacy Tech	3
PHT110	Pharmaceutical Calculations	3
PHT120	Pharmacy Practice	4
PHT125	Pharmacology	4
PHT200	Pharmacy Tech Cert Review	3

1 - Students must complete all Pharmacy Technician requirements before enrolling in the Allied Health Services Internship. Permission of the program

director is also required.

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* <u>*Learn more about Academic Advising*</u>.

Yavapai COLLEGE

Phlebotomy Technician Certificate

Click here to request more info

Program Contacts

Program Director	Nancy Bowers	(928) 776-2252
Instructional Specialist	Stephanie Kallam	(928) 771-6122
Dean	Scott Farnsworth	(928) 776-2234

Quick Facts

2015-2016 Catalog Year _view other years_
Minimum Credits Required: 9
Gainful Employment Data: Available
View the Degree Plan
Click for more information

About the Phlebotomy Technician Certificate

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 is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

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-Specific Requirements

Course	Course Title	Hours
AHS100	Fundamentals of Health Care	3
AHS103	Phlebotomy	3
AHS296	Internship: Allied Health Serv 1	3

1 - Students must complete all Phlebotomy requirements before enrolling in the Allied Health Services Internship. Students must enroll in AHS296 Internship within 3 semesters of completing AHS103 Phlebotomy. Permission of the program director is also required.

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Photography Certificate

Click here to request more info

Program Contacts

Instructional Specialist	Michelle Peters	(928) 776-2035
Dean	Craig Ralston	(928) 776-2311

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 32
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Photography Certificate

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 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 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 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 231)
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 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 137, ART 150, ART 151, ART 154, ART 156, ART 157, ART 230, ART 232, ART 237, ART 258, ART 296)

Program-Specific Requirements

Course	Course Title	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

BSA231	Social Media Marketing	3

Select 6 credit hours from the following courses:

ART151	Photography II	3
ART230	Digital Printing Tech	3
ART258	Photographic Lighting II	3
ART296	Internship: Art	3

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Production Horticulture Certificate

Click here to request more info

Program Contacts

Instructional Specialist	Karen Smith	(928) 717-7760
Professor	Justin Brereton	(928) 717-7724
Associate Dean	Karla Phillips	(928) 717-7725
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 30
Gainful Employment Data: View
View the Degree Plan

About the Production Horticulture Certificate

The Production Horticulture 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 Outcomes

Upon successful completion of the Production Horticulture Certificate program, the learner will be able to:

1.   Design, operate and manage an extensive agriculture facility. (AGS 103, AGS 250, AGS 252)

2.   Propagate plants from cuttings and seeds. (AGS 250, AGS 252)

3.   Develop and implement an integrated pest management system. (AGS 107, AGS 250, AGS 252)

4.   Recognize and correct irrigation/plumbing/equipment/facility problems. (AGS 250, AGS 252, AGS 274)

5.   Implement a production management schedule and marketing plan for crops. (AGS 157, AGS 250, 252)

6.   Analyze soil texture and amend soils for nutrient needs of desired crop. (AGS 105)

Program-Specific Requirements

Course	Course Title	Hours
AGS103	Plant Biology	4
AGS105	Soils	3
AGS107	Entomology	3
AGS157	Community Supported Agric	3
AGS215	Agricultural Mechanics	3
AGS250	Horticulture Science I	4
AGS252	Horticulture Science II	4
AGS274	Water Management	3

Select 3 credit hours from the following courses:

AGS101	Microcomputers in Agriculture	3
AGS102	Agribusiness Management	3

CSA126   Microsoft Office   3

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* <u>Learn more about Academic Advising</u>.

Yavapai
COLLEGE

Therapy and Service Dog Team Skills Certificate

Click here to request more info

Program Contacts

Instructional Specialist	Karen Smith	(928) 717-7760
Associate Dean	Karla Phillips	(928) 717-7725
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 6
View the Degree Plan

About the Therapy and Service Dog Team Skills Certificate

The Therapy and Service Dog Team Skills Certificate provides the student and canine with skills required for therapy dog team work and the canine behavior foundation skills for the student/canine team to continue on with advanced service dog training from third party providers. The student/canine team will also gain the skills needed to take the Canine Good Citizen (CGC) test and the therapy dog evaluation exam offered by evaluators from three national therapy dog organizations.

Note:

This certificate is not eligible for Federal Financial Aid. To explore other financial aid opportunities, please visit the YC Answer Center.

Program Outcomes

Upon successful completion of the Therapy and Service Dog Team Skills Certificate program, the learner will be able to:

1. Apply positive canine training and handling skills. (AGS 180, AGS 182, AGS 185)
2. Explain canine behavior and psychology and apply it to training and to reading a dog's body presentation. (AGS 180, AGS 182, AGS 185)
3. Articulate and use canine training concepts and skills in working with service and therapy dogs. (AGS 185)
4. Apply communication skills with the general public. (AGS 185)
5. Use canine handling skills in diverse public environments and with distractions. (AGS 180, AGS 182, AGS 185)

Program-Specific Requirements

Course	Course Title	Hours
AGS180	Canine Behavior and Psych I	2
AGS182	Canine Behavior and Psych II	2
AGS185	Canine Public Skills	2

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Video Game Developer Certificate 🌐

<div style="text-align:center">Click here to request more info</div>

Program Contacts

Program Director	Ruth Alsobrook-Hurich	(928) 776-2076
Dean	Stacey Hilton	(928) 717-7775

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 18
This program can be completed entirely online
Gainful Employment Data: View
View the Degree Plan

About the Video Game Developer Certificate

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 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. (VGD122, VGD171, VGD172)
2. Create video games suitable for use on a PC or MAC. (VGD121, VGD122, VGD171, VGD172)
3. Create video games suitable for use on the Web. (VGD121, VGD122)
4. Apply refined programming concepts to game structure and assets to create a functional 3D Video game. (VGD121, VGD122, VGD172)
5. Create code that incorporates elementary artificial intelligence into game coding. (VGD172)
6. Use professional quality software tools to create static and animated 3D objects suitable for use in video games. (VGD151, VGD152)

Program-Specific Requirements

Course	Course Title	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

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Viticulture Certificate

Click here to request more info

Program Contacts

Executive Dean	James Perey	(928) 634-6513
Enology Director	Michael Pierce	(928) 634-6586
Viticulture Director	Nikki Check	(928) 634-6576
Instructional Specialist	Teresa Schwickerath	(928) 634-6575
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 24
Gainful Employment Data: View
View the Degree Plan
Click for more information

About the Viticulture Certificate

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 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-Specific Requirements

Course	Course Title	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 1	2
VEN195V	Viticulture Practicum	2
VEN195V	Viticulture Practicum	2

1 - Students must complete VEN 195V Viticulture Practicum in Fall, Spring and Summer for a total of 6 credits.

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai
COLLEGE

Welding - Gas Metal Arc Welding Certificate

| Click here to request more info |

Program Contacts

| Instructional Specialist | Renee Alanis | (928) 776-2002 |
| Dean | John Morgan | (928) 717-7721 |

Quick Facts

2015-2016 Catalog Year *view other years*

Minimum Credits Required: 24

View the Degree Plan

About the Welding - Gas Metal Arc Welding Certificate

Prepares students for employment in welding positions requiring competency in the field of Gas Metal Arc Welding. Coursework may upgrade skills and assist in career advancement for currently employed welders.

Program Outcomes

Upon successful completion of the Welding - Gas Metal Arc Certificate program, the learner will be able to:

1. Explain and use welding safety procedures. (WLD 130, 140, 145, 210, 250)
2. Interpret welding blueprints. (WLD 156)
3. Operate oxyacetylene equipment to weld, cut, braze, and braze weld to industry requirements. (WLD 130)
4. Operate shielded metal arc welding equipment to industry requirements. (WLD 140, 145)
5. Operate gas metal arc welding equipment to industry requirements. (WLD 210)
6. Order, layout, and fabricate material as required by blueprints. (WLD 250)

Program-Specific Requirements

Course	Course Title	Hours
WLD130	Oxyacetylene	4
WLD140	Arc I	4
WLD145	Arc II	4
WLD156	Blueprint Reading	4
WLD210	Gas Metal Arc Welding	4
WLD250	Welded Metal Fabrication	4

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Welding - Gas Tungsten Arc Welding Certificate

Click here to request more info

Program Contacts

Instructional Specialist	Renee Alanis	(928) 776-2002
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*

Minimum Credits Required: 24

View the Degree Plan

About the Welding - Gas Tungsten Arc Welding Certificate

Prepares students for employment in welding positions requiring competency in the field of Gas Tungsten Arc Welding. Coursework may upgrade skills and assist in career advancement for currently employed welders.

Program Outcomes

Upon successful completion of the Welding - Gas Tungsten Arc Certificate program, the learner will be able to:

1. Explain and use welding safety procedures. (WLD 130, 140, 145, 200, 250)
2. Interpret welding blueprints. (WLD 156)
3. Operate oxyacetylene equipment to weld, cut, braze, and braze weld to industry requirements. (WLD 130)
4. Operate shielded metal arc welding equipment to industry requirements. (WLD 140, 145)
5. Operate gas tungsten arc welding equipment to industry requirements. (WLD 200)
6. Order, layout, and fabricate material as required by blueprints. (WLD 250)

Program-Specific Requirements

Course	Course Title	Hours
WLD130	Oxyacetylene	4
WLD140	Arc I	4
WLD145	Arc II	4
WLD156	Blueprint Reading	4
WLD200	Gas Tungsten Arc Welding	4
WLD250	Welded Metal Fabrication	4

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Welding - Pipe Welding Certificate

| Click here to request more info |

Program Contacts

Instructional Specialist	Renee Alanis	(928) 776-2002
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*

Minimum Credits Required: 24

View the Degree Plan

About the Welding - Pipe Welding Certificate

The Pipe Welding Certificate prepares students for employment in welding positions requiring competency in the field of Pipe Welding. Coursework may upgrade skills and assist in career advancement for currently employed welders.

Program Outcomes

Upon successful completion of the Welding - Pipe Welding Certificate program, the learner will be able to:

1. Explain and use welding safety procedures. (WLD 130, 140, 145, 250, 282)
2. Interpret welding blueprints. (WLD 156)
3. Operate oxyacetylene equipment to weld, cut, braze, and braze weld to industry requirements. (WLD 130)
4. Operate shielded metal arc welding equipment to industry requirements. (WLD 140, 145)
5. Explain proper welding skills for fabricating pipe. (WLD 282)
6. Order, layout, and fabricate material as required by blueprints. (WLD 250)

Program-Specific Requirements

Course	Course Title	Hours
WLD130	Oxyacetylene	4
WLD140	Arc I	4
WLD145	Arc II	4
WLD156	Blueprint Reading	4
WLD250	Welded Metal Fabrication	4
WLD282	Pipe Welding I	4

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising.

Yavapai COLLEGE

Welding - Structural Welding Certificate

Click here to request more info

Program Contacts

Professor	Robert Smith	Unavailable
Instructional Specialist	Renee Alanis	(928) 776-2002
Dean	John Morgan	(928) 717-7721

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 16
Gainful Employment Data: View
View the Degree Plan

About the Welding - Structural Welding Certificate

The Structural Welding certificate prepares students for employment in positions requiring competency in the field of welding. Coursework may upgrade skills and assist in career advancement for currently employed welders.

Program Outcomes

Upon successful completion of the Welding - Structural Certificate program, the learner will be able to:

1. Explain and use welding safety procedures. (WLD130, WLD140, WLD145)
2. Interpret welding blueprints. (WLD156)
3. Operate oxyacetylene equipment to weld, cut, braze,and braze weld to industry requirements. (WLD130)
4. Operate shielded metal arc welding equipment to industry requirements. (WLD140, WLD145)

Program-Specific Requirements

Course	Course Title	Hours
WLD130	Oxyacetylene	4
WLD140	Arc I	4
WLD145	Arc II	4
WLD156	Blueprint Reading	4

Note: *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* *Learn more about Academic Advising*.

Yavapai COLLEGE

Windows Server Administrator Certificate

Click here to request more info

Program Contacts

Dean	Stacey Hilton	(928) 717-7775

Quick Facts

2015-2016 Catalog Year *view other years*
Minimum Credits Required: 20
Gainful Employment Data: View
View the Degree Plan

About the Windows Server Administrator Certificate

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 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-Specific Requirements

Course	Course Title	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 III	3

> **Note:** *It is always best to discuss educational and career goals with an academic advisor prior to enrolling in any courses.* Learn more about Academic Advising*.*

Course Outlines

Official Yavapai College Course Outlines listed below.

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, Ed, & Social Science Division
Accounting Department

ACC 116 - Advanced Tax Planning and Preparation

COURSE DESCRIPTION:
ACC 116. Advanced Tax Planning and Preparation (4). 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, Ed, & Social Science 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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Business, Ed, & Social Science 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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Business, Ed, & Social Science Division
Accounting Department

ACC 131 - Principles of Accounting I

COURSE DESCRIPTION:
ACC 131. Principles of Accounting I (3). SUN⊞**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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Business, Ed, & Social Science Division
Accounting Department

Course Attributes:
SUN# ACC 2201

ACC 132 - Principles of Accounting II

COURSE DESCRIPTION:
ACC 132. Principles of Accounting II (3). **SUN#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, Ed, & Social Science 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, Ed, & Social Science 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
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Business, Ed, & Social Science Division
Accounting Department

Course Attributes:
Quantitative Lit (QL/GECCO)

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, Ed, & Social Science 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, Ed, & Social Science Division
Accounting Department

Course Attributes:
Creative Thinking (CR/GECCO)

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, Ed, & Social Science Division
Accounting Department

Course Attributes:
Civic Engagement (CE/GECCO)

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, Ed, & Social Science 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 horses
3. Functional anatomy
4. Physiology
5. Types, classes, and breeds of horses
6. Horsemanship

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)
3. Identify 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. Review horse behavior and its relationship to training. (5,6)
8. Describe necessary skills for safe horsemanship and equitation. (6)

4.000 Credit hours
4.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst 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. Horse ownership required or contact instructor for lease option. One lecture. Two lab.

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, handling, grooming and tacking techniques in preparation for riding. (1-3)
2. Apply warm-up techniques such as lunge lining, hot-walker, round-pen. (4)
3. Mount and dismount safely. (1,5)
4. Develop effective use of riding aids of legs, seat, hands and voice. (1,6)
5. Perform transitions between the walk, trot, halt and back. (1,7)
6. Apply focus, feel and balance methods while riding. (1,6,7)

7. 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 120 - Equine Health and First Aid

COURSE DESCRIPTION:
AGE 120. Equine Health and First Aid (2). Equine health management with emphasis on identifying potential problems at an early stage, causes and prevention. Includes terminology to better communicate with health care practitioners and horse handling during routine health maintenance, first aid, and emergency situations.

COURSE CONTENT:
1. Basic equine anatomy and physiology
2. Clinical signs of equine disease
3. First aid
4. Orthopedic emergencies
5. Surgery and postoperative care of horses
6. Basic reproduction
7. Vaccinations and infectious disease control

LEARNING OUTCOMES:
1. Identify basic equine anatomy and physiology. (1)
2. Differentiate between three major categories of equine infectious diseases. (2,7)
3. Identify causes, diagnostic methods, and treatment of various diseases and illnesses. (2,5,7)
4. Define medical terminology relating to health and disease of equines. (2,6)
5. Explain special care considerations for newborn to aging horses. (2,6)
6. Perform first aid techniques on equines. (3-5)
7. Identify basic orthopedic emergencies in equines. (4)
8. Discuss postoperative care for equines. (3-5)
9. Explain the basic care and health of reproductive horses. (6)
10. Discuss immunizations and infectious disease control for equines. (2,7)
11. Administer medications and treatments for horses. (1-7)
12. Use skills necessary to interact with veterinarians during emergencies, routine exams, and treatments. (1-17)
2.000 Credit hours
2.000 Lecture hours
1.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Agriculture Science Department

AGE 122 - Principles of Equine Nutrition

COURSE DESCRIPTION:
AGE 122. Principles of Equine Nutrition (2). Principles of horse nutrition and its application to horse health. Includes the equine digestive system, functions of feeds, nutrient needs, protein, minerals, vitamins, water-soluble vitamins and rations. Emphasis on identifying potential problems at an early stage, causes and prevention. Two lecture.

COURSE CONTENT:
1. Equine digestive anatomy and physiology
2. Functions of feeds

3. Feed management practices
4. Nutrient needs
5. Diseases and ailments as they relate to nutrition
6. Henneke scoring system for body condition

LEARNING OUTCOMES:
1. Describe what constitutes good nutritional health in a horse. (1, 6)
2. Describe the anatomy and physiology of the digestive system. (1)
3. Explain nutritional requirements from newborn to senior horses. (3,4,6)
4. Identify feed management practices for individual horse requirements. (2-6)
5. Describe diseases and disorders related to nutrition (3-6)
6. Identify quality feed and recognize potential dangers. (4)

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 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:
AGE140. Equine Hoof Care (3). Basic anatomy and physiology of the legs and feet. Equine conformation, movement and performance. Basic horseshoeing trimming techniques. Three lecture.

COURSE CONTENT:
1. Anatomy of the lower limbs
2. Physiology of the lower limbs
3. Trimming and shoeing techniques
4. Relationship of anatomy and physiology to movement and performance
5. Equipment and products

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. Distinguish various shoes and alternative hoof wear by use and purpose. (5)
6. Identify equipment and products by name, use and purpose. (5)
7. Assess a horse for balance, soundness and performance. (3,4)
8. Evaluate proper trimming and horseshoeing for health and performance. (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 156 - Equine Grooming for Show and Health

COURSE DESCRIPTION:
AGE 156. Equine Grooming for Show and Health (2). Introduction to equine grooming. Includes grooming techniques, handling and tools for different horse breeds and horse shows as they apply to the equine industry. Two lecture. One lab.

COURSE CONTENT:
1. History and purpose of equine grooming
2. Clipping, trimming and braiding
3. Grooming tools, equipment, and products
4. General care such as bathing, blanketing, and hoof care
5. Grooming for health benefits
6. Grooming preparation for horse shows
7. Handling and restraint for safe grooming

LEARNING OUTCOMES:
1. Describe history and purpose of equine grooming. (1, 5)
2. Use techniques for safe handling and restraint while grooming a horse. (7)
3. Apply grooming, clipping, trimming, and braiding techniques as they relate to different horse breeds and horse shows. (2-4, 6,7)
4. Differentiate between tools, equipment, and products as they relate to health and show grooming. (3)
5. Organize products and equipment needed to properly set up a show tack stall. (6)
6. Use grooming skills to prepare a horse for photography or sale. (2-4, 6,7)
7. Choose proper hoof treatments for show and health. (4-7)
8. Identify health benefits of proper grooming. (5)
9. Identify the steps needed to bathe a horse. (4, 7)
10. Evaluate and choose appropriate horse coverings for health and show such as blankets, sheets, hoods, boots, and wraps. (4)

2.000 Credit hours
2.000 Lecture hours
1.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Agriculture Science Department

AGE 157 - Equine Event Planning and Management

COURSE DESCRIPTION:
AGE 157. Equine Event Planning and Management (2). Events management for the equine industry. Includes selection of event, marketing, budget, insurance, registration and facility selection. Two Lecture

COURSE CONTENT:
1. Event promotion and marketing
2. Facility selection and set-up
3. Choosing an event
4. Insurance and liability
5. Budgeting
6. Registration procedures
7. Volunteers and employees
8. Contracts/permits

LEARNING OUTCOMES:
1. Select an equine event or competition. (3)
2. Determine the budget to host a quality equine event. (2,5)
3. Design and implement a promotional campaign for a given event. (1)
4. Prep a facility for an event. (2)
5. Negotiate a contract agreement for rental of facilities. (2,4,8)
6. Design registration forms for an event. (6)
7. Evaluate and select appropriate liability insurance for an event. (4,8)
8. Present a complete plan for a specific event. (1-8)
9. Select personnel for specific positions and describe how to get and keep volunteers. (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

AGE 158 - Fundamentals of Trail Riding

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COURSE DESCRIPTION:
AGE158. Fundamentals of Trail Riding (2). Preparation of horse and rider for safe and enjoyable trail rides. Includes appropriate tack selection, trail first aid, etiquette of riding in groups, camping considerations, and trailering. On-campus use of trail obstacle course includes water crossing, teeter-totter, pedestal and bridges. Horse ownership required or contact instructor for lease option. Ability to transport horse to site required. One lecture. Two lab.

COURSE CONTENT:
1. Trailering, handling, loading, and transport of horses
2. Trail-specific tack and gear for horse and rider
3. Maneuvering trail obstacles
4. Trail etiquette and safety
5. Trail-specific first aid and kit design
6. Introduction to camping with horses

LEARNING OUTCOMES:
1. Identify and implement elements for safe transport of horses. (1)
2. Evaluate trail-specific tack and gear for horse and rider. (2)
3. Safely and efficiently maneuver a trail obstacle course. (3,4)
4. Explain basic trail first aid. (5)
5. Develop a trail-specific first aid kit. (5)
6. Identify horse camping considerations including camp selection and horse containment while camping. (6)
7. Develop a list of supplies for horse and rider for weekend camp trips. (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
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.

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 arena etiquette. (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, 3-8)

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 230 - Barn Management

COURSE DESCRIPTION:
AGE 230. Barn Management (2) (Fall). Basic skills of handling horses in a safe manner to complete daily job duties in a working barn. Stall cleaning/maintenance, daily feeding/rations, inventory, purchasing, record keeping, ethics, and client relations. One lecture Two lab.

COURSE CONTENT:
1. Grooming
2. Tack care and usage
3. Stall cleaning and maintenance
4. Safe horse handling
5. Business processes
6. Client relations
7. General horse condition and food/water quality
8. Ethics

LEARNING OUTCOMES:
1. Perform basic grooming for maintenance, health, and safety of horse. (1,4)
2. Identify different types and usage of tack and describe proper care, repair, cleaning, and storage of tack. (2,5)
3. Identify and safely apply all styles and methods of cleaning and maintaining stalls. (3-5)
4. Handle and restrain a horse safely in various situations, including haltering, escorting to turn-outs, wash racks and exercisers. (4)
5. Prepare inventory lists and purchase orders. (5)
6. Report business transactions and animal health data. (1,3,5)
7. Identify proper stall and horse conditions. (3,7)
8. Use communication skills with supervisors, clients, and co-workers. (6)
9. Describe and exhibit a strong work ethic, and ethical business practices. (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 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/GECCO)

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 (1rst Time), Dual Enrollment (Repeat), Lecture

Career & Technical Education Division
Agriculture Science Department

Course Attributes:
Diversity (DA/GECCO)

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 & Biological Science, Scientific (SL/GECCO)

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/GECCO)

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 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

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 (1rst 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 consistant 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 157 - Community Supported Agriculture

COURSE DESCRIPTION:
AGS 157. Community Supported Agriculture (3) (Fall). Production methods for scheduling crops for available space, seasonality, and customer need. Creation and implementation of plans for distribution and marketing sustainable, organic, and pesticide-free agriculture products. Two lecture. Three lab.

COURSE CONTENT:
1. Marketable crop identification
2. Facility benefits and limitations
3. Production scheduling
4. Harvest
5. Storage
6. Marketing
7. Pricing
8. Distribution
9. Packaging
10. Profit and loss
11. Growing methods

LEARNING OUTCOMES:
1. Formulate a growing, producing, marketing and distribution plan based on the resources available. (1-7)
2. Determine crops that have potential for sale in the region. (1,3,4,6)
3. Choose the best production system for a chosen crop promoting organic, pesticide-free, and sustainable crops. (11)
4. Experiment with different products, price, packaging and seasonality to break norms of conventional agriculture. (1, 3, 5-7)
5. Recommend production techniques to improve quality and marketability of agricultural products. (4)
6. Set prices on items as determined by industry. (5)
7. Track and report production goals. (3)
8. Track labor, supplies and facility costs. (10)
9. Develop a profit and loss statement for the season. (7, 10)
10. Amend production plans to meet the changing need of customer base. (3,4)
11. Classify crops by warm season or cool season. (1)
12. Utilize and develop unique packaging materials for ready-for-market products. (7)
13. Critique, customize and recommend growing methods for the production classes. (9)
14. Harvest crops at optimum times to ensure freshness and flavor. (4)
15. Store products to extend the distribution potential without reducing quality. (5)
16. Analyze and reflect on the season's production and make recommendations for the next. (2-11)

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 180 - Canine Behavior and Psychology I

COURSE DESCRIPTION:
AGS 180. Canine Behavior and Psychology I (2). Introduction to canine behavior in human society. Includes positive reinforcement training techniques, methods of affecting positive outcomes and compatible lifestyles between humans and canines, and an introduction to puppy development, dog breeds and canine body and behavioral language. Two lecture.

COURSE CONTENT:
1. Canine senses and behavior
2. Positive reinforcement training skills
3. Classifications and characteristics of dog breeds
4. Children and dog interactions
5. Canine management and equipment
6. Introduction to canine health care
7. Developmental 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. (2,5)
6. Recognize and apply techniques for general health and care of canines. (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 182 - Canine Behavior and Psychology II

COURSE DESCRIPTION:
AGS 182. Canine Behavior and Psychology II (2).). Psychology and behavior of canines along with training and observation skills applying positive reinforcement based concepts. 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, communication with humans and human to canine communication. 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. Communications between canine and human
8. Advanced handling and training skills

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. (3,8)
5. Develop strategies for changing emotional reactions in fearful dogs. (4,8)
6. Assess stress producing situations and design appropriate modifications. (5,8)
7. Apply contemporary neurobiological research to canine training and behavior modification. (6,8)
8. Use techniques for enhanced communication between human and canine. (2-8)
:9. Develop communication strategies for coaching individuals or groups regarding canine behavior. (7,8)
10. Apply advanced handling skills. (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 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Agriculture Science Department

AGS 184 - Canine Businesses

COURSE DESCRIPTION:
AGS 184. Canine Businesses (2). Communication skills with employees, and the general public related to canine activities to include: rescue groups, breeding, boarding, office or facility environments, and public events. Two lecture. (Spring Only)

COURSE CONTENT:
1. Canine related occupations and organizations
2. Communication skills
3. Veterinary related terms
4. General facility management
5. Documentation fo office, business or organizational needs
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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Agriculture Science Department

AGS 185 - Canine Public Skills

COURSE DESCRIPTION:
AGS 185. Canine Public Skills (2). Rules, ethics, laws, and training for dogs and handlers to test for therapy or service dog teams. Student/dog team training in a variety of public environments such as health facilities and businesses. Prerequisite: AGS 182 (may be taken concurrently). One lecture. Two Lab. (Spring Only)

COURSE CONTENT:
1. Basic canine training skills
2. Canine handling skills
3. Canine behavior expectations in health facilities and other businesses
4. Canine-to-canine greetings
5. Canine-to-human greetings
6. Communication in public while handling a dog
7. Traveling, camping, hiking and dog sports
8. Therapy, service and assistance dogs
9. Laws and ethics regarding assistance, service and therapy dogs

LEARNING OUTCOMES:
1. Apply basic canine training behavior skills. (1)
2. Use dog handling skills in public environments. (2-5)
3. Apply proper dog handling skills in health facilities and other businesses. (2,3)
4. Recognize and train proper canine-to-canine greetings. (1,2,4)
5. Recognize and train dogs polite approaches to humans. (1,2,5)
6. Communicate with people while handling a dog. (2,6)
7. Recognize and train proper canine manners and behaviors for traveling, camping, hiking and dog sport activities. (1,2,7)
8. Discuss the differences between assistance, service and therapy dogs. (8,9)
9. Discuss and evaluate the laws and ethics regarding assistance, service and therapy dogs. (9)

2.000 Credit hours
1.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture

Career & Technical Education Division
Agriculture Science Department

AGS 186 - Canine Sport Activities

COURSE DESCRIPTION:
AGS 186. Canine Sport Activities (2). Introduction to sport activities for canines such as agility, earth dog, fly ball, herding, obedience, rally, splash dog and tracking. Emphasis on rules and regulations for competition, health related issues, breeds and mixes best suited for selective sports, and local availability of canine sports. Includes preparatory handling skills and practice for sport dog activities. Field trips required. Prerequisite: AGS 180 (may be taken concurrently). One lecture. Two lab.

COURSE CONTENT:
1. Sport activities for canines
2. Local availability of canine sports
3. Handling skills and techniques
4. Competition rules and regulations
5. Breeds suited for various sports
6. Canine health related issues

LEARNING OUTCOMES:
1. Identify types of dog sports and determine their local availability. (1, 2)
2. Use handling skills and techniques required for dog sports. (3)
3. Explain rules and regulations for competing in dog sports. (4)
4. Identify, and explain reasons for, the breeds and breed mixes best suited for particular dog sports. (5)
5. Discuss health related issues for various dog sport activities. (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
Agriculture Science Department

AGS 200 - Summer Horticulture I

COURSE DESCRIPTION:
AGS 200. Summer Horticulture I (1) (Summer). Implementation and maintenance of environmentally responsible crops in the food producing industry. Emphasis on market scheduling, soil preparation, sowing and irrigation techniques. One lecture.

COURSE CONTENT:
1. Crop selection
2. Market scheduling
3. Composting and mulching
4. Cropping systems
5. Soils
6. Propagation
7. Fertility
8. Cultivation
9. Irrigation installation

10. Mechanization equipment

LEARNING OUTCOMES:
1. Select the most appropriate crops and define common varieties by season and location. (1)
2. Prepare and amend soils using compost and mulching techniques. (3)
3. Make recommendations on system improvements. (1-9)
4. Determine soil needs by analysis. (5)
5. Amend soils to improve fertility and water-holding capacity. (3-5,7,8)
6. Propagate plants successfully to meet a production schedule. (1,2,6)
7. Safely operate a tractor, tiller, and backpack sprayer. (10)
8. Implement sustainable organic and conventional growing practices. (1-9)
9. Choose appropriate irrigation methods and install systems. (9)
10. Create a production schedule based on market availability, space allocation, and consumer trends. (1,2)

1.000 Credit hours
1.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Agriculture Science Department

AGS 201 - Summer Horticulture II

COURSE DESCRIPTION:
AGS 201. Summer Horticulture II (1) (Summer). Cultivation and distribution of food crops for the local market demand. Hands on opportunities including research while assisting in implementing the crop production schedule. Focus is on hydroponic greenhouse production and control systems. One lecture.

COURSE CONTENT:
1. Harvesting
2. Marketing
3. Cropping systems
4. Fertility
5. Hydroponics
6. Control systems
7. Irrigation
8. Mechanization equipment
9. Pests: insects, weeds, and disease
10. Horticultural research
11. Compost and mulch

LEARNING OUTCOMES:
1. Plant and maintain hydroponic greenhouse food production crops. (3,5)
2. Manipulate computerized environmental control systems. (6)
3. Analyze data from student based research. (10)
4. Safely operate a tractor, tiller, and backpack sprayer. (8)
5. Facilitate creation of compost and mulch from manures and plant debris. (11)
6. Recommend irrigation schedule. (7)
7. Evaluate irrigation system efficiency. (7)
8. Utilize Integrated Pest Management to manage pest populations. (9)
9. Enhance finished product taste through proper harvesting and timing. (1)
10. Market crops and distribute through CSA and Farmers Market sales. (1,2)

1.000 Credit hours
1.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Agriculture Science Department

AGS 215 - Agricultural Mechanics

COURSE DESCRIPTION:
AGS 215. Agricultural Mechanics (3). Principles and operative skills in agriscience technology, including troubleshooting, maintenance, and repair of common agriculture tools and equipment. Emphasis on mig welding, electricity, concrete and mortar, pumps, engines and motors, and basic construction practicing OSHA safety standards. One and one-half lecture. Four and one-half lab.

COURSE CONTENT:
1. Mig welding and cutting torch operation
2. Tools and power tools
3. Construction fencing, concrete, forms, and mortar
4. Electrical wiring and fuses
5. Pump operation, troubleshooting, maintenance and repair
6. Small engine and equipment operation, troubleshooting, maintenance and repair
7. Safety standards

LEARNING OUTCOMES:
1. Produce durable mig welds when given specifications and raw materials. (1)
2. Utilize a cutting torch for project completion. (1)
3. Choose the best hand and/or power tool for the required task and support the decision. (2)
4. Operate hand tools and power tools safely and with proper care. (2,7)
5. Measure, lay out and create wooden forms for concrete construction applications. (3)
6. Identify concrete components and determine slump for various concrete applications. (3)
7. Plan, estimate and lay block and brick. (3)
8. Design, estimate, calculate materials and construct fencing projects. (3)
9. Wire sprinklers, timers and valves utilizing the proper gauged wire. (4)
10. Complete basic wiring of a light and test for functionality. (4)
11. Identify and replace fuses as needed in agricultural settings. (4)
12. Troubleshoot, disassemble, reassemble and repair pumps in agricultural settings. (5)
13. Diagnose and perform routine maintenance on agricultural equipment, including oil, filters, fuel, batteries and belts. (6)
14. Safely operate agriculture equipment, such as tractors, ATV's, mowers, tillers and sprayers. (6,7)

3.000 Credit hours
1.500 Lecture hours
4.500 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Agriculture Science Department

AGS 250 - Horticulture Science I

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 (IL/GECCO)

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/GECCO)

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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Agriculture Science Department

Course Attributes:
Oral Communication (OC/GECCO)

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/GECCO)

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, draintiles, 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/GECCO)

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/GECCO)

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. Health care careers
2. Historical and future trends in health care
3. Ethical and legal issues in health care
4. Introduction to health care terminology and mathematics
5. Organization of the human body
6. Stages of growth and development
7. Environmental safety and health considerations
8. Professional responsibilities and continuing education
9. Patients' emotional reactions to illness
10. Verbal and written communication skills
11. Computers and technology in health care
12. Emergency health care procedures
13. Health care reimbursement
14. Quality improvement and customer service
15. Health care employment preparedness
16. Diversity and culture in health care

LEARNING OUTCOMES:
1. State the education, certification, registration and/or licensing requirements of health care occupations. (1)
2. Describe trends in health care and their effects on client care. (2)
3. Identify ethical and legal issues in the health care setting. (3)
4. Break down medical terms into their component parts and interpret the terms correctly. (4)
5. Perform basic math calculations on whole numbers, decimals, fractions, percentages and ratios. (4)
6. Describe primary anatomy, directional terms and anatomical positions. (5)

7. Describe the basic milestones for each developmental stage. (6)
8. Employ environmental safety and infection control procedures in the health care setting. (7)
9. Explain the role of the health care worker within the medical system. (1,2,8)
10. Describe patients' emotional reaction to illness. (9)
11. Utilize communication skills with patients and other health care team members. (8,10,16)
12. Describe how computers and technology are used in various areas of health care. (11)
13. Explain precautions that the health care professional can take to ensure computer security. (10,11)
14. Describe the seven steps to follow when an emergency occurs that will protect both the patient and health care professional. (12)
15. Identify types of health care reimbursement. (13)
16. Describe the elements of quality assessment and performance improvement program. (14)
17. Prepare a resume and employment application. (1,8,15)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Science, Health, Public Safety 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 (HIPPA)
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 in produres. (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

Science, Health, Public Safety 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 and MAT 082 (or a satisfactory score on the mathematics skills assessment). 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Science, Health, Public Safety 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
12. Diversity and culture in health care

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. (3-6,12)
5. Administrate medical office. (3,7)
6. Manage medical records. (7,8)
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

Science, Health, Public Safety 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 140 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

Science, Health, Public Safety 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 suffices, 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 metal 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 (1rst Time), Dual Enrollment (Repeat), Lecture

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Scientific (SL/GECCO)

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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Allied Health Services Department

AJS 101 - Introduction to Administration of Justice

COURSE DESCRIPTION:
AJS 101. Introduction to Administration of Justice (3). SUN **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

Business, Ed, & Social Science Division
Administration of Justice Department

Course Attributes:
Oral Communication (OC/GECCO), Written Comm (WC/GECCO), 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Administration of Justice Department

AJS 109 - Substantive Criminal Law

COURSE DESCRIPTION:
AJS 109. Substantive Criminal Law (3). Nature, origins, purposes, structure and operation of the American criminal justice system. Constitutional limitations. Classification and basic elements of crimes. Common defenses to crimes. Three lecture.

COURSE CONTENT:
1. Origins and structure of the criminal justice system
2. Constitutional limitations on American criminal law
3. Classification and basic elements of crimes
4. Defenses to crime
5. Punishment and sentencing for crime
6. Types of crimes including: homicide and other crimes against persons; crimes against habitation and other crimes against property; white collar and public order crimes; drug- and alcohol-related crimes; obstruction of justice and organized crime

LEARNING OUTCOMES:
1. Explain the origins and structure of the American criminal justice system. (1)
2. Identify the primary constitutional limits on American criminal law. (2)
3. List the classifications and basic elements of crimes. (3)
4. Identify the general defenses to criminal liability. (4)
5. Describe basic issues of criminal punishment and sentencing. (5)
6. Apply the elements of specific types of crimes to given fact patterns to determine if crimes have been committed. (6)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Syllabus Available
Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Administration of Justice Department

Course Attributes:
Critical Thinking (CT/GECCO)

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 he 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

Business, Ed, & Social Science Division
Administration of Justice Department

Course Attributes:
Critical Thinking (AGEC), Critical Thinking (CT/GECCO)

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

Business, Ed, & Social Science 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Administration of Justice Department

Course Attributes:
Quantitative Lit (QL/GECCO), Scientific (SL/GECCO)

AJS 192 - Serial Killers and Mass Murderers

COURSE DESCRIPTION:
AJS 192. Serial Killers and Mass Murderers (3). Motives, methods and states of mind of both serial killers and mass murderers. Includes profiling of these killers and their victims, as well as theories of causation. Three lecture. (Spring Only)

COURSE CONTENT:
1. Profiles of serial killers and mass murderers
2. The mind and motives of a serial killer
3. The mind and motives of a mass murderer
4. Theories of causation of serial and mass murderers
5. Victimology of serial and mass murderers
6. Media and public fascination with serial and mass murderers

LEARNING OUTCOMES:
1. 1. Compare and contrast the profiles of serial killers and mass murderers. (1)
2. Analyze the mind and motives of a serial killer and a mass murderer. (2,3)
4. Explain theories of causation of serial and mass murderers. (4)
5. Describe the victimology of serial and mass murderers. (5)
6. Discuss media and public fascination with serial and mass murderers. (6)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Lecture

Business, Ed, & Social Science Division
Administration of Justice Department

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

Business, Ed, & Social Science Division
Administration of Justice Department

Course Attributes:
Creative Thinking (CR/GECCO)

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

Business, Ed, & Social Science Division
Administration of Justice Department

Course Attributes:
Diversity (DA/GECCO)

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

Business, Ed, & Social Science Division
Administration of Justice Department

Course Attributes:
Digital Lit (DL/GECCO), Info Literacy (IL/GECCO)

AJS 226 - Victimology and Crisis Intervention

COURSE DESCRIPTION:
AJS 226. Victimology and Crises Intervention (3). The study of victims of crime, including reasons that some individuals are victimized and the legal protections afforded to victims. Includes crisis interventions by the criminal justice system to assist victims and their families. Three lecture.

COURSE CONTENT:
1. The study of victims of crime
2. Reasons some individuals are victimized
3. Legal protections afforded to victims of crime
4. Crisis interventions by the criminal justice system
5. Counseling and community services for victims of crime and their families

LEARNING OUTCOMES:
1. Define Victimology. (1)
2. Explain why some individuals are victimized. (2)
3. Analyze the legal protections afforded to victims of crime. (3)
4. Identify and describe various crisis interventions by the criminal justice system following crimes such as murder, sexual assault, domestic violence and child abuse. (4)
5. Discuss the role of counseling and community services for victims of crime and their families. (5)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Lecture

Business, Ed, & Social Science Division
Administration of Justice Department

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

Business, Ed, & Social Science Division
Administration of Justice Department

Course Attributes:
Civic Engagement (CE/GECCO)

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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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 Unites 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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 delecti 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture, Lecture/Lab

Science, Health, Public Safety 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science Division
Social Sciences Department

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) (SS1)
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) (SS5)
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) (SS2)
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) (SS4)

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. Discuss and use key elements and terminology relevant to the study of the supernatural in the context of life crises and healing. (1-16) (SS3)

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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Ethnic, Race & Gender, Social Science (AGEC)

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 thins 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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. (1-11l; 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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), Ethnic, Race & Gender, Social Science (AGEC)

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

Business, Ed, & Social Science 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

Business, Ed, & Social Science Division
Social Sciences Department

ART 110 - Drawing I

COURSE DESCRIPTION:

ART 110. Drawing I (3). [SUN#]**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

Arts & Humanities 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 deign.
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

Arts & Humanities Division
Visual Art Department

ART 112 - Two-Dimensional Design

COURSE DESCRIPTION:
ART 112. Two-Dimensional Design (3). **SUN#ART 1112 .** 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 teh fine rts or crafts. (6)
7. Use media specifric 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
SUN# ART 1112

ART 113 - Three-Dimensional Design

COURSE DESCRIPTION:
ART 113. Three-Dimensional Design (3) (Spring). SUN#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

Arts & Humanities 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Critical Thinking (CT/GECCO)

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

Arts & Humanities 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. Coiling
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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Civic Engagement (CE/GECCO)

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 and ART 137. 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Digital Lit (DL/GECCO)

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 contemorary 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Info Literacy (IL/GECCO)

ART 139 - Fundamentals of Video Editing and DVD Authoring

COURSE DESCRIPTION:
ART 139. Fundamentals of Video Editing (3). Basic techniques of capturing, editing, and distributing video content.
Hands-on application of techniques for digital video; editing vocabulary; and sharing digital video. One lecture. Two
lab.

COURSE CONTENT:
1. Digital cameras and media
2. Aesthetic and technical digital media vocabulary
3. Computer video systems
4. Computer editing software
5. Computer audio software
6. Video graphics and filters
7. Media distribution
8. Video examples
9. Formal elements and principles of design
10. Historical and contemporary art examples
11. Critique

LEARNING OUTCOMES:

1. Operate cameras, capture, and organize digital media. (1,3,4)
2. Analyze videos and express informed opinion about technical and aesthetic properties using basic vocabulary of motion media. (2,8)
3. Use audio software to accompany video. (5,8)
4. Develop and create videos. (1,3,4,8)
5. Identify components of computer video editing systems. (4-6,8)
6. Distribute media. (7)
7. Choose graphic elements and video filters to stabilize and visually support video. (6)
8. Compare and contrast types and quality of video content. (2,8)
9. Identify, analyze, and utilize the formal elements and principles of design. (9,11)
9. Recognize historical or contemporary examples of the fine arts or crafts. (8,10)
11. Use media specific terminology to critique and evaluate works of art. (2, 11)

REQUIRED ASSESSMENT:
1. Develop and edit at least one video
2. 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Written Comm (WC/GECCO)

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

Arts & Humanities 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

Arts & Humanities 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. Polish
8. Formal elements and principles of design
9. Historical and contemporary art examples
10. 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. Dop and create a cabochon suitable for setting. (5)
6. Create should and dome for cabochon. (6)
7. Polish various and specific materials. (8)
8. Identify, analyze and utilize the formal elements and principles of design. (9)
9. Recognize historical or contemporary examples of the fine arts or crafts. (10)
10. 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

Arts & Humanities 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

Arts & Humanities 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 arat 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

Arts & Humanities 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 revival project design and conventions
3. Layout and measurement
4. Layout and cutting of mortise and tenon or biscuit joints
5. Wood carving and hand planes
6. Glues and finishes
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Critique

LEARNING OUTCOMES:
1. Use 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 mortise and tenon joints or modern biscuit joinery. (4)
5. Use hand planes and chisels. (5)
6. Apply glues and finishes. (6)
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

Arts & Humanities 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. Harvested wood
7. Lidded containers
8. Sanding and finishing techniques
9. Adhesives
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. Sharpen tools. (2)
3. Apply cutting theory. (3)

4. Use wood characteristics in turnings. (4)
5. Use turning between centers. (5)
6. Use harvested wood for turnings. (6)
7. Create turned lidded containers. (7)
8. Use sanding and finishing techniques. (8)
9. Use adhesives. (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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities Division
Visual Art Department

ART 154 - Digital Photography I

COURSE DESCRIPTION:
ART 154. Beginning Digital Photography (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 i record keeping and organization. (20)
21. Identify, analyze and utilize the formal elements and principles of design. (21)

4/24/2015   Course Outlines

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

Arts & Humanities 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

Arts & Humanities Division
Visual Art Department

https://arthur.yc.edu/MYSSB/bwckctlg.p_display_courses   93/691

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

Arts & Humanities 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/combination 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

Arts & Humanities 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

Arts & Humanities Division
Visual Art Department

ART 177 - 3D Tools for Digital Art

3.000 Credit hours
2.000 Lecture hours
4.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Arts & Humanities 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. Finishing techniques, surfaces using color and texture

8. Armatures
9. Mold Making (waste mold or piece mold)
10. Sketchbook
11. Formal elements and principles of design
12. Historical and contemporary art examples
13. Critique

LEARNING OUTCOMES:
1. Use tools and materials safely. (1)
2. Use clay and plaster. (2)
3. Employ additive processes. (3)
4. Employ subtractive processes. (4)
5. Create relief and sculpture in the round. (5)
6. Create representational and abstract sculptures. (6)
7. Use finish techniques, investigate surfaces using color and texture. (7)
8. Construct and employ armature devices. (8)
9. Apply mold making (waste mold or piece mold) for sculpture reproduction. (9)
10. Compile ideas and images for sculptures in a sketchbook. (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 tocritique 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

Arts & Humanities 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

Arts & Humanities 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. Cutting and piercing metal
3. Joining metal components of a sculpture using butt, lap and tee joints
4. Assemblage construction methods and cold connections
5. Mechanical finishes, chemical and heat patinas
6. Relief and sculpture in the round constructed from metal
7. Sketchbook
8. Formal elements and principles of design
9. Historical and contemporary art examples
10. Critique

LEARNING OUTCOMES:
1. Use tools and equipment safely. (1)
2. Use various processes to cut and pierce metal. (2)
3. Use welding processes to join metal components of a sculpture using butt, lap and/or tee joints. (3)
4. Incorporate assemblage processes and cold connections. (4)
5. Apply mechanical, chemical and/or heat patinas.(5)
6. Create free standing and relief metal sculptures. (6)
7. Compile ideas for sculpture in a sketchbook. (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.

3.000 Credit hours
1.000 Lecture hours
5.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Arts & Humanities 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. Cutting, welding and assemblage techniques
3. Mechanical finishes and chemical patination of metal
4. Relief and sculpture in the round constructed from metal
5. Personal imagery
6. Sketchbook
7. Formal elements and principles of design
8. Historical and contemporary art examples
9. Vocabulary and critique

LEARNING OUTCOMES:
1. Utilize tools and equipment safely. (1-4)
2. Incorporate cutting, welding and assemblage techniques. (1, 2, 4)
3. Employ finish applications. (1, 3)
4. Create free standing and relief metal sculptures. (1, 2, 4, 5, 7)
5. Expand personal imagery in metal sculptures. (4, 5)
6. Compile and enhance ideas for sculpture in a sketchbook. (5, 6)
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

Arts & Humanities 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

Arts & Humanities 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 vocabularyof 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 though 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 termninology 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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 an devaluate 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

Arts & Humanities 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

Arts & Humanities Division
Visual Art Department

ART 200 - Art History I

COURSE DESCRIPTION:
ART 200. Art History I (3). **SUN⊞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 though 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Arts & Humanities (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender, Global/Internl or Historical, Intensive Writing, Written Comm (WC/GECCO), SUN# ART 1101

ART 201 - Art History II

COURSE DESCRIPTION:
ART 201. Art History II (3). **SUN# 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 though 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Arts & Humanities (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender, Global/Internl or Historical, Intensive Writing, Written Comm (WC/GECCO), 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 though 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Arts & Humanities (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender, Global/Internl or Historical, Intensive Writing, Written Comm (WC/GECCO)

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 though 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Arts & Humanities (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender, Global/Internl or Historical, Intensive Writing, Written Comm (WC/GECCO)

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

Arts & Humanities 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

Arts & Humanities 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 pjrinciples 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

Arts & Humanities 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: Additional Activity, Lab, Lecture, Lecture/Lab

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Scientific (SL/GECCO)

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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities Division
Visual Art Department

Course Attributes:
Quantitative Lit (QL/GECCO)

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

Arts & Humanities 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. Specialized cutting techniques for rare materials
4. Formal elements and principles of design
5. Historical and contemporary art examples
6. Critique

LEARNING OUTCOMES:
1. Use tools and equipment safely.
2. Identify raw materials suitable for various and specific manipulations and alterations.
3. Cut specialized rare materials.
a. Textured structure stones.
b. Matched pairs.
c. Opal, fire agate, and jade.
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.

2.000 Credit hours
1.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Arts & Humanities 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 arat 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

Arts & Humanities 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 pjrinciples 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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 princples 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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 arats 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

Arts & Humanities 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, singing 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

Arts & Humanities 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 pjrinciples 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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.

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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Automotive Technology Department

Course Attributes:
Civic Engagement (CE/GECCO), Info Literacy (IL/GECCO)

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. Dielel 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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lab, Lecture,
Lecture/Lab

Career & Technical Education Division
Automotive Technology Department

Course Attributes:
Diversity (DA/GECCO), Digital Lit (DL/GECCO)

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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture,
Lecture/Lab

Career & Technical Education Division
Automotive Technology Department

Course Attributes:
Creative Thinking (CR/GECCO), Quantitative Lit (QL/GECCO)

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. Candie 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 candie paints. (3)
4. Apply metal flakes. (4)
5. Apply transparents and translucents. (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. Nonstructrual 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 nonstructual 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Automotive Technology Department

Course Attributes:
Oral Communication (OC/GECCO), Written Comm (WC/GECCO)

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/GECCO)

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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Automotive Technology Department

Course Attributes:
Info Literacy (IL/GECCO)

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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Automotive Technology Department

Course Attributes:
Scientific (SL/GECCO)

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/GECCO)

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/GECCO), Diversity (DA/GECCO)

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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Automotive Technology Department

Course Attributes:
Quantitative Lit (QL/GECCO)

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/GECCO)

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/GECCO)

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/GECCO)

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 (DVOM's) 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, DVOM's 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/GECCO)

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/GECCO)

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/GECCO)

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. Student will complete 26.5 dual flight hours; 4 hours of Advanced Aircraft Training Device (AATD); and 1 hour of solo flight. 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. Student will complete 26.5 dual flight hours; 4 hours of Advanced Aircraft Training Device (AATD); and 7 hours of solo flight. 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:
Private Pilot Airplane Practical Test-Private Pilot Certificate Airplane Single-Engine Land.
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/GECCO)

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/GECCO)

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/GECCO)

AVT 111A - Private Pilot Helicopter Flight I - R22

COURSE DESCRIPTION:
AVT 111A. Private Pilot Helicopter Flight I - R22 (2). Fundamentals of basic helicopter operations. Includes one-on-
one supervised solo flights. Prerequisite: Admission to program. Four 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. Recite dead reckoning, pilotage, and radio navigation procedures. (6)
6. Discuss appropriate responses to simulated emergencies. (7)
7. Identify common issues surrounding night flying. (2, 8)
8. Repeat engine and aircraft shutdown procedures. (9)

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 28.3
Advanced Aviation Training Device (AATD): 0
Solo: 1.7
Pilot Briefing: 23
Examiner: 0
Simulations: 0
Check-Ride Flight Time: 0
Pre/Post Flight Inspection: 8
Cross-Couhtry Planning: 1
Weather/NOTAMS: 5

2.000 Credit hours
0.000 Lecture hours
4.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 111B - Private Pilot Helicopter Flight I - R44

COURSE DESCRIPTION:
AVT 111B. Private Pilot Helicopter Flight I - R44 (2). Fundamentals of basic helicopter operations. Includes one-on-one supervised solo flights. Prerequisite: Admission to program. Four 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. Recite dead reckoning, pilotage, and radio navigation procedures. (6)
6. Discuss appropriate responses to simulated emergencies. (7)
7. Identify common issues surrounding night flying. (2, 8)
8. Repeat engine and aircraft shutdown procedures. (9)

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 28.3
Advanced Aviation Training Device (AATD): 0
Solo: 1.7
Pilot Briefing: 23
Examiner: 0
Simulations: 0
Check-Ride Flight Time: 0
Pre/Post Flight Inspection: 8
Cross-Couhtry Planning: 1
Weather/NOTAMS: 5

2.000 Credit hours
0.000 Lecture hours
4.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 112A - Private Pilot Helicopter Flight II - R22

COURSE DESCRIPTION:
AVT 112A. Private Pilot Helicopter Flight II - R22 (4). 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 109 and AVT 111A. Eight 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. Complete aircraft and engine shutdown procedures. (9)

REQUIRED ASSESSMENT: Prepares students to complete FAA Private Pilot Helicopter Exam

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 28.5
Advanced Aviation Training Device (AATD): 0

Solo: 3.3
Examiner: 5
Simulations: 0
Check-Ride Flight Time: 2.2
Pre/Post Fligth Inspection: 12
Cross-Coutnry Planning: 15
Weather/NOTAMS: 10

4.000 Credit hours
0.000 Lecture hours
8.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 112B - Private Pilot Helicopter Flight II - R44

COURSE DESCRIPTION:
AVT 112B. Private Pilot Helicopter Flight II - R44 (4). 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 109 and AVT 111B. Eight 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. Complete aircraft and engine shutdown procedures. (9)

REQUIRED ASSESSMENT: Prepars students to complete FAA Private Pilot Helicopter Exam

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 28.5
Advanced Aviation Training Device (AATD): 0
Solo: 3.3
Examiner: 5
Simulations: 0
Check-Ride Flight Time: 2.2
Pre/Post Fligth Inspection: 12
Cross-Coutnry Planning: 15
Weather/NOTAMS: 10

4.000 Credit hours
0.000 Lecture hours

8.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, 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
2.000 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 AVT 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/GECCO), Scientific (SL/GECCO)

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. Student will complete 42 dual flight hours and 20 hours of Advanced Aircraft Training Device (AATD). 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. Instrument Practical Test-Instrument Airplane Rating.

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/GECCO)

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/GECCO)

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. Prerequisite: AVT 110 and AVT 112A or 112B and AVT 113. Two 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)

APPROXIMATE FLIGHT HOURS:

Dual Instruction: 0
Advanced Aviation Training Device (AATD): 0
Solo: 0
Pilot Briefing: 5
Examiner: 0
Simulations: 25
Check-Ride Flight Time: 0
Pre/Post Flight Inspection: 0
Cross-Country Planning: 0
Weather/NOTAMS: 0

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 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 and AVT 112A or 112B and AVT 113. Four 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
4.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Aviation Department

Course Attributes:
Scientific (SL/GECCO)

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: AVT 120. Eight 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:
Prepares student to complete FAA Instrument Pilot Exam.

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 28.8
Advanced Aviation Training Device (AATD): 16
Solo: 0
Pilot Briefing: 36
Examiner: 5
Simulations: 0
Check-Ride Flight Time: 2.2
Pre/Post Flight Inspection: 12
Cross-Country Planning: 15
Weather/NOTAMS: 10

4.000 Credit hours
0.000 Lecture hours
8.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 122 - Fundamentals of Air Traffic Control

COURSE DESCRIPTION:
AVT 122. Fundamentals of Air Traffic Control (3). 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. Two lecture. Two 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)

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
Aviation Department

AVT 123 - Air Traffic Control Tower Procedures

COURSE DESCRIPTION:
AVT 123. Air Traffic Control Tower Procedures (3). Duties and responsibilities of each position in a typical Federal Aviation Administration (FAA) control tower. Includes Facility Letters of Agreements, Facility Standard Operating Procedures, and the duties and responsibilities of a Tower Controller as outlined in FAA orders. Prerequisite: AVT 122. Two lecture. Two lab.

COURSE CONTENT:
1. Control tower procedures
2. Air Traffic Control (ATC) rules and regulations
3. ATC phraseology

LEARNING OUTCOMES:
1. Describe controller positions and responsibilities in the control tower. (1)
2. Describe the requirements of FAA JO 7110.65 as applied to the tower environment. (2)
3. Use standard phraseology in typical scenarios confronted by air traffic controllers in a tower. (3)
4.Apply separation minima between aircraft in typical scenarios occurring in the ATC environment. (2)
5. Apply correct procedures to deal with wake turbulence situations. (2)

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
Aviation Department

AVT 124 - Fundamentals of Air Traffic Control Radar Operation

COURSE DESCRIPTION:
AVT 124. Fundamentals of Air Traffic Control Radar Operation (3). 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: AVT 122 and AVT 123. Two lecture. Two 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)

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
Aviation Department

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: AVT 104 or AVT 109. 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: (AVT 104 and AVT 105) or (AVT 109 and AVT 110). 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: Admission to program and 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. NOTASM: "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/GECCO), Creative Thinking (CR/GECCO)

AVT 201 - Aviation Management

COURSE DESCRIPTION:
AVT 201. Aviation Management (3). Introduction tot he 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 115 and AVT 116 and AVT 214. 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 115 and AVT 116 and AVT 204 and AVT 214. 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/GECCO), Written Comm (WC/GECCO)

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. Student will complete 25 dual flight hours; 4.8 hours of Advanced Aircraft Training Device (AATD); and 50 hours of

solo flight. Prerequisite: AVT 115 and AVT 116 and AVT 214. 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:
Commercial Pilot Airplane Practical test-Commercial Pilot Certificate Airplane Single-Engine Land..

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. Student will complete 43 dual flight hours; 8 hours of Advanced Aircraft Training Device (AATD); and 18 hours of solo flight. Prerequisite: AVT 115 and AVT 116 and AVT 204 and AVT 206 and AVT 214. 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:
Commercial Pilot Airplane Practical test-Commercial Pilot Certificate Airplane Multi-Engine Land.

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/GECCO)

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)

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/GECCO)

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 209. 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/GECCO)

AVT 211A - Commercial Pilot Helicopter Flight I - R22

COURSE DESCRIPTION:
AVT 211A. Commercial Pilot Helicopter Flight I - R22 (3). Advanced helicopter flight operations and navigation, including mountain flying techniques. Preparation for Federal Aviation Administration commercial pilot oral and practical test. Prerequisite: AVT 209 (may be taken concurrently) and AVT 112A (may be taken concurrently). Six 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)

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 34
Advanced Aviation Training Device (AATD): 0
Solo: 0
Pilot Briefing: 22
Examiner: 5
Simulations: 0
Check-Ride Flight Time: 0
Pre/Post Flight Insepction: 12
Cross-Country Planning: 10
Weather/NOTAMS: 10

3.000 Credit hours
0.000 Lecture hours
6.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 211B - Commercial Pilot Helicopter Flight I - R44

COURSE DESCRIPTION:
AVT 211B. Commercial Pilot Helicopter Flight I - R44 (3). Advanced helicopter flight operations and navigation, including mountain flying techniques. Preparation for Federal Aviation Administration commercial pilot oral and practical test. Prerequisite: AVT 209 (may be taken concurrently). Six 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)

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 34
Advanced Aviation Training Device (AATD): 0
Solo: 0
Pilot Briefing: 22
Examiner: 5
Simulations: 0
Check-Ride Flight Time: 0
Pre/Post Flight Insepction: 12
Cross-Country Planning: 10
Weather/NOTAMS: 10

3.000 Credit hours
0.000 Lecture hours
6.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 211C - Commercial Pilot Helicopter Flight I - Turbine

COURSE DESCRIPTION:
AVT 211C. Commercial Pilot Helicopter Flight I - Turbine (3). Advanced helicopter flight operations and navigation, including mountain flying techniques. Preparation for Federal Aviation Administration commercial pilot oral and practical test. Prerequisite: AVT 209 (may be taken concurrently). Six 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)

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 34
Advanced Aviation Training Device (AATD): 0
Solo: 0
Pilot Briefing: 22
Examiner: 5
Simulations: 0
Check-Ride Flight Time: 0
Pre/Post Flight Insepction: 12
Cross-Country Planning: 10
Weather/NOTAMS: 10

3.000 Credit hours
0.000 Lecture hours
6.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 212A - Commercial Pilot Helicopter Flight II - R22

COURSE DESCRIPTION:
AVT 212A. Commercial Pilot Helicopter Flight II - R22 (3). Advanced helicopter flight operations and navigation, including mountain flying techniques. Preparation for Federal Aviation Administration commercial pilot oral and practical test. Prerequisite: AVT 210 (may be taken concurrently) and AVT 211A (may be taken concurrently). Six 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:
Prepares students to complete FAA Commercial Helicopter Pilot Exam

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 32.8
Advanced Aviation Training Device (AATD): 0
Solo: 0
Pilot Briefing: 28
Examiner: 5
Simulations: 0
Check-Ride Flight Time: 2.2
Pre/Post Flight Inspection: 14
Cross-Coutnry Planning: 8
Weather/NOTAMS: 11

3.000 Credit hours
0.000 Lecture hours

6.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 212B - Commercial Pilot Helicopter Flight II - R44

COURSE DESCRIPTION:
AVT 212B. Commercial Pilot Helicopter Flight II - R44 (3). Advanced helicopter flight operations and navigation, including mountain flying techniques. Preparation for Federal Aviation Administration commercial pilot oral and practical test. Prerequisite: AVT 210 (may be taken concurrently) and AVT 211B (may be taken concurrently). Six 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:
Prepares students to complete FAA Commercial Helicopter Pilot Exam

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 32.8
Advanced Aviation Training Device (AATD): 0
Solo: 0
Pilot Briefing: 28
Examiner: 5
Simulations: 0
Check-Ride Flight Time: 2.2
Pre/Post Flight Inspection: 14
Cross-Coutnry Planning: 8
Weather/NOTAMS: 11

3.000 Credit hours
0.000 Lecture hours
6.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 212C - Commercial Pilot Helicopter Flight II - Turbine

COURSE DESCRIPTION:
AVT 212C. Commercial Pilot Helicopter Flight II - Turbine (3). Advanced helicopter flight operations and navigation, including mountain flying techniques. Preparation for Federal Aviation Administration commercial pilot oral and

practical test. Prerequisite: AVT 210 (may be taken concurrently) and AVT 211C (may be taken concurrently). Six 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:
Prepares students to complete FAA Commercial Helicopter Pilot Exam

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 32.8
Advanced Aviation Training Device (AATD): 0
Solo: 0
Pilot Briefing: 28
Examiner: 5
Simulations: 0
Check-Ride Flight Time: 2.2
Pre/Post Flight Inspection: 14
Cross-Coutnry Planning: 8
Weather/NOTAMS: 11

3.000 Credit hours
0.000 Lecture hours
6.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, 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: 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/GECCO)

AVT 215 - Flight Instructor Airplane Ground

COURSE DESCRIPTION:
AVT 215. Flight Instructor Airplane Ground (2). Instructional strategies and planning, communications, student evaluation, the learning process and flight instructor responsibilities. Prerequisite: 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. Student will complete 25 dual flight hours. Prerequisite: AVT 205 and AVT 207. 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:
Certified Flight Instructor Practical Test-Flight Instructor Airplane Single Engine.

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/GECCO)

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: AVT 210 and AVT 212A or 212B or 212C and AVT 260. 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/GECCO)

AVT 221A - Flight Instructor Helicopter Flight - R22

COURSE DESCRIPTION:
AVT 221A. Flight Instructor Helicopter Flight - R22 (3). 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 220 (may be taken concurrently). Six 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:
Prepares students to complete FAA Flight Instructor Helicopter Exam

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 27.8
Advanced Aviation Training Device (AATD): 0
Solo:0
Pilot Briefing: 30
Examiner: 7
Simulations: 0
Check-Ride Flight Time: 2.2
Pre/Post Flight Inspection: 10
Cross-Country Planning: 6
Weather/NOTAMS: 9

3.000 Credit hours
0.000 Lecture hours
6.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 221B - Flight Instructor Helicopter Flight - R44

COURSE DESCRIPTION:
AVT 221B. Flight Instructor Helicopter Flight - R44 (3). 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 220 (may be taken concurrently). Six 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:
Prepares students to complete FAA Flight Instructor Helicopter Exam

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 27.8
Advanced Aviation Training Device (AATD): 0
Solo:0
Pilot Briefing: 30
Examiner: 7
Simulations: 0
Check-Ride Flight Time: 2.2
Pre/Post Flight Inspection: 10
Cross-Country Planning: 6
Weather/NOTAMS: 9

3.000 Credit hours
0.000 Lecture hours
6.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

AVT 221C - Flight Instructor Helicopter Flight - Turbine

COURSE DESCRIPTION:
AVT 221C. Flight Instructor Helicopter Flight - Turbine (3). 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 220 (may be taken concurrently). Six 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:
Prepares students to complete FAA Flight Instructor Helicopter Exam

APPROXIMATE FLIGHT HOURS:
Dual Instruction: 27.8
Advanced Aviation Training Device (AATD): 0
Solo:0
Pilot Briefing: 30
Examiner: 7
Simulations: 0
Check-Ride Flight Time: 2.2
Pre/Post Flight Inspection: 10
Cross-Country Planning: 6
Weather/NOTAMS: 9

3.000 Credit hours
0.000 Lecture hours
6.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

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 205 and AVT 207. 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. Student will complete 15 dual flight hours and 15 hours of Advanced Aircraft Training Device (AATD). Prerequisite: AVT 205 and AVT 207. 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:
Certified Fight Instructor Practical Test-Flight Instructor Instrument Airplane.

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 Prep (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 220. 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)

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. Prerequisite: AVT 230. Four 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:
Prepares students to complete the Flight Instructor Helicopter Exam.

APPROXIMATE FLIGHT HOURS:

Dual Instruction: 8.8
Advanced Aviation Training Device (AATD): 1
Solo: 0
Pilot Briefing: 18
Examiner: 5
Simulations: 1
Check-Ride Flight Time: 2.2
Pre/Post Flight Inspection: 3
Cross-Country Planning: 5
Weather/NOTAMS: 4

2.000 Credit hours
0.000 Lecture hours
4.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Career & Technical Education Division
Aviation Department

Course Attributes:
Oral Communication (OC/GECCO)

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. 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: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Aviation Department

Course Attributes:
Creative Thinking (CR/GECCO)

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 109. One-half lecture. One and 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. Replace and service batteries. (1-6)

1.000 Credit hours
0.500 Lecture hours
1.000 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: AVT 135. 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/GECCO)

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/GECCO)

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: AVT 105 or AVT 110. 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/GECCO), Diversity (DA/GECCO), Written Comm (WC/GECCO)

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 206. Two lab.

COURSE CONTENT:
1. Upset scenarios
2. National Transportation Sfety 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 206. 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)
REQUIRED ASSESSMENT:
High Altitude Endorsement.

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 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 210 and AVT 212. 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Science, Health, Public Safety Division
Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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 & Biological Science, Scientific (SL/GECCO)

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

Science, Health, Public Safety Division
Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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

Science, Health, Public Safety Division
Mathematics Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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

Science, Health, Public Safety Division

Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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 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

Science, Health, Public Safety Division
Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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

Science, Health, Public Safety Division
Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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. 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Science, Health, Public Safety Division
Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

BIO 181 - General Biology I

COURSE DESCRIPTION:
BIO 181. General Biology I (4). **SUN** **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

Science, Health, Public Safety Division
Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# BIO 1181

BIO 182 - General Biology II

COURSE DESCRIPTION:
BIO 182. General Biology II (4). **SUN#** **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

Science, Health, Public Safety Division
Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# BIO 1182

BIO 196 - Directed Research Biology

COURSE DESCRIPTION:
BIO 196. Directed Research: Biology (1-3). Faculty or mentor directed student research in an area of current scientific investigation culminating in a final report, paper, or presentation. Students will work in the lab or in the field to gain the intellectual, technical, and practical skills necessary to further the knowledge base in an area of scientific investigation with the objective of contributing to the professional body of scientific knowledge.

COURSE CONTENT:
1. Safety training relevant to the research area
2. Introduction to concepts and central themes in the research area
3. Methods of inquiry
4. Instrumental and laboratory 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. (1-4)
2. Maintain a permanent and timely record of research progress and results. (5-7)
3. Communicate the scope and detail of the project to others through written and verbal presentations. (6, and 7)
*There may be additional outcomes as appropriate to the specific research area. (1-7)

REQUIRED ASSESSMENT:
Professional laboratory notebook, including a log of research hours. Written, audio-visual, or verbal presentation of research outcomes.

1.000 TO 3.000 Credit hours
0.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Directed Research

Science, Health, Public Safety Division
Biological Sciences Department

BIO 201 - Human Anatomy and Physiology I

COURSE DESCRIPTION:
BIO 201. Human Anatomy and Physiology I (4). **SUN#** **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

Science, Health, Public Safety Division
Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# BIO 2201

BIO 202 - Human Anatomy and Physiology II

COURSE DESCRIPTION:
BIO 202. Human Anatomy and Physiology II (4). **SUN# 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

Science, Health, Public Safety Division
Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), 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

Science, Health, Public Safety Division
Biological Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Business Administration Department

Course Attributes:
Oral Communication (OC/GECCO), Written Comm (WC/GECCO)

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, Ed, & Social Science Division
Business Administration Department

Course Attributes:
Applied Communication/Writing, Written Comm (WC/GECCO)

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 (1rst Time), Dual Enrollment (Repeat), Lecture

Business, Ed, & Social Science 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, Ed, & Social Science Division
Business Administration Department

Course Attributes:
Creative Thinking (CR/GECCO)

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, Ed, & Social Science 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, Ed, & Social Science Division
Business Administration Department

BSA 118 - Practical Creative Thinking

COURSE DESCRIPTION:
BSA 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, Ed, & Social Science Division
Business Administration Department

Course Attributes:
Critical Thinking (AGEC)

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, Ed, & Social Science 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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Business, Ed, & Social Science 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 (1rst Time), Dual Enrollment (Repeat), Lecture

Business, Ed, & Social Science Division
Business Administration Department

Course Attributes:
Critical Thinking (CT/GECCO)

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, Ed, & Social Science 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, Ed, & Social Science 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 (1rst Time), Dual Enrollment (Repeat), Lecture

Business, Ed, & Social Science 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 (1rst Time), Dual Enrollment (Repeat), Lecture

Business, Ed, & Social Science Division
Business Administration Department

Course Attributes:
Scientific (SL/GECCO)

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, Ed, & Social Science Division
Business Administration Department

BSA 225 - Administrative Professional: 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. Utilize 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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Business, Ed, & Social Science 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, Ed, & Social Science 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, Ed, & Social Science Division
Business Administration Department

BSA 231 - Social Media Marketing

COURSE DESCRIPTION:
BSA 231. Social Media Marketing (3). Theory and practice in the use of social media in online marketing. Includes history of social media, preparation for social media marketing, and ways to engage with social media. Reviews platforms and marketing tools used to create social media campaigns. Three lecture.

COURSE CONTENT:
1. History and foundations of social media
2. Social media planning
3. Social media platforms
4. Social media campaigns
5. Ethics and social responsibility

LEARNING OUTCOMES:

1. Describe the history and foundations of social media. (1)
2. Describe social media planning. (2)
3. Analyze social media platforms. (3)
4. Create a social media campaign. (4)
5. Explain use of an online customer relationship management program. (4)
6. Analyze ethics and social responsibility in social media. (5)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Business Administration Department

Course Attributes:
Oral Communication (OC/GECCO)

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, Ed, & Social Science Division
Business Administration Department

Course Attributes:
Applied Communication/Comm., Oral Communication (OC/GECCO), Written Comm (WC/GECCO)

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, Ed, & Social Science Division
Business Administration Department

Course Attributes:
Diversity (DA/GECCO)

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, Ed, & Social Science Division
Business Administration Department

Course Attributes:
Info Literacy (IL/GECCO)

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, Ed, & Social Science Division
Business Administration Department

CHM 130 - Fundamental Chemistry

COURSE DESCRIPTION:
CHM 130. Fundamental Chemistry (4). **SUN# 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
c. 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

CHM 151 - General Chemistry I

COURSE DESCRIPTION:
CHM 151. General Chemistry I (5). **SUN#** **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 Valance 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# CHM 1151

CHM 152 - General Chemistry II

COURSE DESCRIPTION:
CHM 152. General Chemistry II (5) (Spring). **SUN#** **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 Gibb?s 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 chemistry1. 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# CHM 1152

CHM 196 - Directed Research Chemistry

COURSE DESCRIPTION:
CHM 196. Directed Research: Chemistry (1-3). Faculty or mentor directed student research in an area of current scientific investigation culminating in a final report, paper, or presentation. Students will work in the lab or in the field to gain the intellectual, technical, and practical skills necessary to further the knowledge base in an area of scientific investigation with the objective of contributing to the professional body of scientific knowledge.

COURSE CONTENT:
1. Safety training relevant to the research area
2. Introduction to concepts and central themes in the research area
3. Methods of inquiry
4. Instrumental and laboratory 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. (1-4)
2. Maintain a permanent and timely record of research progress and results. (5-7)
3. Communicate the scope and detail of the project to others through written and verbal presentations. (6, and 7)
*There may be additional outcomes as appropriate to the specific research area. (1-7)

REQUIRED ASSESSMENT:
Professional laboratory notebook, including a log of research hours. Written, audio-visual, or verbal presentation of research outcomes.

1.000 TO 3.000 Credit hours
0.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Directed Research

Science, Health, Public Safety Division
Biological Sciences Department

CHM 235 - General Organic Chemistry I

COURSE DESCRIPTION:
CHM 235. General Organic Chemistry I (4) (Fall). **SUN#** **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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# CHM 2235

CHM 235L - General Organic Chemistry I Lab

COURSE DESCRIPTION:
CHM 235L. General Organic Chemistry I Lab (1) (Fall). 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 comuter 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# CHM 2235

CHM 236 - General Organic Chemistry II

COURSE DESCRIPTION:
CHM 236. General Organic Chemistry II (4) (Spring).   **SUN#**   **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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# CHM 2236

CHM 236L - General Organic Chemistry II Lab

COURSE DESCRIPTION:
CHM 236L. General Organic Chemistry II Lab (1) (Spring). **SUN#** **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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Foundation Studies Division
College Honors Program Department

Course Attributes:
Critical Thinking (AGEC), Critical Thinking (CT/GECCO)

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

Foundation Studies 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

Foundation Studies Division
College Honors Program Department

CNC 101 - CNC Machine Operator

COURSE DESCRIPTION:
CNC 101. CNC Machine Operator (2). Basic principles and operative skills in the operation of CNC milling machine 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 RPM's. (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/GECCO)

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 gagging. (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 micellaneous "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/GECCO)

CNC 202 - 3-D Programming and Rapid Prototyping for CNC

COURSE DESCRIPTION:
CNC 202. 3-D Programming and Rapid Protyping 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: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Machining & Manufacturing Tech Department

Course Attributes:
Creative Thinking (CR/GECCO)

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 computer networking. Preparation for the Network+ Certification exam. Three lecture. One lab.

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

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)

3.000 Credit hours
3.000 Lecture hours
1.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Comp Tech & Instruct Support Division
Computer Networking Technology Department

Course Attributes:
Diversity (DA/GECCO)

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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Comp Tech & Instruct Support Division
Computer Networking Technology Department

Course Attributes:
Civic Engagement (CE/GECCO)

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 Network+ Certification exam. Prerequisite: CNT 100. Three lecture. Three lab.

COURSE CONTENT:
1. OSI Model
2. IP addressing and subnetting
3. Advanced network hardware concepts

4. Networking operating system fundamentals
5. Server management and administration
6. Network security
7. Small business networking
8. Wide area networks
9. Troubleshooting and support

LEARNING OUTCOMES:
1. Describe the networking process according to the OSI Model. (1)
2. Develop an IP addressing scheme with subnetting. (2)
3. Configure and compare network infrastructure hardware. (3)
4. Install and configure a network operating system. (4)
5. Manage a network server. (5)
6. Employ network security features. (6)
7. Configure a small business network. (7)
8. Describe the major wide area network technologies. (8)
9. Troubleshoot and support a local area network. (9)

4.000 Credit hours
3.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lab, Lecture,
Lecture/Lab

Comp Tech & Instruct Support 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. Prerequisite: CNT 100 or CNT 110 or CNT 115. 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture,
Lecture/Lab

Comp Tech & Instruct Support Division
Computer Networking Technology Department

Course Attributes:
Written Comm (WC/GECCO)

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

Comp Tech & Instruct Support 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 overview
2. Windows Server installation
3. Windows Server configuration
4. Windows storage services
5. File and printer sharing
6. Transmission Control Protocol/Internet Protocol (TCP/IP)
7. Dynamic Host Configuration Protocol (DHCP)
8. Active Directory overview
9. Domain Name System (DNS)
10. Active Directory accounts
11. Group Policy
12. Virtualization
13. Virtual machines

LEARNING OUTCOMES:
1. Describe Windows Server and its core technologies. (1)
2. Install Windows Server. (2)
3. Configure Windows Server. (3)
4. Configure Windows storage. (4)
5. Create and configure Windows file and printer shares. (5)
6. Configure TCP/IP. (6)
7. Deploy DHCP. (7)
8. Install and configure domain controllers. (8)
9. Deploy DNS. (9)
10. Create and manage Active Directory accounts. (10)
11. Configure Group Policy. (11)
12. Install and configure Hyper-V virtualization. (12)
13. Configure virtual machines. (13)

4.000 Credit hours
3.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Comp Tech & Instruct Support Division
Computer Networking Technology Department

Course Attributes:
Digital Lit (DL/GECCO)

CNT 123 - Windows Server II

COURSE DESCRIPTION:
CNT 123. Windows Server II (3). Administration of a Windows Server environment. Topics include server deployment, network services, and Active Directory management. Preparation for the Microsoft Administering Windows Server 2012 (70-411) certification exam. Prerequisite: CNT 122. Two lecture. Three lab.

COURSE CONTENT:

1. Server deployment
2. Windows Update
3. Server management and monitoring
4. Domain Controller management
5. Active Directory account policies
6. Group Policy settings
7. Group Policy management
8. Domain Name System (DNS)
9. File and print services
10. Remote access
11. Network policies

LEARNING OUTCOMES:
1. Deploy and manage server images. (1)
2. Install and configure Windows Server Update Services. (2)
3. Monitor servers. (3)
4. Manage Domain Controllers. (4)
5. Configure account policies. (5)
6. Configure Group Policy settings. (6)
7. Manage Group Policy objects. (7)
8. Configure DNS zones and records. (8)
9. Configure Distributed File System and file server settings. (9)
10. Configure remote access settings. (10)
11. Define and configure network policies. (11)

3.000 Credit hours
2.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Comp Tech & Instruct Support Division
Computer Networking Technology Department

Course Attributes:
Oral Communication (OC/GECCO)

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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support Division
Computer Networking Technology Department

Course Attributes:
Scientific (SL/GECCO)

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

Comp Tech & Instruct Support Division
Computer Networking Technology Department

Course Attributes:

Quantitative Lit (QL/GECCO)

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

Comp Tech & Instruct Support Division
Computer Networking Technology Department

Course Attributes:
Info Literacy (IL/GECCO)

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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support Division
Computer Networking Technology Department

Course Attributes:
Creative Thinking (CR/GECCO)

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

Comp Tech & Instruct Support 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
0.000 Lab hours

Levels: Credit
Schedule Types: Lecture

Comp Tech & Instruct Support Division
Computer Networking Technology Department

CNT 220 - Windows Server III

COURSE DESCRIPTION:
CNT 220. Windows Server III (3). Configuring advanced Windows Server services. Emphasis on high availability, disaster recovery, and Active Directory infrastructure. Preparation for the Microsoft Configuring Advanced Windows Server 2012 Services (70-412) certification exam. Prerequisite: CNT 123. Three lecture.

COURSE CONTENT:
1. High availability
2. Advanced storage solutions
3. Business continuity
4. Advanced network services
5. Active Directory infrastructure
6. Identity and access solutions

LEARNING OUTCOMES:
1. Plan and manage a highly available server environment. (1)
2. Configure advanced storage solutions. (2)
3. Implement business continuity and disaster recovery. (3)
4. Configure advanced network services. (4)
5. Configure the Active Directory infrastructure. (5)
6. Implement identity and access solutions. (6)

3.000 Credit hours
2.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Lab, Lecture, Lecture/Lab

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support Division
Computer Networking Technology Department

COM 100 - Introduction to Human Communication

COURSE DESCRIPTION:
COM 100. Introduction to Human Communication (3).   **SUN#** **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/GECCO), 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/GECCO)

COM 134 - Interpersonal Communication

COURSE DESCRIPTION:
COM 134. Interpersonal Communication (3).   SUN# **COM 1110.** 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 debilitative 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, SUN# COM 1110

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/GECCO)

COM 200 - Communication Theory

COURSE DESCRIPTION:
COM 200. Communication Theory (3). Introduction to the systematic conceptualization of the communication process: its elements, dynamics, origins, outcomes, functions, and values. Emphasis on psychological, social cultural, mediated, ethical, and political implications of communication processes. Includes prominent communication theories relating to relationships, groups, organizations, ethnicity, race, and gender. Prerequisite: Reading Proficiency. Three lecture.

COURSE CONTENT:
1. Basic paradigms of human communication theory
2. Communication theories
3. Communication research studies
4. Relationships between communication theory and practice in the context of everyday life
5. Epistemology, Ontology and Axiology Theories

LEARNING OUTCOMES:
1. Define epistemology, ontology, and axiology and how they differ in the social scientific, interpretive, and critical paradigms. (1,5)
2. Identify paradigms related to communication theories. (1,5)
3. Conduct research in the area of communication and identify important concepts by summarizing findings. (1-5)
4. Apply communication theory to our everyday lives through personal examples, popular culture, and current events. (1-4)
5. Discuss how communication theory relates to ethnicity, race, and gender. (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
Communications Department

Course Attributes:
Applied Communication/Comm.

COM 217 - Introduction to Argumentation and Debate

COURSE DESCRIPTION:
COM 217. 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/GECCO)

COM 271 - Small Group Communication

COURSE DESCRIPTION:
COM 271. Small Group Communication (3). **SUN#** **COM 2271.** 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: Additional Activity, Lecture

Foundation Studies Division
Communications Department

Course Attributes:
Applied Communication/Comm., YC Communication Requirement, SUN# COM 2271

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/GECCO)

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, synthsize 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

Arts & Humanities Division
English Department

Course Attributes:
Applied Communication/Writing, Written Comm (WC/GECCO)

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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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 Blackboard 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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 110 - Introduction to Computer Information Systems

COURSE DESCRIPTION:
CSA 110. Introduction to Computer Information Systems (3).   **SUN** **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

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Digital Lit (DL/GECCO), 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

Comp Tech & Instruct Support 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 kill 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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support Division
Computer Information Systems Department

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

Comp Tech & Instruct Support 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Digital Lit (DL/GECCO), Info Literacy (IL/GECCO)

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

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 133 - Microsoft Publisher

COURSE DESCRIPTION:
CSA 133. Microsoft Publisher (2). Practical applications on the functions of Microsoft Publisher using the Windows Operating System. 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
3. Styles and formatting
4. Graphics, drawn objects, border art, WordArt, text boxes and tables
5. Web pages
6. Merged publications with data
7. Graphic design concepts
8. Printing processes

LEARNING OUTCOMES:
1. Create an advertising document. (1,2)
2. Edit, revise and print publications. (1-4,8)
3. Use templates to create personal and office publications (flyers, newsletters, letterheads, trifold brochures, business cards, envelopes and web pages). (1-5)
4. Incorporate business forms, tables, graphics, drawn objects, border art, WordArt and business information sets inside publications. (3,4)
5. Create a catalog, letter or invoice and merge it with data. (1-4,6)
6. Produce web pages. (5)
7. Incorporate graphic design concepts to create publications. (7)

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 134 - Microsoft Word Desktop Publishing

COURSE DESCRIPTION:
CSA 134. Microsoft Word Desktop Publishing (2). Desktop Publishing using advanced features in Microsoft Word within the Windows Operating System to plan, define, and incorporate desktop publishing concepts and the design and creation of business and personal documents. Prerequisite: CSA 140 . Two lecture.

COURSE CONTENT:
1. Graphic design concepts
2. Desktop publishing process
3. Personal documents
4. Business documents
5. Page design elements
6. Simple web pages

LEARNING OUTCOMES:
1. Use graphic design rules in document creation. (1)
2. Plan and prepare business documents such as letterheads, envelopes, business cards, fillable forms, and certificates. (2-4)
3. Plan and create promotional documents such as flyers, brochures, newsletters, and gift certificates. (2-4)
4. Develop and create newsletters while incorporating design elements such as mastheads, sidebars, pull quotes, kickers, jump lines, and color along with Word features such as columns and styles. (2-5)
5. 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. (2,5,6)

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture, Lecture/Lab

Comp Tech & Instruct Support 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 using the Windows

Operating System. Emphasis on creating worksheets for data input and analysis. Two lecture.

COURSE CONTENT:
1. Worksheets
2. Formulas and functions
3. Charts
4. Worksheet appearance
5. 3D referencing, structured references and what-if analysis
6. Tables and named ranges
7. Auditing, analyzing and consolidating data
8. Ranges, data tables and pivot tables

LEARNING OUTCOMES:
1. Create worksheets containing data and formulas. (1-2)
2. Create worksheets with advanced features. (1-8)
3. Format and analyze data. (2-8)
4. Format, modify, and organize worksheets. (1-8)

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 139 - Microsoft Access

COURSE DESCRIPTION:
CSA 139. Microsoft Access (2). Practical application of Microsoft Access using the Windows Operating System.
Emphasis on relational databases and query design to summarize and analyze information. Two lecture.

COURSE CONTENT:
1. Relational databases using Microsoft Access
2. Tables and table properties
3. Fields and set field properties
4. Records
5. Sorting and filtering Tables and Queries
6. Using Queries to analyze data
7. Crafting forms as an interface
8. Displaying and printing data analysis
9. Importing and Exporting data

LEARNING OUTCOMES:
1. Define and utilize relational databases. (1)
2. Use Access to create Tables and Queries to manage and analyze data. (2-6)
3. Create and customize data entry forms. (7)
4. Create and print reports that detail selected information. (8)
5. Import and export data. (9)

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 140 - Microsoft Word

COURSE DESCRIPTION:
CSA 140. Microsoft Word (2). Practical application of Microsoft Office Word using the Windows Operating System. Two lecture.

COURSE CONTENT:
1. Document creation, formatting and editing
2. Headers, footers, page numbers, Styles and Themes
3. Templates, complex tables, charts and graphics
4. Linking to other documents
5. WordArt, textboxes, pull quotes and Smart Art
6. Forms, form letters and mail merge
7. Footnotes, endnotes, outlines, table of contents and indexes

LEARNING OUTCOMES:
1. Create documents using basic and advanced formatting. (1-8)
2. Create templates, merged documents and forms. (3,5)
3. Create documents with WordArt, Smart Art, Graphics, Tables and charts, (3-4)
4. Create research papers using Microsoft Word. (1,2,7)

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 142 - Microsoft PowerPoint

COURSE DESCRIPTION:
CSA 142. Microsoft PowerPoint (2). Practical application of Microsoft PowerPoint using the Windows Operating System. Two lecture.

COURSE CONTENT:
1. Creating and editing presentations
2. Placeholders and bulleted lists
3. Graphics using clip art and WordArt
4. Enhancing pictures
5. Tables, charts and Smart Art diagrams
6. Transitions, animation, multimedia effects and hyperlinks
7. Templates, themes and master slides
8. Outlines, integrating, reviewing and protecting
9. Print options

LEARNING OUTCOMES:
1. Create slide presentations that include text, graphics, and advanced features. (1-5)
2. Create and format presentations from templates; use slide master, slide transitions, animation schemes and multimedia effects. (5-7)
3. Create presentations from other programs and print as handouts. (7-9)

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 149 - Second Life Virtual World

COURSE DESCRIPTION:
CSA 149. Second Life Virtual World (3). Introduction to the educational use in the virtual 3D world of Second Life. Basic skills, basic building, overall navigation, communication, and educational relationships within the virtual environment known as Second Life. Three lecture.

COURSE CONTENT:
1. Second Life environment basic skills
2. Virtual field trips to educational environments
3. Virtual objects built for education

LEARNING OUTCOMES:

1. Identify Second Life terminology. (1)
2. Utilize Second Life file storage. (1,3)
3. Create virtual objects to enhance learning. (1,3)
4. Reproduce communication using chat functions, instant messaging and voice chat. (1)
5. Analyze uses for educational components within virtual environment. (1-3)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 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

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 161 - Introduction to Computer Science

COURSE DESCRIPTION:
CSA 161. Introduction to Computer Science (3). Introduction to modern computer science including programming languages, structured and object oriented design and logic tools. Three lecture.

COURSE CONTENT:
1. 3D graphic animation
2. Introduction to Alice 3.1
3. Introduction to Java Programming
4. Introduction to Microsoft Visual Basic and Visual C#
5. Computer Science concepts including effective structuring
6. Classes and objects
7. Methods
8. Class characteristics and properties
9. Creating instances (objects) of classes
10. Variables: static, dynamic, local and global
11. Conditional branching
12. Loops: For loops, While loops, Do-While looping
13. Event driven programming
14. Frames
15. Introduction to Graphical User Interfaces (GUIs)
16. Object Oriented Programming (OOP)

LEARNING OUTCOMES:
1. Compose 3D graphic animation programs (1,2,5)
2. Incorporate objects, behavior and properties into programs (1-4, 6-12)
3. Explain the concept of Object Oriented Programming (1-4,16)
4. Identify error handling techniques and problem solving (2,5)
5. Compose error free programs (1-4)
6. Develop various frame models. (14,15)
7. Develop event driven software. (13)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Critical Thinking (CT/GECCO)

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

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Quantitative Lit (QL/GECCO)

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 WEB 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 (2,3,4,5)
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

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Scientific (SL/GECCO)

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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 201 - Software Maintenance and Troubleshooting

COURSE DESCRIPTION:
CSA 201. Software Maintenance and Troubleshooting (3) (Fall). Differentiating between hardware and software errors. Diagnosing and correcting software problems that are interfering with the operation of the computer. Two lecture. Three lab.

COURSE CONTENT:
1. Microsoft Windows Operating Systems review
2. Protection fault errors
3. Utilities programs
4. Scandisk, defrag, tmp files, and general file housekeeping
5. Driver problems
6. Hardware problems
7. Software conflicts
8. Formatting the hard drive
9. Hardware resource conflicts with IRQs, DMAs and ports
10. Updates, service packs and security

LEARNING OUTCOMES:
1. Differentiate between software errors on different Operating Systems. (1,3)
2. Determine if the operating system needs to be reinstalled and perform the installation as needed. (1,2.8)
3. Repair malfunctions using Task Manager. (3,4,6,7)
4. Install e-mail programs and software drivers. (5,10)
5. Use scandisk and defrag to fix problems. (4)

6. Differentiate between application problems and operating system problems. (1,9,10)
7. Install or reinstall application software. (5,7,8,10)

3.000 Credit hours
2.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Diversity (DA/GECCO)

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

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Civic Engagement (CE/GECCO)

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

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Written Comm (WC/GECCO)

CSA 282 - Microcomputer Database

COURSE DESCRIPTION:

CSA 282. Database Concepts (3) (Spring). Concepts, design, implementation, evaluation, and maintenance techniques of databases. Includes fundamentals of data model, data structure and data management. Three lecture.

COURSE CONTENT:
1. Database concepts
2. Relational database and normalization
3. Data models
4. Database design
5. SQL for building tables and queries
6. Building and customizing a form
7. Building and customizing a report
8. Database processing applications
9. Database administration

LEARNING OUTCOMES:
1. Define database terms. (1,2)
2. Analyze, define, and design a relational database model. (3,4)
3. Construct a database complete with tables, queries, forms and reports using a database program. (4-7)
4. Create SQL for data analysis and manipulation. (4,5,8)
5. Perform database administration. (9) br>
3.000 Credit hours

3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture, Lecture/Lab

Comp Tech & Instruct Support Division
Computer Information Systems Department

CSA 294 - CSA Project

COURSE DESCRIPTION:
CSA 294. CSA Project (1-6). This Capstone course incorporates project design, project system analysis, and technology applications. Approval of Division Dean. Prerequisite: CSA 126 and CSA 179 and CSA 281 and CSA 282. One to Six lecture.

COURSE CONTENT:
1. Project design
2. System analysis
3. Critical analysis of technology
4. Ethics in business technology

LEARNING OUTCOMES:
1. Design a project that includes developing a computer program and a database, using Microsoft Office applications.
2. Analyze a total system life-cycle.
3. Analyze available technology and select most appropriate options for the project.
4. Apply ethical policies to the project.

1.000 TO 6.000 Credit hours
1.000 TO 6.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Oral Communication (OC/GECCO)

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

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support Division
Computer Information Systems Department

CUL 101 - Culinary Principles

COURSE DESCRIPTION:
CUL 101. Culinary Principles (4). Introduction to the culinary industry. Includes food service terminology, customer service skills, menu development, safety, sanitation, knife cuts, commercial equipment, cooking techniques, product identification, and ratios/weights/measures. Four lecture.

COURSE CONTENT:
1. Culinary profession
2. Defining job responsibilities
3. Food service vocabulary/terminology
4. Menu development
5. Principles of cooking
6. Tools and equipment
7. Knives and knife skills
8. Food tasting
9. Customer relations

LEARNING OUTCOMES:
1. Trace the history of professional food preparation. (1)
2. Identify the hierarchy of workers in both classic and modern kitchens and describe job responsibilities. (2)
3. Define cooking and food service terminology, to include both English and non-English vocabulary. (3)
4. Identify and design the elements of a menu. (4)
5. Explain cooking techniques. (5)
6. Identify cooking tools and equipment. (6)
7. Recognize classic knife cuts and techniques. (7)
8. Conduct sensory evaluation of various foods. (8)
9. Discuss the role of customer relations and service, service formality vs. informality, and customer vs. employee views of customer service. (9)

4.000 Credit hours
4.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Career & Technical Education Division
Culinary Arts Department

CUL 102 - Culinary Fundamentals: Hot Foods

COURSE DESCRIPTION:
CUL 102. Culinary Fundamentals: Hot Foods (4). Cooking techniques and preparation of meat, fish and poultry items. Theory and practice of production of vegetables, stocks, sauces, and soups. Study of butchering, yields, purchasing and grade classification. Prerequisite: CUL 101 (May be taken concurrently). Two lecture. Four lab.

COURSE CONTENT:
1. Classic stocks
2. Sauces
3. Soups
4. Liaisons
5. Cooking techniques
6. Preparation of vegetables
7. Butchering

LEARNING OUTCOMES:
1. Prepare stocks in a traditional manner and describe their uses in classic and contemporary kitchens. (1)
2. Prepare leading and secondary sauces and explain the use of each. (2)
3. Identify and prepare various types of soups. (3)
4. Identify, prepare, and use liaisons (roux/starches). (4)
5. Use a variety of cooking techniques. (5)
6. Prepare a variety of vegetables, starches, and grains using basic knife skills. (6)
7. Identify prime cuts of meat. (7)
8. Prepare meats, poultry, fish, and shellfish. (5,7)

4.000 Credit hours
2.000 Lecture hours
4.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lab, Lecture,
Lecture/Lab

Career & Technical Education Division
Culinary Arts Department

CUL 103 - Culinary Fundamentals: Breakfast and Garde Manger

p>COURSE DESCRIPTION:
CUL 103. Culinary Fundamentals: Breakfast & Garde Manger (4). Cooking techniques and preparation of breakfast items, salads, sandwiches and dressings. Production of eggs, pasta, cheeses, and fruit dishes, canapés and hors d'oeuvres creations. Study of lettuces, fruits, grains, cheeses and dressings. Two lecture. Four lab.

COURSE CONTENT:
1. Dairy products
2. Egg cookery
3. Cheeses
4. Pastas
5. Fruit
6. Grains
7. Vinegars, oils and dressings
8. Salad production
9. Sandwich production
10. Canapés and hors d'oeuvres

LEARNING OUTCOMES:
1. Grade and store dairy products. (1)
2. Produce egg products utilizing dry and moist heat methods of cooking. (2)
3. Explain methods used in the process of cheese pasteurization. (3)
4. Identify components of cheese production. (3)
5. Define, cook and produce a variety of pastas. (4)
6. Produce pastas for Garde Manger applications. (4)
7. Utilize various fruits in salad production. (5)
8. Use common and unusual grains as salad components. (6)
9. Produce vinegars, oils, salad dressings and sandwich spreads. (7)
10. Assemble simple salads and sandwiches. (8,9)
11. Arrange plate presentations for salads and sandwiches. (8,9)
12. Create canapes and hors d'oeuvres. (10)

4.000 Credit hours
2.000 Lecture hours
4.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lab, Lecture,
Lecture/Lab

Career & Technical Education Division
Culinary Arts Department

CUL 104 - Culinary Fundamentals: Baking and Pastry

p>COURSE DESCRIPTION:
CUL 104. Culinary Fundamentals: Baking & Pastry (4). Cooking techniques and preparation methods for cakes, pies, cookies and simple desserts as well as production of dough and breads. Includes preparation of various bakery sauces and toppings, uses of chocolates, and appropriate presentation methods for various types of desserts. Two lecture. Four lab.

COURSE CONTENT:
1. Bake shop equipment
2. Ingredient identification and application
3. Breads and rolls
4. Pies, fillings and toppings
5. Cakes, fillings, and icings
6. Chocolates
7. Cookies
8. Presentation of desserts

LEARNING OUTCOMES:
1. Use of appropriate bakery equipment and small wares. (1)
2. Measure and weigh bakery ingredients. (2)
3. Perform recipe conversions to produce specific yields. (2)
4. Prepare a variety of basic breads and rolls. (3)
5. Prepare pie dough, fillings and toppings. (4)
6. Produce a variety of bakery sauces and toppings. (4,5)
7. Assemble cakes, icings and fillings. (5)
8. Identify chocolates and their varied usages in the bakeshop. (6)
9. Produce basic cookies. (7)
10. Prepare plate presentations for a variety of dessert applications. (8)

4.000 Credit hours
2.000 Lecture hours
4.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Culinary Arts Department

DAN 110 - Ballet I

COURSE DESCRIPTION:
DAN 110. Ballet I (2). The elements of classical ballet technique. Emphasis on movement quality and artistic expression. One lecture. Two lab.

COURSE CONTENT:
1. Fundamental positions of body, arms and feet
2. Classical terminology
3. Kinesthetic awareness
4. Exercise 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. (1)
2. Communicate, in the language and with the terminology, of dance. (2)
3. Perform exercises at the barre, in center and across the floor that require kinesthetic awareness, balance, flexibility and strength. (3,4)

5. Perform movements with accuracy. (7)
6. Discuss the foundations and history of ballet. (8)

2.000 Credit hours
1.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Arts & Humanities Division
Performing Arts Department

DAN 112 - Jazz & Tap

COURSE DESCRIPTION:
DAN 112. Jazz & Tap (2). The fundamentals of jazz dance and tap techniques. One lecture. Two lab.

COURSE CONTENT:
1. Cultural and stylistic foundations of jazz and tap
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 on jazz and tap. (1)
2. Communicate and critique, in the language and with the terminology of, jazz and tap. (2)
3. Perform movements that model proper alignment. (3-6)
4. Perform movement exercises that require kinesthetic awareness, balance, flexibility and strength. (3-6)
5. Move and perform in relation to the music. (6-8)
6. Perform movements with clarity. (5-8)
7. Choreograph original work of movement piece. (9)

2.000 Credit hours
1.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Arts & Humanities Division
Performing Arts Department

DMS 101L - Patient Care in Diagnostic Sonography

COURSE DESCRIPTION:
DMS 101L. Patient Care in Diagnostic Sonography (1). Safety procedures for the hospitalized patient. Transfer, moving and positioning techniques. Patent assessment methods and procedures. Protection of drains, tubes, intravenous lines, and infusion pumps. Gloving, gowning, and sterile procedures. Safe use and application of sonography equipment. Professional behavior and responsibility of the sonographer in the diagnostic imaging lab. Prerequisite: Admission to DMS program. Three lab. A-F grading only.

COURSE CONTENT:
1. Body mechanics, lifts, and transfers
2. Immobilization techniques
3. Patient assessment and administration of care

4. Oxygen therapy and devices
5. Tubes, lines, and indwelling catheters
6. Transducer care
7. Infection control
8. Isolation techniques
9. Aseptic and sterile technique
10. Response to medical emergencies
11. Contrast media
12. Basic pharmacology
13. Professionalism
14. Critical thinking
15. Medical terminology
16. Patient evaluation
17. Emergency procedures
18. Cultural competence

LEARNING OUTCOMES:
1. Utilize patient transfer and immobilization techniques with consideration to safety of patient and self. (1, 2)
2. Discuss the use and care for intravenous lines, catheters, percutaneous drains, and oxygen administration devices. (3-5)
3. Discuss transducer preparation, insertion, and disinfectant techniques. (6)
4. Explain the importance of infection control, practicing proper techniques, and management and proper disposal of contaminated and biohazard materials. (7)
5. Describe isolation precautions and aseptic techniques. (8, 9)
6. Discuss appropriate responses to condition specific medical emergencies. (10)
7. Identify various contrast media used with sonography and medical imaging procedures and their associated risks and contraindications. (11)
8. List basic pharmacological agents that may be used with sonographic procedures, examinations, and emergency situations. (12)
9. Analyze the significance of appropriate professional behaviors. (13)
10. Discuss critical thinking and its application to the healthcare environment. (14)
11. Define and apply medical terms. (15)
12. Perform effective acquisition and reporting of patient history, physical and sonographic findings. (16)
13. Discuss the components of an effective emergency preparedness plan. (17)
14. Use key skills of cultural competence. (18)

1.000 Credit hours
0.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology Department

DMS 110L - Introduction to Diagnostic Sonography Lab

COURSE DESCRIPTION:
DMS 110L. Introduction to Diagnostic Sonography Lab (1). History of ultrasound including medical application. Job description including opportunities, training, and curriculum. Licensure, use and maintenance of sonography equipment, roles, rules and responsibilities of Diagnostic Medical Sonographers in the workplace. Prerequisite: Admission to DMS program. Three lab. A-F grading only.

COURSE CONTENT:
1. Medical terminology
2. Historical perspective
3. Health care settings
4. Diagnostic Medical Sonographers
5. Physical structure of the sonography laboratory
6. Components of ultrasound equipment
7. Uses of ultrasound in the body

9. Future trends in medical imaging
10. Components of the ultrasound machine
11. Patient positioning
12. Scanning protocols
13. American Institute of Ultrasound in Medicine (AIUM) and Radiation Measurement Instruments (RMI) test phantoms
14. Preventative maintenance

LEARNING OUTCOMES:
1. Define and describe medical terminology related to general medicine and Diagnostic Sonography. (1)
2. Discuss the history of ultrasound and its medical applications. (2)
3. Describe the healthcare settings and organization structure of sonography environments. (3)
4. Describe the role of the Diagnostic Medical Sonographer. (4)
5. Set up room and equipment for sonography labs. (5)
6. Explain the components of an ultrasound machine. (6)
7. Define and describe uses of ultrasound in the body. (7)
8. Compare and contrast correlative imaging modalities. (8)
9. Discuss future trends in medical imaging. (9)
10. Describe and use the correct equipment parameters for an abdominal sonographic examination. (10)
11. Explain and show the proper annotation for the ultrasound examination. (11)
12. Describe and use scanning protocols in abdomen, pelvis, and small parts. (12)
13. Use the American Institute of Ultrasound in Medicine (AIUM) and Radiation Measurement Instruments (RMI) phantoms for Quality Control and Equipment Calibration. (13)
14. Perform preventative maintenance for the ultrasound machine, filters, camera, and transducers. (14)

1.000 Credit hours
0.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology Department

DMS 120L - Ultrasound Imaging: Abdominal Procedures I Lab

COURSE DESCRIPTION:
DMS 120L. Ultrasound Imaging: Abdominal Procedures I Lab (1). Ultrasound evaluation of upper abdominal organs. Normal and pathologic ultrasound appearances of the liver, gallbladder, pancreas, biliary tree, spleen, adrenal glands, kidneys, major vascular structures, and lymph nodes. Prerequisite: Admission to DMS program. Three lab. A-F grading only. NOTE: Students must concurrently enroll in DMS 120 at Gateway Community College.

COURSE CONTENT:
1. Liver
2. Gallbladder and biliary tree
3. Pancreas
4. Kidney
5. Adrenal glands
6. Spleen
7. Lymph nodes
8. Vascular structures

LEARNING OUTCOMES:
1. Describe the anatomy of the upper abdomen. (1-8)
2. Describe and identify the normal sonographic appearances of the organs of the upper abdomen. (1-8)
3. Describe and Identify different conditions involving the organs of the upper abdomen. (1-8)
4. Prepare and position patients for various sonographic procedures of the upper abdomen. (1-8)
5. Explain scan protocol for sonographic procedures of the upper abdomen. (1-8)
6. Perform standard diagnostic sonographic procedures of the upper abdomen. (1-8)

1.000 Credit hours
0.000 Lecture hours

3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology Department

DMS 150L - Sonographic Principles and Instrumentation Laboratory

COURSE DESCRIPTION:
DMS 150L. Sonographic Principles and Instrumentation Laboratory (1). Sonographic principles and instrumentation necessary for the performance of diagnostic sonographic examinations. Quality control materials and procedures. Biological effects of ultrasound energy. Prerequisite: Admission to DMS program. Three lab. A-F grading only. NOTE: Students must concurrently enroll in DMS 150 at Gateway Community College.

COURSE CONTENT:
1. Basic principles and wave analysis
2. Propagation of acoustic waves through tissues
3. Sonographic transducers and sound beams
4. Principles of pulse echo imaging
5. Hemodynamic and Doppler imaging
6. Sonographic instrumentation
7. Artifacts
8. Quality assurance/quality control of sonographic instruments
9. Bio-effects and safety

LEARNING OUTCOMES:
1. Describe sound waves, propagation of ultrasound through tissue, reflection, refraction, and scattering. (1,2,4)
2. Explain transducer technology, and discuss the advantages and limitations of the various types. (3)
3. Describe the role of advanced scanning features, including harmonics, coded excitation, and compounding. (4)
4. Explain how pulsed Doppler, color flow imaging, and amplitude imaging is achieved. (5)
5. Discuss the basic features of medical sonographic equipment including operator controls and image processing. (6)
6. Recognize and describe image artifacts and techniques to minimize or eliminate them. (7)
7. Discuss the importance of performance, safety, and output measurements and standards. (8, 9)

1.000 Credit hours
0.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology Department

DMS 155 - Clinical Practicum I

COURSE DESCRIPTION:
DMS 155. Clinical Practicum I (1). Observation of hospital policies and procedures in the clinical setting. Health delivery systems to include private, for profit, not-for-profit, and government. The job description, duties, and functions of the sonographer. Career opportunities in ultrasound. Prerequisite: Admission to DMS program. A-F grading only.

COURSE CONTENT:
1. Job duties and functions of Sonographers
2. Ultrasound settings
3. Health care delivery systems
4. Health care career opportunities for Sonographers

LEARNING OUTCOMES:
1. Describe the jobs, duties and functions of Sonographers in the clinical setting. (1)
2. Explain the practice of ultrasound in the private office, hospital, and clinic settings. (2)
3. Describe the types of health care delivery systems: private, for profit, not-for-profit, and government where ultrasound is practiced. (3)
4. Identify career opportunities available to Sonographers in the public and private sector to include hospitals, education and commercial. (4)

1.000 Credit hours
0.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology Department

DMS 161 - Clinical Practicum II: AA, AB, AC

COURSE DESCRIPTION:
DMS 161. Clinical Practicum II: AA, AB, AC (1). Technical and professional aspects of diagnostic ultrasound in a hospital or clinical setting at the beginner level. Hospital procedures and policies. Observation, assistance, and performance of clerical, patient care, and sonographic duties under strict supervision. Prerequisite: Admission to DMS program. A-F grading only.

COURSE CONTENT:
1. Professional protocols
2. Image processing procedures
3. Patient care
4. Patient processing procedures
5. Sonographic skills
6. Technical procedures

LEARNING OUTCOMES:
1. Adhere to safety, emergency and ethical policies and procedures for the ultrasound department and healthcare agency with frequent assistance, as needed, in a professional manner. (1)
2. Perform imaging processing procedures to include various imaging media, processing films, and storage of completed examinations with frequent assistance, as needed. (2)
3. Follow patient care protocols before, during, and after the sonographic examination with frequent assistance, as needed. (3)
4. Perform office procedures to include filing, scheduling, billing, report retrieval, and processing of patient, with frequent assistance, as needed. (4)
5. Assist the technologist in performing selected sonographic examinations in the clinical setting. (5)
6. Create diagnostic images under strict supervision. (6)
7. Utilize appropriate techniques to correct equipment limitations under strict supervision. (6)

6.000 Credit hours
0.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology Department

DMS 171 - Clinical Practicum III: AA, AB

COURSE DESCRIPTION:
DMS 171. Clinical Practicum III: AA, AB (4). Technical and professional aspects of diagnostic ultrasound in a hospital

or clinic setting at the advanced beginner level. Reinforcement and broadening of knowledge base related to hospital procedures and policies. Observation, assistance, and performance of patient care and sonographic duties under moderate supervision. Prerequisite: Admission to DMS program. A-F grading only.

COURSE CONTENT:
1. Professional protocols
2. Image processing procedures
3. Patient care
4. Patient processing procedures
5. Sonographic skills
6. Technical procedures

LEARNING OUTCOMES:
1. Adhere to safety, emergency and ethical policies and procedures of the ultrasound department and healthcare agency with moderate assistance as needed, in a professional manner. (1)
2. Perform image acquisition and processing including storage of completed examinations with moderate assistance, as needed. (2)
3. Follow patient care protocols before, during, and after the sonographic examination with moderate assistance, as needed. (3)
4. Perform office procedures to include filing, scheduling, billing, report retrieval, and processing of patient with moderate assistance, as needed. (4)
5. Assist the technologist in performing selected sonographic examinations in the clinical setting. (5)
6. Create diagnostic images under moderate supervision. (6)
7. Utilize appropriate techniques to correct equipment limitations under moderate supervision. (6)

4.000 Credit hours
0.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology Department

DMS 210L - Concepts of Vascular Imaging Lab

COURSE DESCRIPTION:
DMS 210L. Concepts of Vascular Imaging Lab (1). Vascular physics and terminology. Application of imaging concepts to arterial, venous, and cerebrovascular ultrasound. Normal, abnormal and pathologic states of human vascular anatomy. Review and use selected scanning protocols to include extremity and cerebral vascular systems. Prerequisite: Admission to DMS program. A-F grading only.

COURSE CONTENT:
1. Medical terminology
2. Vascular ultrasound physics
3. Normal arterial vasculature
4. Abnormal arterial vessels
5. Venous imaging
6. Abnormal venous imaging
7. Cerebrovascular imaging
8. Abnormal cerebrovascular imaging
9. Trends
10. Vascular imaging equipment

LEARNING OUTCOMES:
1. Define general terms related to vascular sonography. (1)
2. Apply specific terms and physical units related to vascular ultrasound physics including real-time, Doppler and color flow. (2)
3. Describe the anatomy of normal arterial vascular system. (3)
4. Utilize scanning protocols for the normal and abnormal arterial vascular system. (3, 4)
5. Compare and contrast scan protocols of the arterial, venous, and cerebrovascular system. (3-7)
6. Explain the pathology of selected abnormal conditions of the arterial vascular system. (4)

7. Describe the normal anatomy of the venous system. (5)
8. Utilize scanning protocols to detect pathology of the upper and lower extremity venous system. (5, 6)
9. Explain the pathology of selected abnormal states of the venous system. (6)
10. Describe the normal cerebrovascular system. (7)
11. Utilize scanning protocols to detect normal and abnormal findings of the cerebrovascular system. (7, 8)
12. Explain the pathology of selected abnormal states of the cerebrovascular system. (8)
13. Describe current developments in vascular imaging. (9)
14. Compare and contrast specific vascular ultrasound imaging equipment. (10)

1.000 Credit hours
0.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology Department

DMS 261 - Clinical Practicum IV: AA, AB

COURSE DESCRIPTION:
DMS 261. Clinical Practicum IV: AA, AB (5). Technical and professional aspects of diagnostic ultrasound in a hospital or clinic setting at the intermediate level. Reinforcement and broadening of knowledge base related to hospital procedures and policies. Observation, assistance, and performance of patient care and sonographic duties under limited supervision. Prerequisite: Admission to DMS program. A-F grading only.

COURSE CONTENT:
1. Professional protocols
2. Image processing procedures
3. Patient care
4. Patient processing procedures
5. Sonographic skills
6. Technical procedures

LEARNING OUTCOMES:
1. Adhere to safety, emergency, and ethical policies and procedures of the ultrasound department and healthcare agency with limited assistance as needed, in a professional manner. (1)
2. Perform image acquisition and processing including storage of completed examinations with limited assistance, as needed. (2)
3. Follow patient care protocols before, during, and after the sonographic examination with limited assistance, as needed. (3)
4. Perform office procedures to include filing, scheduling, billing, report retrieval, and processing of patient with limited assistance, as needed. (4)
5. Assist the technologist in performing selected sonographic examinations in the clinical setting. (5)
6. Create diagnostic images under limited supervision. (6)
7. Utilize appropriate techniques to correct equipment limitations under limited supervision. (6)

5.000 Credit hours
0.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology Department

DMS 270 - Clinical Practicum V: AA, AB, AC

COURSE DESCRIPTION:

DMS 270. Clinical Practicum V: AA, AB, AC (5). Technical and professional aspects of diagnostic ultrasound in a hospital or clinic setting at the advanced level. Clinical diagnostic experiences in routine/high-risk obstetrics, pelvic, vascular, abdominal and small parts imaging. Focus on progression to independent level of function. Prerequisite: Admission to DMS program. A-F grading only.

COURSE CONTENT:
1. Professional protocols
2. Image processing procedures
3. Patient care
4. Patient processing procedures
5. Sonographic skills
6. Technical procedures

LEARNING OUTCOMES:
1. Adhere to safety, emergency, and ethical policies and procedures of the ultrasound department and healthcare agency with occasional assistance as needed, in a professional manner. (1)
2. Perform imaging acquisition and processing procedures including storage of completed examinations with occasional assistance, as needed. (2)
3. Follow patient care protocols before, during, and after the sonographic examination with occasional assistance, as needed. (3)
4. Perform office procedures to include filing, scheduling, billing, report retrieval, and processing of patient with occasional assistance, as needed. (4)
5. Assist the technologist in performing selected sonographic examinations in the clinical setting to include routine/high-risk obstetrics, pelvic, vascular, abdominal and small parts scanning. (5)
6. Create diagnostic images independently. (6)
7. Utilize appropriate techniques to correct equipment limitations. (6)

5.000 Credit hours
0.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology Department

DMS 286L - Advanced Vascular Technology Lab

COURSE DESCRIPTION:
DMS 286L. Advanced Vascular Technology Lab (1). Vascular evaluation of the abdominal viscera and small parts. Normal and pathologic sonographic imaging and Doppler evaluation of the venous and arterial systems of the abdominal organs and small body parts. Capabilities, limitations, protocols and techniques required for diagnosis of the systemic, hepatoportal, and collateral systems. Preoperative mapping of the radial, mammary, and epigastric arteries. Prerequisite: Admission to DMS program. A-F grading only.

COURSE CONTENT:
1. Anatomy
2. Risk factors
3. Mechanisms of disease
4. Signs and symptoms
5. Noninvasive test procedures
6. Correlative and/or prior imaging
7. Treatment
8. Preoperative venous and arterial mapping

LEARNING OUTCOMES:
1. Identify the arteries and veins of the abdomen and list the major branches of the abdominal aorta. (1)
2. Differentiate the anatomy and blood flow patterns of pseudoaneurysms and arteriovenous fistulae. (1,3,5)
3. List the common risk factors for abdominal arterial and venous disorders. (2, 3)
4. Relate the clinical presentation of patients with abdominal aortic aneurysm, portal hypertension, and chronic mesenteric ischemia. (2-4)
5. Describe the mechanisms of disease for renovascular hypertension, renal firbromuscular dysplasia, abdominal

aortic aneurysm, portal hypertension, and chronic mesenteric ischemia. (3,4)
6. Describe the variations in vascular resistance in the mesenteric arterial system during fasting and post-prandial states. (3,5)
7. Differentiate normal and abnormal Doppler spectral waveforms from the hepatic and portal veins and inferior vena cava. (3,5)
8. Relate the non-invasive vascular test procedures and provocative maneuvers used for detection of thoracic outlet syndrome. (3,5)
9. Relate the technical protocols for assessment of dialysis access grafts and fistulae. (5)
10. Detail the sonographic evaluation of liver, pancreas, and renal transplants. (5)
11. Describe the test procedures and modalities used for evaluation of vasculogenic impotence. (5)
12. Describe the capabilities and limitations of duplex sonography for identification of temporal arteritis. (5)
13. Define the test procedures used for evaluation arterial injury. (5)
14. Differentiate the signs and symptoms of congenital and acquired lymphedema and deep vein thrombosis. (5)
15. Describe the capabilities, limitations, patient positioning, protocols/techniques, and current diagnostic criteria for duplex sonography of the abdominal aorta, renal and mesenteric arteries, and the hepatoportal system. (5,6)
16. Describe the correlating imaging modalities used for confirmation of abdominal vascular disease. (6)
17. Describe the current treatment options for patients with renovascular hypertension, mesenteric ischemia, abdominal aneurysm, and portal hypertension. (7)
18. Describe the protocols and techniques used for preoperative mapping of the extremity veins, and the radial, internal mammary, and epigastric arteries. (8)

1.000 Credit hours
0.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Aviation 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

Business, Ed, & Social Science Division
Early Childhood Education Department

ECE 200 - Introduction to Early Childhood Education

COURSE DESCRIPTION:
ECE 200. Introduction to Early Childhood Education (3). History, perspectives and current trends in the field of early care and education. Exploration of career options within the field of working with children from birth to age eight. Includes child development theorists and their relation to program philosophies and curricula. Observation and participation hours in early childhood settings required. Three lecture.

COURSE CONTENT:
1. History and philosophies of early childhood education
2. Current trends, and state and national initiatives in early childhood
3. Observation of programs in the community
4. Professional opportunities in the field of early childhood education

LEARNING OUTCOMES:
1. Identify major milestones and philosophies in the history of early childhood education. (1)
2. Explain how child development theories are observable through various curriculum and program models. (1,3)
3. Discuss current issues of professionalism and advocacy in early childhood education. (2,4)
4. Evaluate professional opportunities and establish career goals related to serving children ages birth to age eight. (4)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science 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

Business, Ed, & Social Science Division

Early Childhood Education Department

ECE 202 - Early Childhood Curriculum

COURSE DESCRIPTION:
ECE 202. Early Childhood Curriculum (3). Development of learning activities based on the needs of preschool age children. Selection and preparation of the environment as well as materials which are basic to diverse preschool programs. Emphasis on the process of lesson planning in response to developmental levels of children. Includes the compilation of a personal file of teaching ideas, activities and resources and the exploration and construction of materials to be used while working with children. Three lecture.

COURSE CONTENT:
1. Trends in curriculum design
2. Developmentally appropriate materials and resources
3. Lesson planning in major content areas such as math, technology, art, science, movement, social studies and dramatic play
4. Arizona Early Learning Standards
5. Transition tools and techniques
6. Classroom environment design

LEARNING OUTCOMES:
1. Evaluate various curriculum models used in current preschool settings. (1)
2. Design developmentally appropriate lesson plans that can be used in an integrated theme or project. (2,3)
3. Articulate the use of early learning standards in lesson planning and in the application of working with children. (1-4)
4. Compile and maintain a professional file that includes web-based resources for lesson planning and transition strategies. (1-3,5)
5. Create a plan for a well-designed environment that links curriculum design to a developmentally appropriate classroom. (1,2,6)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Early Childhood Education Department

Course Attributes:
Digital Lit (DL/GECCO)

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, andcommunity 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

Business, Ed, & Social Science Division
Early Childhood Education Department

Course Attributes:
Behavioral Science (AGEC), Written Comm (WC/GECCO)

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

Business, Ed, & Social Science Division
Early Childhood Education Department

Course Attributes:
Creative Thinking (CR/GECCO)

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

Business, Ed, & Social Science Division
Early Childhood Education Department

ECE 222 - Introduction to the Exceptional Learner

COURSE DESCRIPTION:
ECE 222. Introduction to the Exceptional Learner (3).Overview of various type of learners with special needs including children with disabilities, gifted learners, and children at risk birth to grade 12. Includes topics on public laws related to individuals with disabilities, identification and assessment of children, characteristics of exceptional learners, inclusion, coordinating with various agencies and specialists, and planning, delivering, and documenting educational services. Observation hours in a special education or full inclusion setting required. This course is cross-listed with EDU 222. Three lecture.

COURSE CONTENT:
1. Learner development and individual learning differences
2. Learning environments for children with exceptionalities that are culturally safe, inclusive and responsive
3. Curricular content delivery to children with exceptionalities
4. Instructional planning and strategies for chjldren with exceptionalities
5. Foundations of the field of special education and ethical practices
6. Collaboration with family, other educators, related service providers, individuals with exceptionalities, and personnel from community agencies

LEARNING OUTCOMES:
1. 1. Describe how exceptionalities can interact with development and learning to provide meaningful and challenging learning experiences for individuals with exceptionalities. (1)
2. Create culturally safe, inclusive and responsive learning environments that help individuals with exceptionalities become active and effective learners who develop emotional well-being, positive social interactions, and self-determination skills. (2)
3. Develop individualized learning (differentiated instruction) plans for individuals with exceptionalities. (3)
4. Select, adapt, and use a repertoire of evidence-based instructional strategies to advance learning of individuals with exceptionalities. (4)

5. Describe the history of special education, the current laws that govern it (IDEA, Section 504, and ADA), and how curriculum standards affect students in special education. (5)
6. Explain the characteristics of the major disability categories as written in IDEA and of gifted and talented students and how socio-economic status, gender, culture, language, and risk factors affect students with special needs. (2,5)
7. Collaborate with others to address the needs of individuals with exceptionalities across a range of learning experiences. (2,5,6)

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

Business, Ed, & Social Science Division
Early Childhood Education Department

Course Attributes:
Diversity (DA/GECCO)

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

Business, Ed, & Social Science Division
Early Childhood Education Department

Course Attributes:
Oral Communication (OC/GECCO)

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

Business, Ed, & Social Science 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 converences
6. Professionalism and ethics
7. Community resources

LEARNING OUTCOMES:
1. Apply techniques of active listening and communicating. (1)
2. Define teacher and prent 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

Business, Ed, & Social Science Division
Early Childhood Education Department

Course Attributes:
Civic Engagement (CE/GECCO)

ECE 250 - Leadership and Management in Early Childhood Programs

COURSE DESCRIPTION:
ECE 250. Leadership and Management in Early Childhood Programs (3). Overview of the responsibilities and tasks involved in managing and leading a quality early childhood program. Relationship of program philosophy and goals to program design, including: staffing structure, facility and equipment, budget development, program policies and relationships with families. Emphasis on the importance of shared vision, effective leadership, and a commitment towards advancing the professionalism of the early childhood education field. Prerequisite: ECE 200 and ECE 202 and ECE/PSY 234. Three lecture.

COURSE CONTENT:
1. Trends in early childhood education public policy and funding
2. Administrative and leadership roles and styles
3. Program planning and policy development
4. Licensing regulations, accreditation options, and state QRIS (Quality Rating and Improvement System)
5. Developing an operating budget
6. Facility and classroom design (including equipment and materials)
7. Hiring, training, supervision, mentoring and professional development
8. Strategies for maintaining a positive organizational climate

LEARNING OUTCOMES:
1. Identify the administrative and leadership roles and responsibilities of an ECE program director. (1, 2)
2. Discuss the relationship between a program's goals and its structure. (3) 3. Compare the licensing, accreditation, and State QRIS requirements for early childhood programs. (1, 4)
4. Design an early care and education program, including: philosophy, curriculum, policies, staffing, budget and physical environments. (3,4,6)
5. Identify the steps in the budget development process and calculate revenue and expenditures based on program information. (5)
6. Identify methods for effective staff supervision and staff development. (7)
7. Discuss leadership styles and strategies for promoting a positive organizational climate. (2, 8)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Early Childhood Education Department

Course Attributes:
Quantitative Lit (QL/GECCO)

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: Additional Activity, Lecture

Business, Ed, & Social Science Division
Early Childhood Education Department

Course Attributes:
Critical Thinking (CT/GECCO)

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

Business, Ed, & Social Science Division
Early Childhood Education Department

Course Attributes:
Info Literacy (IL/GECCO)

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

Business, Ed, & Social Science Division
Early Childhood Education Department

Course Attributes:
Scientific (SL/GECCO)

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

Business, Ed, & Social Science 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

Business, Ed, & Social Science Division
Early Childhood Education Department

ECE 298 - Special Topics: Early Childhood Education

COURSE DESCRIPTION:
ECE 298. 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 techiques

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

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science 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

Business, Ed, & Social Science Division
Early Childhood Education Department

ECN 232 - Business Statistical Analysis

COURSE DESCRIPTION:
ECN 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, Ed, & Social Science Division
Economics Department

Course Attributes:
SUN# BUS 2201

ECN 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: ECN 232. Three lecture.

COURSE CONTENT:
1. Introduction to quantitative methods
2. Probability concepts
3. Probability distributions and expected value
4. Forecasting
5. Basic concepts of decision making
6. Elements of decision theory
7. Linear programming
8. The simplex method in linear programming
9. Decision making using sample information
10. Decision making using the normal distribution
11. Network planning with PERT
12. Dynamic programming

LEARNING OUTCOMES:
1. Identify the key steps to solving a quantitative business problem. (1)
2. Identify the steps involved in constructing a quantitative model. (1,2)
3. Identify the main quantitative models for solving business problems. (3,4,7,8,11,12)
4. Construct a model for solving a business problem.3,4,7,8,11,12)
5. Combine quantitative models to create new problem-solving models. (6,9,10)
6. Evaluate the outcomes of the problem-solving process in business. (4,5,7,8,9,11,12)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Economics Department

ECN 235 - Principles of Economics - Macro

COURSE DESCRIPTION:
ECN 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, Ed, & Social Science Division
Economics Department

Course Attributes:
Critical Thinking (CT/GECCO), Social Science (AGEC), SUN# ECN 2201

ECN 236 - Principles of Economics-Micro

COURSE DESCRIPTION:
ECN 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, Ed, & Social Science Division
Economics Department

Course Attributes:
Civic Engagement (CE/GECCO), Diversity (DA/GECCO), Info Literacy (IL/GECCO), Scientific (SL/GECCO), SUN# ECN
2202

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

Business, Ed, & Social Science 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

Business, Ed, & Social Science Division
Education Department

EDU 150C - Student Learning and Outcomes Assessment

COURSE DESCRIPTION:
EDU 150C. Student Learning and Outcomes Assessment (.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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Business, Ed, & Social Science 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

Business, Ed, & Social Science Division
Education Department

Course Attributes:
Critical Thinking (AGEC), Critical Thinking (CT/GECCO), Diversity (DA/GECCO), Ethnic, Race & Gender

EDU 222 - Introduction to the Exceptional Learner

COURSE DESCRIPTION:
EDU 222. Introduction to the Exceptional Learner (3).Overview of various type of learners with special needs including children with disabilities, gifted learners, and children at risk birth to grade 12. Includes topics on public laws related to individuals with disabilities, identification and assessment of children, characteristics of exceptional learners, inclusion, coordinating with various agencies and specialists, and planning, delivering, and documenting educational services. Observation hours in a special education or full inclusion setting required. This course is cross-listed with ECE 222. Three lecture.

COURSE CONTENT:
1. Learner development and individual learning differences
2. Learning environments for children with exceptionalities that are culturally safe, inclusive and responsive
3. Curricular content delivery to children with exceptionalities
4. Instructional planning and strategies for chjldren with exceptionalities
5. Foundations of the field of special education and ethical practices
6. Collaboration with family, other educators, related service providers, individuals with exceptionalities, and personnel from community agencies

LEARNING OUTCOMES:
1. 1. Describe how exceptionalities can interact with development and learning to provide meaningful and challenging learning experiences for individuals with exceptionalities. (1)
2. Create culturally safe, inclusive and responsive learning environments that help individuals with exceptionalities become active and effective learners who develop emotional well-being, positive social interactions, and self-determination skills. (2)
3. Develop individualized learning (differentiated instruction) plans for individuals with exceptionalities. (3)
4. Select, adapt, and use a repertoire of evidence-based instructional strategies to advance learning of individuals with exceptionalities. (4)
5. Describe the history of special education, the current laws that govern it (IDEA, Section 504, and ADA), and how curriculum standards affect students in special education. (5)
6. Explain the characteristics of the major disability categories as written in IDEA and of gifted and talented students and how socio-economic status, gender, culture, language, and risk factors affect students with special needs. (2,5)
7. Collaborate with others to address the needs of individuals with exceptionalities across a range of learning experiences. (2,5,6)

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

Business, Ed, & Social Science 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. Biblographies
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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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/GECCO)

EGR 180 - CAD (Computer-Aided Drawing) with SolidWorks

COURSE DESCRIPTION:
EGR 180. CAD (Computer Aided-Drawing) with SolidWorks (3). Fundamentals of graphical communications, including sketching, computer-aided drafting, design, and parametric modeling. Two lecture. Two lab.

COURSE CONTENT:
1. Engineering graphics
2. Parametric modeling
3. Geometric constructs
4. Dimensioning and tolerancing
5. Working drawings

LEARNING OUTCOMES:
1. Define engineering graphics and explain its history. (1)
2. Decribe and show the basic parametric modeling procedure. (2)
3. Create 2D sketches in SolidWorks using dynamic viewing commands and parametric dimensions. (2)
4. Illustrate the different extrusion options in SolidWorks and utilize geometric relations to display and modify parametric relations. (3)
5. Define dimensioning nomenclature and create drawing layouts from solid models. (4)
6. Set up the tolerancing option in SolidWorks to meet ANSI and ISO standard fits. (4)
7. Use the assembly modeling methodology to place parts using SolidWorks SmartMates. (5)
8. Create exploded assemblies and assembly drawings in SolidWorks. (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

ELT 101 - Basic Electricity: AC & DC

COURSE DESCRIPTION:
ELT 101. Basic Electricity (4) (Fall). Basic principles of Alternating Current (AC) and Direct Current (DC) electricity. Examination of the structures and functions of AC and DC circuits including series, parallel and series-parallel circuits. Includes an overview of electric systems and their applications in the utility industry. Three lecture. Two lab.

COURSE CONTENT:
1. Basic principles of electricity: the atom, electric current, conductors and insulators, uses in the utility industry
2. Electric circuits: pressure, power, energy, Ohm\222s Law
3. Building DC circuits

4. Electric systems: generating, transmission, sub-station and distribution systems

LEARNING OUTCOMES:
1. Identify and explain the basic principles of AC and DC electriciity. (1)
2. Explain the uses of electricity in the utility indiustry. (1)
3. Identify and describe the structure and function of the various types of electric circuits. (2)
4. Outline the basic principles of Ohm\222s Law. (2)
5. Identify and use the necessary components to build series circuits. (3)
6. Identify and use the necessary components to build parallel circuits. (3)
7. Identify and use the necessary components to build series- parallel circuits. (3)
8. Describe the structure and function of electric generating stations. (4)
9. Explain the functions of electric transmission circuits. (4)
10. Identify and describe the functions of electric sub-stations. (4)
11. Identify and explain the major components and functions of electric distribution systems. (4)

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
Electronics Technology Department

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/GECCO)

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/GECCO)

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/GECCO)

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/GECCO)

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/GECCO), Diversity (DA/GECCO), Info Literacy (IL/GECCO)

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 141 - Electrical Apparatus

COURSE DESCRIPTION:
ELT 141. Electrical Apparatus (4) (Spring). Overview of transformers and their operation including single and three-phase theory. Focus is on construction and hook-up of single-phase, three-phase, open Y and Delta transformer connections. Covers capacitor banks, including application and installation. Prerequisite: ELT 101 (May be taken concurrently) or ELT 112 (May be taken concurrently). Two lecture. Four lab.

COURSE CONTENT:
1. Fundamentals of transformer operation and protection
2. Single phase transformer operation and connections
3. Three-phase transformer operation and connections
4. Open Y- and Delta connections
5. Surge arrestor operation and installation
6. Capacitor bank operation and installation

LEARNING OUTCOMES:
1. Describe the parts, theory of operation, and function of transformers. (1)
2. Explain the differences between conventional and self- protected transformers and describe the appropriate uses of each. (1)
3. Draw the connections and utilize the procedures and techniques used to install single-phase transformers. (2)

4. Draw the connections and utilize the procedures and techniques used to install three-phase transformers. (3)
5. Draw the connections and utilize the procedures and techniques used to install open Y- and Delta transformers. (4)
6. Describe surge arresters and explain their operation, application, and use in the utility industry. (5)
7. Describe capacitor banks and explain their operation, application and installation on power lines. (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
Electronics Technology Department

ELT 161 - Microprocessors and Programmable Controllers

COURSE DESCRIPTION:
ELT 161. Mircroprocessors & 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/GECCO)

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/GECCO)

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 Booelan 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/GECCO), Oral Communication (OC/GECCO)

ELT 201 - Introduction to Linework I

COURSE DESCRIPTION:
ELT 201. Introduction to Linework I (2) (Fall). Overview of the linework industry including its history, technological developments and current practices. Examination of industry equipment and tools. Focus is on safety practices and procedures used in utility linework industry. Prerequisite: ELT 101 (May be taken concurrently) or ELT 112 (May be taken concurrently). One lecture. Two lab.

COURSE CONTENT:
1. History of linework
2. Technological developments and current practices of linework
3. Pole climbing equipment and tools
4. Pole climbing techniques and safety practices
5. Grounding equipment and tools
6. Cover-up techniques and safety practices

LEARNING OUTCOMES:
1. Describe the history of the linework industry. (1)
2. Identify technological developments and define current linework practices. (2)
3. Identify and describe the equipment and tools used in pole climbing. (3)
4. Describe and utilize safety techniques used in pole climbing. (4)
4. Identify and describe the equipment and tools used in testing and grounding. (5)
6. Describe and use the techniques used in cover-up. (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
Electronics Technology Department

ELT 202 - Field Training I (Lineworker)

COURSE DESCRIPTION:
ELT 202. Field Training I (Lineworker) (6) (Fall). Basics of climbing and working on utility poles. Focus is on apparatus and equipment, using ropes and rigging equipment, installations of single and double cross arms, pole framing and setting, use of hand line and building single-phase lines. Prerequisite: ELT 201 (May be taken concurrently). Two lecture. Eight lab.

COURSE CONTENT:
1. Climbing equipment and tools
2. Climbing safety and techniques
3. Ropes and rigging
4. Pole framing and setting
5. Building single phase lines

LEARNING OUTCOMES:
1. Identify and use equipment and tools to climb utility poles. (1)
2. Utilize safe, industry-standard pole climbing techniques.(2)
3. Identify the types of rope used in the utility industry and describe their characteristics and appropriate use. (3)
4. Identify and tie knots used in the utilty industry and describe the appropriate use of each type. (3)

5. Employ effective team working skills. (4)
6. Use the skills necessary to frame single and double cross arms. (4)
7. Use tools and techniques to build single- phase lines. (5)

REQUIRED ASSESSMENT:
1. Standardized pole climbing assessment.

6.000 Credit hours
2.000 Lecture hours
8.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Electronics Technology Department

Course Attributes:
Civic Engagement (CE/GECCO)

ELT 211 - Introduction to Linework II

COURSE DESCRIPTION:
ELT 211. Introduction to Linework II (2) (Spring). Advanced study of the linework industry with an emphasis on hot sticking and lockout/tagout procedures using industry-standard safety practices.Prerequisite: ELT 201. One lecture. Two lab.

COURSE CONTENT:
1. Hot sticking equipment and tools
2. Hot sticking techniques and safety practices
3. Lockout /tagout equipment and tools
4. Lockout /tagout techniques and safety practices

LEARNING OUTCOMES:
1. Identify and describe the equipment and tools used in hot sticking. (1)
2. Describe and employ techniques used in hot sticking. (2)
3. Identify the tools and equipment used in, and explain the importance of, lockout/tagout procedures. (3)
4. Describe procedures used in communications for lockout /tagout procedures . (4)
5. Use industry-standard techniques for lockout/tagout. (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
Electronics Technology Department

ELT 212 - Field Training II (Lineworker)

COURSE DESCRIPTION:
ELT 212. Field Training II (Lineworker) (6) (Spring). Installation of electrical lines including transformers, reclosers and capacitor banks. Topics include rubber gloving, hot sticking techniques, and working on underground lines. Practice in the safe set up and operation of equipment used in the linework industry with a focus on the development of entry-level skills as drivers and operators. Includes Commerical Driver's License (CDL) standards as well as procedures and practice in pole-top and bucket truck rescues. Prerequisite: ELT 202. Two lecture. Eight lab.

COURSE CONTENT:
1. Equipment used in the utilty industry

2. Live-line work practices
3. Three-phase electrical line construction and installation
4. Pole-top rescues
5. Bucket truck rescues
6. Underground line construction and installation
7. CDL standards

LEARNING OUTCOMES:
1. Identify the equipment used in the utility industry and utilize safe operating techniques for each. (1)
2. Identify and describe maintenance practices for keeping equipment in safe operating condition. (1)
3. Construct and install three-phase electrical line systems. (3)
4. Describe and use the procedures necessary for the maintenance of three-phase systems. (3)
5. Describe and use the procedures for rubber-gloving and hot-sticking power lines. (2, 3)
6. Describe and use the procedures for a safe pole-top rescue. (4)
7. Describe and use the procedures for a safe bucket-truck rescue. (5)
8. Construct and install underground power lines. (6)
9. Operate commercial equipment according to CDL standards. (5, 7)

6.000 Credit hours
2.000 Lecture hours
8.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Electronics Technology Department

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/GECCO)

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. Prequisite: 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 contol. (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/GECCO)

ELT 272 - Motors and Motor Control

COURSE DESCRIPTION:
ELT 272. Motors and Motor Controls. Credit Hours: (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/GECCO)

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 Managment (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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Digital Lit (DL/GECCO), Oral Communication (OC/GECCO)

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. Identify 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Info Literacy (IL/GECCO)

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Civic Engagement (CE/GECCO)

EMA 130 - Leadership Models for Emergency Management

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Oral Communication (OC/GECCO)

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety 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 teh 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division

Emergency Medical Services Department

Course Attributes:
Scientific (SL/GECCO)

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Written Comm (WC/GECCO)

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division

Emergency Medical Services Department

Course Attributes:
Critical Thinking (CT/GECCO)

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Quantitative Lit (QL/GECCO)

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Diversity (DA/GECCO)

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Creative Thinking (CR/GECCO)

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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Scientific (SL/GECCO)

EMS 241 - Paramedicine I

COURSE DESCRIPTION:
EMS 241. Paramedicine I (14). Introduction to Paramedicine including overview of rules and regulations, paramedic attributes,dispatch operations, EMS operations, pharmacology, medication administration, aiarway 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. Pathophysiogical 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

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Creative Thinking (CR/GECCO), Info Literacy (IL/GECCO)

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 car 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

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Critical Thinking (CT/GECCO), Quantitative Lit (QL/GECCO)

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

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Civic Engagement (CE/GECCO), Digital Lit (DL/GECCO)

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). Nine 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

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Diversity (DA/GECCO)

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

0.000 Lecture hours
18.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Emergency Medical Services Department

Course Attributes:
Oral Communication (OC/GECCO), Written Comm (WC/GECCO)

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

Science, Health, Public Safety Division
Emergency Medical Services Department

EMS 296 - Internship: Emergency Medical Services

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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Emergency Medical Services 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 085 - College Literacy Skills

COURSE DESCRIPTION:
ENG 085. College Literacy Skills (4). Introduction to college-level reading skills with emphasis on developing vocabulary, using adaptive reading strategies, recognizing organizational patterns, identifying main ideas and supporting details, and analyzing for comprehension. Prerequisite: Satisfactory score on the reading skills assessment. Four 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 for purpose, tone, and bias
7. Critical reading for fact and opinion, inferences and conclusion

LEARNING OUTCOMES:
1. Employ various strategies to define vocabulary, including context, word parts, and dictionary use. (1)
2. Identify organizational patterns in reading. (2)
3. Identify main ideas and major and minor supporting details in readings. (3)
4. Write effective summaries. (4)
5. Apply appropriate reading rates and strategies for college-level material. (5)
6. Identify author's purpose, tone, and bias. (6)
7. Distinguish between fact and opinion and logical inferences and conclusions. (7)

4.000 Credit hours
4.000 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 (1). Academic and personal skills needed to promote success in Introductory Composition. Co-requisite: ENG 100. Three lab.

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)

1.000 Credit hours

3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Foundation Studies Division
English Department

ENG 092 - Writing Success Lab I

COURSE DESCRIPTION:
ENG 092. Writing Success Lab I (1). Individualized writing instruction designed to complement and improve performance in College Composition I. Co-requisite: ENG 101. Three lab.

COURSE CONTENT:
1. Documentation
2. Grammar fundamentals (fragments, subordination, coordination)
3. Revision strategies

LEARNING OUTCOMES:
1. Incorporate in-text citations and create a works cited page. (1)
2. Identify and correct common grammatical errors. (2)
3. Identify strategies for revision and apply revision strategies the student's writing. (3)

1.000 Credit hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Foundation Studies Division
English Department

ENG 093 - Writing Success Lab II

COURSE DESCRIPTION:
ENG 093. Writing Success Lab II (1). Individualized reading and writing instruction designed to complement and improve performance in College Composition II. Co-requisite: ENG 102. Three lab.

COURSE CONTENT:
1. Organization
2. Revision
3. Surface features
4. Sources and documentation

LEARNING OUTCOMES:
1. Use strategies to organize essays . (1)
2. Utilize revision strategies to update drafts. (2)
3. Apply conventions of standard written English. (3)
4. Locate sources using library and databases, and document using appropriate methods. (4)

1.000 Credit hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Foundation Studies Division
English Department

ENG 100 - Introductory Composition

COURSE DESCRIPTION:
ENG 100. Introductory Composition (3). Introduction to basic writing, reading and research skills required for success in college. Prerequisite: Satisfactory score on the skills assessment. (ENG 085 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. (2,4-7)
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 arguments in essays. (10)

REQUIRED ASSESSEMENT:
A minimum of 4000 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

ENG 101 - College Composition I

COURSE DESCRIPTION: SUN⌗
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 (1rst Time), Dual Enrollment (Repeat), Lecture

Foundation Studies Division
English Department

Course Attributes:
Applied Communication/Writing, College Composition, Written Comm (WC/GECCO), SUN# ENG 1101

ENG 102 - College Composition II

COURSE DESCRIPTION: SUN#
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 (1rst Time), Dual Enrollment (Repeat), Lecture

Foundation Studies Division
English Department

Course Attributes:
Applied Communication/Writing, College Composition, Written Comm (WC/GECCO), 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, Written Comm (WC/GECCO)

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, Written Comm (WC/GECCO)

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/GECCO)

ENG 140 - Reading the World:

COURSE DESCRIPTION:
ENG 140. Reading the World: (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/GECCO)

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. (1,4,5) (AH 1,4)
2. Appraise the close relationship between British literature (both form and content) and historical changes in British society and culture. (4,5) (AH 2)
3. Describe broad patterns of development in British literature from its beginnings to the end of the 18th century. (1,2) (AH 5)
4. Identify the major literary themes and genres as well as some of their variations in each historical period. (2) (AH 3)
5. Develop written and oral critical analysis of significant literary texts, working from a coherent theoretical perspective. (5)
6. Apply effective research and documentation techniques when needed. (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), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC/GECCO)

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/GECCO), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC/GECCO)

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 the ancient literature of the West. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

COURSE CONTENT:
1. Representative individual works and authors from various periods and locales
2. Major themes and genres of various periods and locales
3. Patterns of development and influence in ancient 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. Identify the literary forms of tragedy and epic by reading and comparing works from ancient cultures. (1,2) (AH 1,3,5)
2. Identify the origins of tragedy and epic in the literature of ancient cultures. (3,4) (AH 1-3)
3. Analyze the qualities of heroism and tragic stature in the literature of ancient cultures. (1-3)
4. Describe the social, cultural, and historical context from which this literature arose. (4) (AH 1,2)
5. Develop written and oral critical analysis of significant literary texts, working from a coherent theoretical perspective. (5) (AH 3,4)
6. Apply effective research and documentation techniques. (6) (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

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/GECCO), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC/GECCO)

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 adn 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/GECCO)

ENG 220 - Structure of the English Language

COURSE DESCRIPTION:
ENG 220. Structure of the English Language (3). Foundational terms and concepts in grammar. Current views on American English usage such as standard vs. non-standard dialects. The influence of social settings, norms, and cultural values on language. Application of grammatical concepts. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

COURSE CONTENT:
1. Historical foundations of grammar
2. Word classes and syntax
3. Phrases and clauses
4. Basic sentence grammar
5. Sentence patterns, emphasis and cohesion
6. Stylistic variation
7. The origins and basis of usage convention/s
8. American dialects

LEARNING OUTCOMES:

1. Discuss the development of grammar as a field of study. (1)
2. Describe word classes and syntax conventions. (2)
3. Define phrases and clauses. (3)
4. Analyze sentences grammatically. (4)
5. Apply sentence structure, emphasis and cohesion strategies. (5)
6. Appraise stylistic variation. (6)
7. Describe the origins and basis of usage conventions. (7)
8. Relate dialects and social difference. (7)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Foundation Studies Division
English Department

ENG 230 - Introduction to Literature

COURSE DESCRIPTION:
ENG 230. Introduction to Literature (3). Introduction to close reading and writing about a variety of works of literature from different genres. Prerequisite: ENG 101 or ENG 103. Reading Proficiency. Three lecture.

COURSE CONTENT:
1. Formal attributes of literary texts
2. Genre
3. Close reading
4. Literary criticism
5. Meanings and etymologies of English words
6. Contextual influences on works of literature
7. Scholarly research and documentation
8. Rhetorical strategies
9. Surface features

LEARNING OUTCOMES:
1. Define key terms and give examples of literary devices in a variety of works of literature. (1, 3) (AH 3)
2. Identify and compare works from a variety of genres. (2, 3) (AH 5)
3. Discuss various approaches to literary criticism and apply their methods to works of literature. (4, 3) (AH 4)
4. Analyze how language contributes to the meaning of a work of literature. (5)
5. Determine and analyze the contextual (social, cultural, political, historical) influences on works of literature. (6, 7) (AH 1, 2)
6. Conduct scholarly research. (7)
7. Document sources in MLA style. (7)
8. Determine the relationships between and among audience, text, and author in a variety of genres and texts, and employ rhetorical strategies in critical writing about texts. (8)
9. Apply conventions of standard written English. (9)

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

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 sotry, 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/GECCO), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC/GECCO)

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, Trancendentalism 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/GECCO), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC/GECCO)

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/GECCO), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC/GECCO)

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/GECCO)

ENG 296 - Internship: English

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/GECCO)

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

Science, Health, Public Safety Division
Environmental Studies Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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)
c. 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

Science, Health, Public Safety Division
Environmental Studies Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Environmental Studies Department

FMA 101 - Film/TV History and Analysis

COURSE DESCRIPTION:
FMA 101. Film/TV History and Analysis (3) (Fall). Analysis of films and television programs, looking at them in an historical context. Focus is on artistic, storytelling, character development, design, production and business content of the media and includes replication of the production styles in the studio. Three lecture.

COURSE CONTENT:
1. Story and structure
2. Image
3. Sound
4. Character development
5. Artistic design
6. Theme
7. Subtext
8. Historical significance and cultural resonance
9. Business models
10. Marketing film and TV through history

LEARNING OUTCOMES:
1. Analyze story and structure. (1)
2. Describe image and sound analysis using shared and personal vocabularies. (2,3)
3. Identify character development interaction and perceptual elements. (4)
4. Imitate artistic design interactions. (5)
5. Describe individual perceptions of theme, subtext and cultural resonance through historical analyses. (6-8)
6. Explain the business side of the media, including marketing. (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
Digital Filmmaking Department

FMA 102 - Storytelling through Image and Sound

COURSE DESCRIPTION:
FMA 102. Storytelling through Image and Sound (3) (Fall, Summer). Exploration of how film/video images and sound work together to tell a story. Analysis of specific film and scenes from different media, and re-creation of visual and auditory experiences in the studio. Two lecture. Two lab.

COURSE CONTENT:
1. Film scene analysis
2. Recreation of scene
3. Editing scenes

LEARNING OUTCOMES:
1. View, then obtain and analyze, effects of simultaneous images and sounds that duplicate specific film scenes. (1,2)
2. Develop tools to manipulate images and sound experiences. (2)
3. Use digital cameras and off-line editing computers to compose images. (2)
4. Use audio recorders. (2)
5. Mix sound. (2, 3)
6. Obtain, write, direct, film and edit sounds and images. (1-3)

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
Digital Filmmaking Department

FMA 103 - Writing for the Screen

COURSE DESCRIPTION:
FMA 103. Writing for the Screen (3) (Fall, Summer). Writing for the screen across the media: film, television, documentaries, YouTube, commercials and industrial video. Includes marketing the products. Three lecture.

COURSE CONTENT:
1. Media analysis
2. Media categories (film, TV, documentary, YouTube, commercial, industrial video)
3. Marketing media products

LEARNING OUTCOMES:
1. Watch and analyze media from various categories. (1)
2. Write a script in each media category. (2)
3. Develop a marketing plan in a media category. (2, 3)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Digital Filmmaking Department

FMA 105 - Directing/Camera Coverage/Sound

COURSE DESCRIPTION:
FMA 105. Directing/Camera Coverage/Sound (3) (Spring). Skills and techniques for planning location and studio shoots; directing, cinematography and sound capture using digital cameras. Prerequisite: FMA 102. Two lecture. Two lab.

COURSE CONTENT:
1. Scene set-up and camera coverage
2. Basic camera techniques
3. Basic lighting techniques
4. Basic sound
5. Crew communication

LEARNING OUTCOMES:
1. Identify camera coverage, lighting and sound requirements. (1-4)
2. Develop camera coverage and lighting set-ups. (2, 3)
3. Use basic camera skills. (2)
4. Develop sound set-ups. (4)
5. Work with a production crew utilizing communication skills. (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
Digital Filmmaking Department

FMA 106 - Storytelling through Editing

COURSE DESCRIPTION:
FMA 106. Storytelling through Editing (3) (Fall). Film editing from analysis and story structure to final cut using industry standard techniques and software. Three lecture.

COURSE CONTENT:
1. Mechanical, aesthetic and storytelling components of film editing
2. Digital editing
3. Film analysis of image and sound
4. Low-budget editing solutions
5. Director/editor relationship
6. Editing terminology

LEARNING OUTCOMES:
1. Use industry standard editing software. (1,2)
2. Convert shooting script to usable images. (1-3)
3. Illustrate basic editing techniques. (1-3, 6)
4. Compensate for ineffective coverage using stock and graphics. (1-4)
5. Generate personal editing techniques. (1-5)
6. Edit film shot by others. (1-6)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Digital Filmmaking Department

FMA 107 - Editing and Managing Post-Production

COURSE DESCRIPTION:
FMA 107. Editing and Managing Post-Production (3) (Spring). Film editing focuses on story structure of thesis through polished film, including sound, music and picture. Post-Production management includes keeping workflow current. Prerequisite: FMA 106. Three lecture.

COURSE CONTENT:
1. Non-Linear editing
2. Editing techniques and theory
3. Importing digital elements
4. Synchronizing sound, music, add titles and graphics
5. Project organization, video and audio files
6. Export for projection/distribution

LEARNING OUTCOMES:
1. Import, render, cut, and polish video into a comprehensive story. (1-6)
2. Import sound effects, ADR, music and dialogue and, based on known and new editing techniques, build sound for film. (2)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Digital Filmmaking Department

COURSE DESCRIPTION:
FMA 108. YouTube Storytelling and Monetization (3) (Fall). Establishment and maintenance of a YouTube channel for professional promotion. Includes both the production of content as well as marketing and business strategies for promoting and monetizing that content. Three lecture.

COURSE CONTENT:
1. YouTube channel
2. Channel visibility and subscriber optimization
3. Series ideas
4. Business plan
5. Marketing plan
6. Channel launch

LEARNING OUTCOMES:
1. Build and manage a YouTube channel. (1,2)
2. Write for the YouTube channel. (3)
3. Manage the business and marketing of the channel. (2,4-6)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Digital Filmmaking Department

FMA 109 - Screenwriting: Iconic Film and Television Analysis

COURSE DESCRIPTION:
FMA 109. Screenwriting: Iconic Film and Television Analysis (3) (Spring). Exploration of iconic films (both studio and indie) and television shows as part of the language of filmmaking. Analysis of what makes certain scenes from film and TV "iconic" and how they continue to influence the future of cinema. Development of new stories, scenes and screenplays that evoke iconic film scenes. Three lecture.

COURSE CONTENT:
1. "Iconic" films and TV shows
2. Analysis of screenwriting styles in scenes from iconic films and TV shows
3. Writing skills using select iconic film scenes and TV shows as models

LEARNING OUTCOMES:
1. Analyze the structures and themes of iconic film scenes and television shows and identify commonalities. (1,2)
2. Write scenes, teleplays, stories and treatments utilizing different iconic film styles. (2,3)
3. Identify how iconic films have shaped and continue to shape the film and television industry as it has evolved. (1)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Digital Filmmaking Department

FMA 110 - Thesis Film/TV Pre-Production

COURSE DESCRIPTION:
FMA 110. Thesis Film/TV Pre-Production (3) (Spring). Pre-production for thesis film, including completion of a budget, break down of a script, casting actors, recruiting crew, and procuring locations. Three lecture.

COURSE CONTENT:
1. Preparation and organization of thesis film
2. Script breakdown
3. Shooting schedule
4. Storyboard
5. Cast and crew recruitment
6. Site location
7. Legal releases for locations, music rights, cast and crew
8. Budget preparation

LEARNING OUTCOMES:
1. Prepare all materials and schedules for shooting thesis film. (1-3)
2. Coordinate equipment and personnel scheduling. (3-5)
3. Identify site location. (6)
4. Recruit cast and crew for filming, and cast actors. (5)
5. Obtain legal releases for cast/crew, music and locations. (7)
6. Create professional budget and use for film. (8)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Digital Filmmaking Department

FMA 112 - Film/TV/Media Reviews and Criticism

COURSE DESCRIPTION:
FMA 112. Film/TV/Media Reviews and Criticism (3) (Spring). Multiple approaches to the art and practice of film criticism. Differences between film reviewing and criticism, and the importance of audience, style and approach. Emphasis on story, director, acting, editing and production value. Practice film criticism through film viewing and discussion of films and through writing and peer reviews. Three lecture.

COURSE CONTENT:
1. A film's story, direction, acting, editing and production value
2. Styles of film directing, storytelling and editing
3. Film reviewing vs. criticism
4. Audience, style and approach
5. Evaluating indie and studio films

LEARNING OUTCOMES:
1. Evaluate a film's story, direction, acting, editing and production value, and recognize different styles. (1,2,5)
2. Identify the difference between film reviewing and criticism. (3,4)
3. Write film reviews for different genres in studio and indie films. (4,5)
4. Write to your audience. (4)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Digital Filmmaking Department

FMA 201 - Thesis Film/TV Production

COURSE DESCRIPTION:
FMA 201. Thesis Film/TV Production (4) (Spring). Production of a 5-10 minute film or media of student's choice. Directing and producing an original short film/TV project. Prerequisite: FMA 102 and 106. Two lecture. Four lab.

COURSE CONTENT:
1. Replication of a professional film/video/TV production
2. Collaborative filmmaking techniques
3. Field production
4. Video post-production
5. Audio post-production
6. Technical complexity
7. Production oversight
8. Five - 10 minute digital short

LEARNING OUTCOMES:
1. Oversee digital film production. (1-3, 7)
2. Direct original short film. (1-3, 7, 8)
3. Collaborate in a field production. (1, 2, 7)
4. Integrate technical complexity in digital editing. (4-6)
5. Adapt to production schedule. (1, 2, 7)
6. Prioritize camera plan. (3)
7. Synchronize video and audio files. (4, 5)
8. Schedule ADR in sound booths. (5-7)
9. Record foley. (5, 6)
10. Export final film. (4, 6, 8)
11. Create digital archive. (6, 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
Digital Filmmaking Department

FMA 202 - Advanced Writing for the Screen

COURSE DESCRIPTION:
FMA 202. Advanced Writing for the Screen (4) (Spring). Screenplay writing techniques applied to a range of script projects including short and feature films, industrial video, marketing and TV. Writing practice, including writing dialogue and building structure and characterization, and continuing development of visual language. Prerequisite: FMA 103. Four lecture.

COURSE CONTENT:
1. Screenwriting forms and structures
2. Analysis of screenwriting techniques, structures and forms
3. Screenwriting culture, criticism, marketing and monetization
4. Elements of scripting for industrial, documentary and narrative productions

LEARNING OUTCOMES:
1. Identify and utilize screenplay elements (e.g. genre, structure, characterization and visual language). (1, 2)
2. Identify techniques for generating story ideas. (4)
3. Describe screenplay outlets for creative growth, marketing and monetization. (3)
4. Critically and creatively assess writing from self and others. (3, 4)

4.000 Credit hours
4.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Digital Filmmaking 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 sfety 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

Science, Health, Public Safety 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
0.000 Lab hours

Levels: Credit
Schedule Types: Lecture

Science, Health, Public Safety Division
Fire Science Department

FSC 104 - Hazardous Materials First Responder Operations

COURSE DESCRIPTION:
FSC 104. Hazardous Materials First Responder Operations (3). 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 Arizona Center for Fire Service Excellence certification. Two 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
3.000 Credit hours
2.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Science, Health, Public Safety 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. 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Science, Health, Public Safety Division
Fire Science Department

Course Attributes:
Civic Engagement (CE/GECCO)

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 equipmentDescribe 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.

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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Fire Science Department

Course Attributes:
Creative Thinking (CR/GECCO)

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 supression 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Fire Science Department

Course Attributes:
Quantitative Lit (QL/GECCO)

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. 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

Science, Health, Public Safety 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
c. 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 (1rst Time), Dual Enrollment (Repeat), Lecture

Science, Health, Public Safety 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. 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Fire Science Department

Course Attributes:
Scientific (SL/GECCO)

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 harrassment
7. Employee relations, standards for physical testing, residency, grooming, promotions, psycholgical 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 parmeters 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
0.000 Lab hours

Levels: Credit

Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Fire Science Department

Course Attributes:
Diversity (DA/GECCO), Written Comm (WC/GECCO)

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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Fire Science Department

Course Attributes:

Critical Thinking (CT/GECCO)

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

Science, Health, Public Safety Division
Fire Science Department

Course Attributes:
Digital Lit (DL/GECCO)

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 divison 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

Science, Health, Public Safety Division
Fire Science Department

Course Attributes:
Oral Communication (OC/GECCO)

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

Science, Health, Public Safety Division
Fire Science Department

Course Attributes:
Info Literacy (IL/GECCO)

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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Fire Science Department

FYE 103 - Success for College, Career and Life

COURSE DESCRIPTION:
FYE 103. Success for College, Career and Life (3). Life and college success strategies, including community building activities, designed to help students make a successful transition to college. Three lecture.

COURSE CONTENT:
1. Success strategies
2. Self-awareness and self-regulation
3. College culture
4. Time management and organizational skills
5. Academic and technology skills
6. Student support resources
7. Academic and career planning

LEARNING OUTCOMES:
1. Identify and apply skills and strategies necessary for success in both college and life. (1-3, 5)
2. Implement a time management system for timely accomplishment of academic work and life balance. (3, 4)
3. Utilize campus resources, including academic advising. (3, 6, 7)
4. Navigate technology related to success at Yavapai College, including learning management system, program tracking software, career exploration resources, library technology, and the YC Website. (3, 5, 7)

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

GEO 101 - World Geography West

COURSE DESCRIPTION: **SUN#**
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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), Global/Internl or Historical, Social Science (AGEC)

GEO 102 - World Geography East

COURSE DESCRIPTION: **SUN#**
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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), Global/Internl 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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GEO 105 - Introduction to Cultural Geography

COURSE DESCRIPTION:
GEO 105. Introduction to Cultural Geography (3). An 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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), 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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Critical Thinking (AGEC), Critical Thinking (CT/GECCO)

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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GEO 230 - Topics in Regional Geography

COURSE DESCRIPTION:
GEO 230. Topics in Regional Geography (3). Examination of the distribution of volcanoes, biogeoclimatic zones, centers of population, demographics, climate and geomorphology of selected regions. Three lecture.

COURSE CONTENT:
1. Distribution of cultural groups in the region
2. Dominate religion, language and demographics in the region
3. Political structure of the region
4. Economy of the region
5. Climate of the region
6. Geomorphology of the region
7. Biogeoclimatic zones of the region

LEARNING OUTCOMES:
1. Explain why various physical aspects of the region are distributed the way they are (e.g. volcanoes, climate). (5, 6)
2. Classify and identify the locations of the biogeoclimatic zones in the region. (7)
3. List the cultural groups in the region. (1)
4. Explain the political structure and economy of the region. (3, 4)
5. Articulate the demographics of the region. (2)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Social Sciences Department

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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GLG 101 - Introduction to Geology I

COURSE DESCRIPTION: SUN⌗
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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), 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. 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GLG 117 - Implications of Plate Tectonics

COURSE DESCRIPTION:
GLG 117. 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

Science, Health, Public Safety Division

Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GLG 118 - Evolution of the Basin and Range

p>COURSE DESCRIPTION:
GLG 118. 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GLG 119 - Geology of Grand Canyon

COURSE DESCRIPTION:
GLG 119. 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GLG 120 - Geology of Northern Arizona

COURSE DESCRIPTION:
GLG 120. 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GLG 121 - Volcanoes and Earthquakes of Northern Arizona

COURSE DESCRIPTION:
GLG 121. 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. (()) (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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GLG 122 - Geology of Death Valley

COURSE DESCRIPTION:
GLG 123. 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 Basis 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. (() (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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GLG 123 - Geology of Bryce and Zion

COURSE DESCRIPTION:
GLG 123. 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

GLG 124 - Geology of the Prescott Region

p>COURSE DESCRIPTION:
GLG 124. 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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

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

Science, Health, Public Safety Division
Physical Sciences Department

GLG 196 - Directed Research: Geology

COURSE DESCRIPTION:
GLG 196. Directed Research: Geology (1-3). Faculty or mentor directed student research in an area of current scientific investigation culminating in a final report, paper, or presentation. Students will work in the lab or in the field to gain the intellectual, technical, and practical skills necessary to further the knowledge base in an area of scientific investigation with the objective of contributing to the professional body of scientific knowledge.

COURSE CONTENT:
1. Safety training relevant to the research area
2. Introduction to concepts and central themes in the research area
3. Methods of inquiry
4. Instrumental and laboratory 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. (1-4)
2. Maintain a permanent and timely record of research progress and results. (5-7)
3. Communicate the scope and detail of the project to others through written and verbal presentations. (6, and 7)
*There may be additional outcomes as appropriate to the specific research area. (1-7)

REQUIRED ASSESSMENT:
Professional laboratory notebook, including a log of research hours. Written, audio-visual, or verbal presentation of research outcomes.

1.000 TO 3.000 Credit hours
0.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Directed Research

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science Division
Lifelong Learning Department

Course Attributes:
Civic Engagement (CE/GECCO)

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: Application required with the following documentation: Yavapai College Student Number (Y#), current concealed carry weapon (CCW) permit or federal background check. Students under the age of 21 must contact ID Vetting (866.987.3767) for security check if their state does not issue CCW permits for applicants under the age of 21, and gunsmithing disclosure statement. 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/GECCO), Written Comm (WC/GECCO)

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/GECCO), Scientific (SL/GECCO)

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 onglet, small onglet 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/GECCO), Critical Thinking (CT/GECCO), Info Literacy (IL/GECCO)

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/GECCO), Diversity (DA/GECCO), Oral Communication (OC/GECCO)

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: GST 250. 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: GST 250. 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 competitve 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 (2). 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)

2.000 Credit hours
0.000 Lecture hours
6.000 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 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. Prerequisite: Reading Proficiency. 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. Asses the role of the Health Information Management (HIM) profession in health care delivery and outline how HIM professional 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

Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Oral Communication (OC/GECCO)

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 CAHIIM Curriculum Requirements

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

HIM 150 - ICD-9-CM Medical Coding

COURSE DESCRIPTION:

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, OPPS
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 CAHIIM Curriculum Requirements

4.000 Credit hours
4.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Info Literacy (IL/GECCO)

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, IV.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 IV.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 IV.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 IV.A.5
5. Participate in the planning, design, selection, implementation, integration, testing, evaluation, and support of EHRs. (8) Domain IV.A.5
6. Apply knowledge of database architecture and design to meet departmental needs. (8) Domain IV.B.1
7. Outline appropriate electronic or imaging technology for data/record storage. (9) Domain IV.C.1
8. Query and generate reports to facilitate information retrieval. (9) Domain IV.C.2
9. Identify and follow retention and destruction policies for health information. (9,10) Domain IV.C.3
10. Apply confidentiality and security measures to protect electronic health information. (11,12) Domain IV.D.1
11. Evaluate data integrity and validity using software and hardware technology. (12) Domain IV.D.2
12. Apply departmental and organizational data and information system security policies. (12) Domain IV.D.3
13. Use and summarize data compiled from audit trail and data quality monitoring programs. (12) Domain IV.D.4

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Digital Lit (DL/GECCO)

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. Prerequisite: Reading Proficiency. 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 CAHIIM Curriculum requirements.

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Diversity (DA/GECCO)

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 CAHIIM Curriculum Requirements.

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety 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

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 CAHIIM Curriculum requirements.

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Written Comm (WC/GECCO)

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 CAHIIM Curriculum requirements.

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Quantitative Lit (QL/GECCO)

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. Prerequisite: HIM 110. 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 the 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 CAHIIM Curriculum requirements.

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

HIM 240 - Disease Process

COURSE DESCRIPTION:
HIM 240. 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

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

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety 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 CAHIIM Curriculum Requirements

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety 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, OPPS
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 CAHIIM Curriculum Requirements.

4.000 Credit hours
4.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Critical Thinking (CT/GECCO)

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: Completion of all degree coursework and practicum application, 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 in this course. One lecture. Nine lab. S/U grading only.

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
13. Illustrate the tools and techniques used to monitor reports and improve processes. (12) Domain V.A.6
14. Exhibit appropriate workplace behaviors and professional ethics. (13) Domain III.B.5
15. Use critical thinking, problem solving, ethical awareness, and effective writing. (14) Domain B.III.5, V.B.5

Domains listed refer to CAHIIM Curriculum requirements.

4.000 Credit hours
1.000 Lecture hours

9.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Civic Engagement (CE/GECCO), Creative Thinking (CR/GECCO)

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

Arts & Humanities Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), Ethnic, Race & Gender, Global/Internl or Historical, Historical Perspective (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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

Arts & Humanities Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), Ethnic, Race & Gender, Global/Internl or Historical, Historical Perspective (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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 Folsum 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

Arts & Humanities 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, economical, 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

Arts & Humanities Division
Social Sciences Department

Course Attributes:

Diversity (DA/GECCO), Ethnic, Race & Gender, Global/Internl or Historical, Historical Perspective (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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, economical, 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, Conservativism, 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 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. 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

Arts & Humanities Division
Social Sciences Department

Diversity (DA/GECCO), Ethnic, Race & Gender, Global/Internl or Historical, Historical Perspective (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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

Arts & Humanities Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), Ethnic, Race & Gender, Global/Internl or Historical, Historical Perspective (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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--Ummayads
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

Arts & Humanities Division
Social Sciences Department

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 major 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

Arts & Humanities Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), 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

Arts & Humanities 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

Arts & Humanities Division
Social Sciences Department

HOS 100 - Introduction to the Hospitality Industry

COURSE DESCRIPTION:
HOS 100. Introduction to the Hospitality Industry (3). Overview of the hospitality industry, including the food service business, restaurants and hotels, and the meeting and conference industry. Includes hospitality industry management and leadership; human resources; marketing and promotion; franchising; and ethics in hospitality management. Three lecture.

COURSE CONTENT:
1. Travel and tourism industry
2. Career exploration in the hospitality industry
3. Foodservice
4. Restaurant structure
5. Hotel structure
6. Club structure and operation
7. Introduction to the meeting industry
8. Understanding management and leadership
9. Managing human resources
10. Marketing and selling in the hospitality industry

12. Management companies
13. Franchising
14. Ethics in hospitality managment

LEARNING OUTCOMES:
1. Discuss major tourism markets, attractions, and spending statistics. (1)
2. Identify the advantages and disadvantages of a career in hospitality. (2)
3. Summarize and discuss the major pitfalls of launching a new restaurant, as well as practices that promote success. (4)
4. Describe menu categories and summarize the importance of menu design and pricing. (3)
5. Describe the unique characteristics of different types of hotels and discuss differences in operations, employees, and customers. (5)
6. Discuss compliance with the Americans with Disabilities Act in hotel operations. (5,6)
7. Discuss the organization of clubs and compare types of clubs. (6)
8. Describe the meetings industry and the types of meetings typically held in lodging facilities. (7)
9. Trace the development of management theories, and describe the classical school and the behavioral school of management. (8)
10. Explain current labor trends and discuss methods to motivate and retain employees. (9)
11. Distinguish marketing from selling and describe the unique challenges of service marketing. (10)
12. Summarize the advantages of advertising, the role of advertising for hospitality businesses, and social concerns about advertising. (11)
13. Discuss the role of management companies and summarize the major terms and provisions typically addressed in hotel management contracts. (12)
14. Compare the success rate of franchises versus other private businesses, state common reasons why individuals buy a franchise, and outline the advantages and disadvantages of owning a franchise. (13)
15. Define ethics and give examples of ethical practices in the hospitality industry. (14)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Career & Technical Education Division
Hospitality Department

HOS 110 - Food Service Systems Management

COURSE DESCRIPTION:
HOS 110. Food Service Systems Management (3). Introduction to the various components of systematic food service management. Includes investigation of management principles, various management control methods, and critical operational functions. Three lecture.

COURSE CONTENT:
1. Foodservice systems
2. Management and leadership principles
3. Foodservice management
4. Management controls
5. Financial systems in foodservice
6. Human resources in foodservice
7. Menu development
8. Marketing
9. Customer service and relations
10. Equipment in the kitchen

LEARNING OUTCOMES:
1. Classify food service systems in the food service industry. (1)
2. Describe professional management and leadership in food service operations and its importance in the industry. (2)
3. Describe the components of systematic food service management and how they work together for successful food service management. (3)
4. Identify critical components of management controls including quality controls, cost control, staffing, purchasing

internal controls, and accounting systems. (4)
5. Prepare and analyze financial statements in food service. (5)
6. Describe human resources operations in the food service industry, including staffing, recruitment, selection, orientation, scheduling, motivation, training, and development. (6)
7. Create menu planning and design. (7)
8. Explain marketing practices in food service and develop a marketing plan. (8)
9. Explain the importance of customer service. (9)
10. Describe the categories, maintenance, and sanitation of kitchen equipment in restaurant operations. (10)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Hospitality Department

HOS 115 - Hospitality Front Office Procedures

COURSE DESCRIPTION:
HOS 115. Hospitality Front Office Procedures (3). Principles and procedures for front office operations in hotels and resorts. Includes classification of hotels, organizational structure, front office operations planning and evaluation, and human resources management. Incorporates reservations, registration, front office accounting, check out and settlement, night audit, and revenue management. Three lecture.

COURSE CONTENT:
1. Classification of hotels
2. Hotel structure and operations
3. Front office operations
4. Reservations
5. Registration
6. Front office responsibilities
7. Front office accounting
8. Check out and settlement
9. Night audit
10. Planning and evaluating operations
11. Revenue management
12. Managing human resources

LEARNING OUTCOMES:
1. Describe hotels according to industry classification and standards. (1)
2. Describe hotel structure and operation. (2)
3. Discuss front office systems, forms, organization, equipment, and telecommunications related to the guest cycle. (3)
4. Explain types of reservations and methods for taking and maintaining reservations. (4)
5. Explain the activities that take place during the registration process. (5)
6. Identify front office responsibilities and tasks. (6)
7. Describe the accounting functions that relate to the front desk. (7)
8. Front desk check out and settlement process. (8)
9. Perform night audit functions. (9)
10. Describe management functions related to forecasting, budgeting, and evaluating front desk operations. (10)
11. Describe the elements of revenue management related to the front desk. (11)
12. Discuss methods of recruiting, selecting, hiring, training, scheduling, and motivating personnel. (12)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Hospitality Department

HOS 120 - Meeting and Convention Management

COURSE DESCRIPTION:
HOS 120. Meeting and Convention Management (3). Basic principles for planning and operating meetings, conventions, and trade shows. Includes types of events and their economic impact, meetings as a social phenomenon, and the role of the meeting planner. Introduces practical tools for preliminary planning and needs analysis, program design and budgeting, site selection, and on-site management. Three lecture.

COURSE CONTENT:
1. Site selection
2. The convention and visitors bureau
3. The art of negotiation
4. Contracts, confirmations, and lease agreements
5. Program planning
6. Budgeting and financial management
7. Liability and meeting/convention insurance
8. Housing
9. Meeting facilities
10. Food and beverage arrangements
11. Transportation
12. Audio/visual equipment
13. Exhibitions/trade shows

LEARNING OUTCOMES:
1. Evaluate and select a meeting/convention site. (1)
2. Describe the role of the convention and visitors bureau in the planning process. (2)
3. Negotiate expense items for a meeting/convention. (3)
4. Describe the components of contracts and lease agreements. (4)
5. Explain the program planning process. (5)
6. Prepare an accurate event budget and manage fiscal operations. (6)
7. Recognize liability and insurance needed for a meeting/convention. (7)
8. Determine housing needs and the role of the housing bureau for a convention. (8)
9. Conduct a needs analysis for a meeting/convention. (9)
10. Describe the food and beverage arrangements for a meeting/convention. (10)
11. Schedule the transportation needs for a meeting/convention. (11)
12. Construct the audiovisual equipment needs for a meeting/convention. (12)
13. Express the components necessary in organizing an exhibition or trade show. (13)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Hospitality Department

HOS 150 - Hospitality Property Management

COURSE DESCRIPTION:
HOS 150. Hospitality Property Management (3). Examination of planning, implementing, and monitoring the hospitality operation environment with the aim of enhancing the guest experience by fostering a proactive approach to compliance, conformance to standards and competitiveness. Includes design and layout of guestrooms, lobbies, food outlets, and recreation outlets as it pertains to maintenance and housekeeping; product and service analysis; inventory control; preventative maintenance; renovations; liability; protecting guests and their property; asset protections; grounds and landscaping; ecology; and transportation. Three lecture.

COURSE CONTENT:
1. Inn keeping legal practices

3. Inn keeping safety
4. Departmental responsibilities in guest and assest protection
5. Ecology
6. Housekeeping human resouorces and organization
7. Expenses, inventory, and bar stock control
8. Guestroom and public areas
9. Ceilings, wall, furniture, and fixtures
10. Beds, linens, and uniforms
11. Carpets and floors
12. Bathroom furnishings and fixtures
13. Industry research

LEARNING OUTCOMES:
1. Compare legal principles of protecting guest property to industry policies and practices. (1)
2. Enhance the security of guestrooms, guests, and employees. (2)
3. Identify the risks associated with slip, trip, fall, fire, water systems, power outages, air quality, food borne illness, and bed bugs; and the measures associated to reduce risks. (3)
4. Explain departmental responsibilities in guest and asset protection. (4)
5. Recognize the purpose and process of a green certified hospitality operation including the impact of ecological and psycho-environment principles on hospitality operation design and layout. (5)
6. Compare the selection and training of an executive housekeeper and a guest room attendants. (6)
7. Describe methods to determine par stock and inventory control for linens, uniforms, guest loan items, equipment, cleaning products, in-room products. (7)
8. Inspect and clean a model guestroom while minimizing the potential for physical injury. (8)
9. Construct concepts of ceilings, walls, furniture, and fixtures. (9)
10. Construct concepts of beds, linens, and uniforms. (10)
11. Construct concepts of carpets and floors. (11)
12. Construct concepts of bathroom furnishings and fixtures. (12)
13. Research a common industry issue or practice and apply theory to an opportunity for enhancement in guestrooms, lobbies, food outlets, and recreation outlets. (13)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division
Hospitality Department

HOS 195 - Hospitality Practicum

COURSE DESCRIPTION:
HOS 195. Hospitality Practicum (3). Work experience in the hospitality and tourism industry. Students are required to partner with an approved hospitality business and complete a minimum of 60 hours of experiential work experience. Prerequisite: HOS 100 (May be taken concurrently). One lecture. Four lab. [Repeatable for a total of 6 credit hours towards degree/certificate requirements.]

COURSE CONTENT:
1. Communication skills
2. Time and energy management
3. Stress and its management
4. Careers: Information and its uses
5. Job market
6. Principles, theories and practice in hospitality
7. Work situations

LEARNING OUTCOMES:
1. Discuss the need for skills in oral and written communication and the importance to job success. (1)
2. Employ techniques for managing time and energy for job efficiency. (2)
3. Identify stress in work situations and begin to develop techniques for coping with stress. (3)
4. Find and relate information on career fields to career goals. (4,5)

6. Identify problems which arise in work situations and develop some techniques for successful solution to them. (7)

3.000 Credit hours
1.000 Lecture hours
4.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Internship

Career & Technical Education Division
Hospitality 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

Arts & Humanities Division
Humanities Department

Course Attributes:
Critical Thinking (AGEC), Critical Thinking (CT/GECCO)

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

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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

HUM 205 - Technology and Human Values

COURSE DESCRIPTION:
HUM 205. 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, utilize, and evaluate appropriate 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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender, Intensive Writing, Written Comm
(WC/GECCO)

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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender, Intensive Writing, Written Comm
(WC/GECCO)

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

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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender, Intensive Writing, Written Comm
(WC/GECCO)

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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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 idenity. (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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

HUM 260 - Intercultural Perspectives

COURSE DESCRIPTION:
HUM 260. 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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC/GECCO)

HUM 296 - Internship: Humanities

COURSE DESCRIPTION:
HUM 296. 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

Arts & Humanities 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

Arts & Humanities Division
Humanities Department

ICE 100 - Computed Tomography

COURSE DESCRIPTION:
ICE 100. Computed Tomography (3).Foundations of computed tomography (CT) scanning principles with respect to patient safety, instrumentation, protocols, scanning parameters, cross-sectional anatomy and pathology. Corequisite: ICE 110. Three lecture.

COURSE CONTENT:
1. CT fundamentals
2. Equipment and instrumentation
3. Data acquisition
4. Image processing and reconstruction
5. Patient safety
6. Image quality
7. Procedures

9. Pathology

LEARNING OUTCOMES:
1. Explain the design of CT scanner generations. (1)
2. Explain how adjusting operator console parameters affect CT image data. (2)
3. Describe the process and the factors that influence data acquisition. (3)
4. Define the tools used, and the postprocessing techniques needed, for image enhancement. (4)
5. Discuss the role and the ethical considerations of the CT technologist in reducing radiation dose including technical factor selection, positioning, and shielding. (5)
6. Discuss factors that affect CT image quality including artifacts. (6)
7. Properly position a patient and select appropriate scan parameters for common CT exams. (7)
8. Identify specific organs or structures on a cross-sectional acquired or reformatted CT image. (8)
9. Identify pathologic processes on CT images. (9)
10. Review CT images for quality, accuracy and completeness. (7-9)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Radiology Department

ICE 110 - Computed Tomography Clinical Education I

COURSE DESCRIPTION:
ICE 110. Computed Tomography Clinical Education I (3). Clinical instruction in computed tomography (CT) including system operation and components, image formation and reconstruction, characteristics of image quality, artifact recognition/reduction, CT exam protocols and patient care. Corequisite: ICE 100. Nine lab.

COURSE CONTENT:
1. Professional protocols
2. Image processing procedures
3. Patient care
4. Patient processing procedures
5. CT scanning skills
6. Technical procedures

LEARNING OUTCOMES:
1. Adhere to safety, emergency and ethical policies and procedures of the CT department and healthcare agency, with assistance as needed, in a professional manner. (1)
2. Perform imaging acquisition and processing procedures including storage of completed examinations, with assistance as needed. (2)
3. Follow patient care protocols before, during, and after the CT examination, with assistance as needed. (3)
4. Perform office procedures including filling, scheduling, billing, report retrieval, and processing of patient, with occasional assistance as needed. (4)
5. Assist the technologist in performing selected CT examinations in the clinical setting to include head, neck, chest, abdomen, pelvis and musculoskeletal scanning. (5)
6. Create diagnostic CT images independently. (6)
7. Utilize appropriate techniques to correct equipment limitations. (6)
8. Perform CT exams as outlined in the Competency Requirements for Post-Primary Certification of the American Registry of Radiologic Technologists (ARRT) in Computed Tomography (CT). (4-6)

3.000 Credit hours
9.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division

ICE 200 - Magnetic Resonance Certification

COURSE DESCRIPTION:
ICE 200. Magnetic Resonance (3). Foundations of magnetic resonance (MR) scanning principles with respect to patient safety, instrumentation, protocols, scanning parameters, cross-sectional anatomy and pathology. Corequisite: ICE 210. Three Lecture.

COURSE CONTENT:
1. Magnetic Resonance (MR) fundamentals
2. Equipment and instrumentation
3. Radiofrequency and gradients
4. Image production parameters
5. Contrast media
6. Pulse sequences
7. Safety essentials
8. Image quality
9. Procedures
10. Pathology

LEARNING OUTCOMES:
1. Describe how the MR signal is produced and detected and how the image is acquired. (1)
2. Define magnetism and magnetic properties. (1)
3. Identify the major hardware components in MR imaging. (2)
4. Explain the functionality of the radiofrequency, gradients systems and role of coils in image acquisition. (3)
5. Explain intrinsic and extrinsic parameters that affect image quality. (4)
6. Discuss proper screening, patient preparation, use, and adverse effects of MR contrast agents. (5, 7)
7. List parameters related to tissue characteristics that affect image quality and apply proper pulse sequences in MR imaging. (6)
8. Describe how imaging parameters determine contrast and resolution on MR images. (8)
9. Define the tools used and the postprocessing techniques needed for image enhancement. (8)
10. Explain proper patient positioning for common exams, protocols and imaging parameters to obtain diagnostic MR images with minimal artifact. (9)
11. Identify specific organs or structures on a cross-sectional acquired or reformatted MR image. (9)
12. Review MR images for quality, accuracy and completeness. (9)
13. Explain the appearance of normal tissue and pathologic processes on MR images. (10)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Radiology Department

ICE 210 - Magnetic Resonance Clinical Education I

COURSE DESCRIPTION:
ICE 210. Magnetic Resonance Clinical Education I (3). Clinical instruction in magnetic resonance (MR) imaging including system operation and components, image formation and reconstruction, characteristics of image quality, artifact recognition/reduction and MR exam protocols and patient care.Corequisite: ICE 200. Nine lab.

COURSE CONTENT:
1. Professional protocols
2. Image processing procedures
3. Patient care
4. Patient processing procedures
5. MR scanning skills
6. Technical procedures

LEARNING OUTCOMES:
1. Adhere to safety, emergency and ethical policies and procedures of the MR department and healthcare agency, with assistance as needed, in a professional manner. (1)
2. Perform imaging acquisition and processing procedures including storage of completed examinations, with assistance as needed. (2)
3. Follow patient care protocols before, during, and after the MR examination, with assistance as needed. (3)
4. Perform office procedures including filling, scheduling, billing, report retrieval, and processing of patient, with occasional assistance as needed. (4)
5. Assist the technologist in performing selected MR examinations in the clinical setting to include head, neck, thorax, abdomen, pelvis and musculoskeletal scanning. (5)
6. Create diagnostic MR images independently. (6)
7. Utilize appropriate techniques to correct equipment limitations. (6)
8. Perform MR exams as outlined in the competency requirements for Post-Primary Certification of the American Registry of Radiologic Technologists (ARRT) in Magnetic Resonance (MR). (4-6)

3.000 Credit hours
9.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Radiology 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)

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/GECCO)

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/GECCO)

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

Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Career & Technical Education Division
Industrial Plant Technology Department

Course Attributes:
Scientific (SL/GECCO)

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/GECCO)

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/GECCO), Oral Communication (OC/GECCO)

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/GECCO)

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/GECCO), Quantitative Lit (QL/GECCO)

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/GECCO)

IPT 296 - Internship: Industrial Plant Technician

COURSE DESCRIPTION:
IPT 296. Internship: Industrial Plant Technician (3) (Fall). Supervised field experience with businesses, corporations,

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)

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

Arts & Humanities Division
Journalism Department

Course Attributes:
Critical Thinking (AGEC), Critical Thinking (CT/GECCO)

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

Arts & Humanities Division
Journalism Department

Course Attributes:
Applied Communication/Writing, Written Comm (WC/GECCO)

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

Arts & Humanities 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.

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

Arts & Humanities 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

Arts & Humanities Division
Journalism Department

LAW 100 - Introduction to Paralegal Studies

COURSE DESCRIPTION:

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, Ed, & Social Science 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

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Paralegal Studies Department

LAW 102 - Legal Computer Applications

COURSE DESCRIPTION:
LAW 102. Legal Computer Applications (3). Introduction to, and advanced application of, computer 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, time and billing, calendaring, and docket control, case management, document management, litigation support, computer research tools, and ethical considerations.. Prerequisite: CSA 140. Three 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
8. 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

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, explain and prepare 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)
9. Manage information by applying legal software applications packages to law office situations, which may include: Timeslips or Verdict software; Amicus Attorney or Abacus software; Summation Blaze, InData, Trial Director, or DiscoverFY software; PCLaw; and other legal-specific software as appropriate and available. (8)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science 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. Three lecture.

COURSE CONTENT:
1. Terminology, definitions, and law associated with wills, trusts, estate administration
2. Wills and trusts
3. Estate administration
4. Personal representatives, fiduciaries and trustees
5. Arizona probate law

LEARNING OUTCOMES:
1. Apply the law regarding will and trust drafting. (1,2)
2. Identify the laws of intestate succession. (3)
3. Identify the basic functions of the participants in estate administration. (3)
4. Prepare the pleadings for an informal probate. (3)
5. Compare the responsibilities and liabilities of personal representatives, fiduciaries and trustees. (4)
6. Identify the required pleadings in a formal probate. (5)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science 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. 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

Levels: Credit
Schedule Types: Lecture

Business, Ed, & Social Science 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. Two lecture.

COURSE CONTENT:
1. Federal and state court system
2. Terminology
3. Constitutional protections
4. Arrest
5. Evidence
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. (1)
2. Identify and apply the elements of common law and Arizona crimes. (1,2)
3. Explain criminal trial procedure from grand jury through appeal. (1,2)
4 Describe the roles of the police, prosecutors, defense attorney, judges and paralegals in the criminal justice system. (4-6)
5. Define and use legal terminology related to criminal law. (2,4,5)
6 Explain and define the role of the Bill of Rights in criminal litigation. (3)

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Paralegal Studies Department

LAW 202 - Real Estate Law

COURSE DESCRIPTION:
LAW 202. 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. (1,2,6)
2. Describe ways of holding title, encumbrances and conveyances. (3-5)
3. Draft real estate documents for a transfer of real property. (7-10)
4. Identify title defects and resolutions. (9)
5. Develop a real estate notebook to aid in undertaking a real estate transaction. (6-10)
6. Analyze legal concepts and apply them to a real estate transaction. (2,6)
7. Analyze how real estate law impacts other areas of law. (1,2)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science 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. 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: delinquency and dependency proceedings

LEARNING OUTCOMES:
1. Define and use legal terminology related to domestic relations and family law. (1)
2. Conduct initial client interviews. (3)
3. Prepare dissolution pleadings from petition through decree. (1-3)
4. Explain the procedural process of a dissolution from filing to judgement. (2)
5. Differentiate between legal separation, dissolution and annulment. (4-6)
6. Distinguish between community property and separate property. (1,7)
7. Draft forms relating to conservatorship, guardianship, adoption and parental terminations, health care and powers of attorney. (1,8,10)
8. Relate the role, activities, and process of state in family and family relationships. (9-11)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Paralegal Studies Department

LAW 206 - Contracts

COURSE DESCRIPTION:
LAW 206. Contracts (2). Legal requirements of corporations, partnerships, LLCs, and sole proprietorships. 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, Ed, & Social Science 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. 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, Ed, & Social Science Division

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: BSA 105 and (ENG 101 or ENG 103 or ENG 136). 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

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, Ed, & Social Science 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. (1,2,4-6)
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. (1,2,4-6)
5. Draft complex legal documents. (1-6)
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, Ed, & Social Science 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: BSA 105 and CSA 140 and LAW 100 and (ENG 101 or ENG 103 or ENG 136). 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 including complaints, summons, certificates, answers and disclosure statements
8. Elements of basic negligence actions including duty, breach, causation, damages, defenses, comparative negligence, and immunities
9. Terminology

LEARNING OUTCOMES:
1. Outline the litigation process from client interview through the pleading stage. (1-7)
2. Interview clients and witnesses. (4)
3. Draft basic litigation documents. (7)
4. Describe the role of the paralegal in the litigation process. (1-7)
5. Define legal terminology related to personal injury litigation. (9)
6. Describe the key components of Arizona law related to personal injury litigation. (8)

3.000 Credit hours
2.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Business, Ed, & Social Science 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. Two lecture. Two lab.

COURSE CONTENT:
1. Preparation of discovery and pretrial documents including interrogatories, requests for admission and subpoenas
2. Depositions
3. Summary judgments
4. Arbitration
5. Pretrial motions

7. Trial procedures including jury selection, courtroom observations, trial notebooks, note taking, daily trial recapitulation, demonstrative exhibit, and witnesses
8. Post trial and appellate procedures
9. Torts including abuse of process, product liability, slander/libel, employment torts, malpractice, fraud/misrepresentation, and emotional distress
10. Terminology

LEARNING OUTCOMES:
1. Outline the litigation process from pleading state through post trial. (1-8, 10)
2. Prepare a trial notebook. (1-8)
3. Apply the Arizona Rules of Civil Procedure. (1-8)
4. Assist in the process of witness preparation. (6)
5. Draft discovery and trial pleadings. (1)
6. Describe the role of the paralegal in the litigation process. (1-7, 10)
7. Identify elements of different tort causes for action. (9, 10)

3.000 Credit hours
2.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Business, Ed, & Social Science 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, Ed, & Social Science Division
Paralegal Studies Department

Course Attributes:
Civic Engagement (CE/GECCO), Creative Thinking (CR/GECCO), Critical Thinking (CT/GECCO), Diversity
(DA/GECCO), Digital Lit (DL/GECCO), Info Literacy (IL/GECCO), Oral Communication (OC/GECCO), Quantitative Lit
(QL/GECCO), Scientific (SL/GECCO), Written Comm (WC/GECCO)

LAW 298 - Special Legal Topics

COURSE DESCRIPTION:
LAW 298. 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. 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

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Paralegal Studies Department

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, Ed, & Social Science 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)

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/GECCO)

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 with grades of "C" or better each semester within the last 2 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 (1rst Time), Dual Enrollment (Repeat), Lecture

Foundation Studies Division
Mathematics Department

Course Attributes:
Quantitative Literacy, Quantitative Lit (QL/GECCO)

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 with grades of "C" or better each semester within the last 2 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 (1rst Time), Dual Enrollment (Repeat), Lecture

Foundation Studies Division
Mathematics Department

Course Attributes:
Quantitative Literacy, Quantitative Lit (QL/GECCO), 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 proportiions. (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/GECCO)

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/GECCO)

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)

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 (1rst Time), Dual Enrollment (Repeat), Lecture

Foundation Studies Division
Mathematics Department

Course Attributes:
Quantitative Literacy, Quantitative Lit (QL/GECCO), 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/GECCO)

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. Inroduction 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: **SUN#**
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 with grades of "C" or better each semester within the last 2 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 (1rst Time), Dual Enrollment (Repeat), Lecture

Foundation Studies Division
Mathematics Department

Course Attributes:
Quantitative Literacy, Quantitative Lit (QL/GECCO), SUN# MAT 1187

MAT 212 - Survey of Calculus

COURSE DESCRIPTION:
MAT 212. Survey of Calculus (3). 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

Foundation Studies Division
Mathematics Department

Course Attributes:
Quantitative Literacy, Quantitative Lit (QL/GECCO)

MAT 220 - Calculus and Analytic Geometry I

COURSE DESCRIPTION: SUN#
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 a 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 (1rst Time), Dual Enrollment (Repeat), Lecture

Foundation Studies Division
Mathematics Department

Course Attributes:
Quantitative Literacy, Quantitative Lit (QL/GECCO), SUN# MAT 2220

MAT 230 - Calculus and Analytic Geometry II

COURSE DESCRIPTION: SUN#
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 (1rst Time), Dual Enrollment (Repeat), Lecture

Foundation Studies Division
Mathematics Department

Course Attributes:
Quantitative Literacy, Quantitative Lit (QL/GECCO), SUN# MAT 2230

MAT 241 - Calculus III

COURSE DESCRIPTION: SUN#
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 ingegrals. (9) (QL 1,2)
11. Use Divergence, Curl, Green's Theoremj, 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/GECCO), SUN# MAT 2241

MAT 262 - Elementary Differential Equations

SUN#

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/GECCO), 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

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/GECCO)

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

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 101 - Private Music I

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

1.000 Credit hours
0.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Private Music

Arts & Humanities 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

Arts & Humanities 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

3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Arts & Humanities 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 is 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

Arts & Humanities 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.

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

Arts & Humanities 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

3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Arts & Humanities 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

Arts & Humanities 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

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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities Division
Performing Arts Department

MUS 114 - Big Band II

COURSE DESCRIPTION:

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

Arts & Humanities 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

Arts & Humanities 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 fo 4 credit hours towards degree/certificate requirements.)

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

Arts & Humanities 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

Arts & Humanities 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. Two lecture.

COURSE CONTENT:
1. Notation of pitch
2. Time classifications
3. Note and rest values
4. Time signatures

6. Scales
7. Key signatures
8. Triads

LEARNING OUTCOMES:
1. Aurally compare the pitches between a major and a minor scale. (1,6)
2. Aurally identify and notate all simple intervals. (1,5)
3. Compare the difference between a slur and a tie. (3)
4. Define compound meters. (2)
5. Define the four triad types. (8)
6. Place barlines in a line of music. (4,7)
7. Describe how a scale may be transposed to any pitch level. (1,7)
8. Describe how intervals are identified. (5)
9. Describe how intervals are used to construct triads. (5,8)
10. Describe the accumulative effect of dot(s) on note value. (3)
11. Explain concepts used in determining consonance and dissonance among intervals. (5)
12. Explain the role of the leading tone note in the harmonic minor scale. (3,6)
13. Explain the significance of the top and bottom number in a meter signature. (4)
14. Identify and notate a major scale. (6)
15. Identify and notate an open position triad. (8)
16. Identify and notate any given interval. (5)
17. Identify and notate given modal scales. (6)
18. Identify and notate the clef symbols. (3)
19. Identify aurally and notate root position triads. (8)
20. Identify each tone placement name (member) of a triad. (1,8)
21. Identify pitch names of notes on ledger lines. (1,3)
22. Identify pitch names on the grand staff. (1)
23. Identify the primary triads in a given key, labeling each with the appropriate Roman numeral. (8)
24. Identify, by sight and sound, simple and compound metered music. (3,4)
25. List five song associations with interval names. (5)
26. List structural characteristics of a melody. (1-8)
27. List the modal scale names. (6)
28. List two aids used in identifying intervals. (5)
29. Notate a chromatic scale. (6)
30. Perform rhythmic exercises in simple and compound meters. (1-8)
31. Sight sing simple melodies. (1-8)

2.000 Credit hours
2.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities 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. 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

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

Arts & Humanities 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 technics 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

Arts & Humanities Division
Performing Arts Department

MUS 135 - Singing for the Actor

COURSE DESCRIPTION:
MUS 135. Singing for the Actor (2). The art of performance in voice with singing/acting techniques through practical application and repertoire study. Focus is on the fundamentals of correct breathing, tone production and diction, and the analysis of material to develop a process to bring a song to performance level. One lecture. Two lab.

COURSE CONTENT:
1. Basics of singing and warmup
2. Individual song work - from a technical standpoint and dramatically
3. Group singing interactions
4. Ways songs might be performed and creating a show - the order of songs, possible themes, common threads among songs, and staging
5. Rehearsals and performances

LEARNING OUTCOMES:
1. Interpret singing/acting performance techniques through practical application and repertoire study. (1,2)
2. Analyze song material and develop a process to bring a song to performance level. (2-4)
3. Explore the musical theatre canon through sight-singing, work-shopping, and performing. (2-4)
4. Use the basic elements of the physiology of the voice and singing techniques. (1-4)
5. Discover vocal production through individual and ensemble exercises and performances. (2-5)

2.000 Credit hours
1.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Arts & Humanities Division
Performing Arts Department

MUS 151 - Applied Music I

COURSE DESCRIPTION:
MUS 151. Applied Music I (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

Arts & Humanities 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

Arts & Humanities 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 deportment in public venues. (5)

1.000 Credit hours
0.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Arts & Humanities Division
Performing Arts Department

COURSE DESCRIPTION:
MUS 198. Music Topics: (1-3). Exploration of music techniques and expression. One-three lecture. [Repeatable for a total of 6 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 TO 3.000 Credit hours
1.000 TO 3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities 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 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities Division
Performing Arts Department

MUS 223 - Vocal Ensemble

COURSE DESCRIPTION:

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

Arts & Humanities 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

Arts & Humanities 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.

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

Arts & Humanities 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

Arts & Humanities 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)

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

Arts & Humanities 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

Arts & Humanities Division
Performing Arts Department

MUS 231 - Advanced Integrated Theory I

SUN#

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. Neopolitan and augmented 6th chords

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 conceptsIdentify 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

Arts & Humanities 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

Arts & Humanities 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

Arts & Humanities Division
Performing Arts Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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

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

Arts & Humanities Division
Performing Arts Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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

Arts & Humanities Division
Performing Arts Department

MUS 253 - 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

Arts & Humanities 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.

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

Arts & Humanities 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

Arts & Humanities 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

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

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety 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

Science, Health, Public Safety 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

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 assessmentsand 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 relaionship 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

Science, Health, Public Safety Division
Nursing Department

Course Attributes:
Written Comm (WC/GECCO)

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

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
All Sections for this Course

Science, Health, Public Safety Division
Nursing Department

Course Attributes:
Scientific (SL/GECCO)

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

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

Science, Health, Public Safety Division
Nursing Department

Course Attributes:
Quantitative Lit (QL/GECCO)

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:

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

Science, Health, Public Safety Division
Nursing Department

Course Attributes:
Creative Thinking (CR/GECCO)

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 criticlly ill patient and for the patient with commonly occuring 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)

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

Science, Health, Public Safety Division
Nursing Department

Course Attributes:
Digital Lit (DL/GECCO)

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

Science, Health, Public Safety Division
Nursing Department

Course Attributes:
Diversity (DA/GECCO), Oral Communication (OC/GECCO)

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

Science, Health, Public Safety Division
Nursing Department

Course Attributes:
Critical Thinking (CT/GECCO)

NSG 235 - Nursing Management and Leadership

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

Science, Health, Public Safety Division
Nursing Department

Course Attributes:
Civic Engagement (CE/GECCO), Info Literacy (IL/GECCO)

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.

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

Science, Health, Public Safety 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.

6. Student's self-evaluation of experience.

3.000 Credit hours
0.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Internship

Science, Health, Public Safety 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

Science, Health, Public Safety 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

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

Science, Health, Public Safety 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:

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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Nutrition 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

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

Science, Health, Public Safety Division
Physical Education Department

PHE 100D - T'ai Chi Chih

COURSE DESCRIPTION:
PHE 100D. T'ai 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 T'ai 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 T'ai 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

Science, Health, Public Safety Division
Physical Education Department

PHE 100E - T'ai Chi Ch'Uan

COURSE DESCRIPTION:
PHE 100E. T'ai Chi Ch'uan (1). T'ai 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 T'ai Chi Ch'uan
2. Origins of T'ai Chi Ch'uan
3. Cultural perspectives and mind-body fitness
4. Health benefits of T'ai Chi Ch'uan
5. T'ai Chi Ch'i-kung
6. T'ai Chi push hands
7. Complete body warm-up

LEARNING OUTCOMES:
1. Perform complete Wu-Family form of T'ai Chi Ch'uan. (1)
2. Critique historical and cultural perspectives of mind-body fitness. (2,3)
3. Articulate health benefits of T'ai Chi Ch'uan. (4)
4. Perform T'ai 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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Physical Education Department

PHE 100G - Intermediate Yoga

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

Science, Health, Public Safety 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

Schedule Types: Additional Activity, Lab
All Sections for this Course

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Schedule Types: Additional Activity, Lab

Science, Health, Public Safety 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

Science, Health, Public Safety 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.

0.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety 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

Science, Health, Public Safety 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 marital 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 skillcomponents
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

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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Physical Education Department

PHE 120B - Water Cross Training

COURSE DESCRIPTION:
PHE 120B. Water Cross Training (1). Variable water training methods, including interval training, boot camp, and circuit training. Water training equipment is used to enhance muscular strength and endurance and aerobic capacity. The use of buoyancy equipment for deep water training is encouraged, but not mandatory. 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
4. FIT Training Principles
5. Rate of Perceived Exertion Principle

LEARNING OUTCOMES:
1. Apply water cross training and interval training principles to enhance aerobic capacity, and strength and

2. Apply strategies and techniques for exercise adherence for healthy lifestyle behaviors. (3)
3. Exercise safely using the FIT principles and by monitoring rate of perceived exertion. (4,5)

1.000 Credit hours
0.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Physical Education Department

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

Science, Health, Public Safety Division
Physical Education Department

PHE 140L - Cardio Tennis

COURSE DESCRIPTION:
PHE 140L. Cardio Tennis (1). Active cardio program using tennis as a medium. Two lab. S/U grading only.

COURSE CONTENT:
1. Heart rate training zone
2. Training principles
3. Tennis movement skills
LEARNING OUTCOMES:
1. Calculate individual training heart rate. (1)
2. Use training principles in warm ups, aerobic work and cool downs. (1-3)
3. Apply tennis movement skills. (3)

1.000 Credit hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety 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

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

Science, Health, Public Safety 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 diciplines, 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

Science, Health, Public Safety 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, Dual Enrollment, Dual Enrollment (Repeat), Lecture

Science, Health, Public Safety 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)

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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Science, Health, Public Safety 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

Science, Health, Public Safety 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

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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Physical Education Department

PHE 168 - Introduction to Sport Psychology

COURSE DESCRIPTION:
PHE 168. Introduction to Sport Psychology (3). Introduction to the interaction between psychological variables and exercise, physical activity and sport performance. Psychological theory and practical skills that influence and enhance performance. Three lecture.

COURSE CONTENT:
1. Psychological theories pertaining to exercise, physical activity and sport performance
2. Personality, self-confidence, motivation and goal setting
3. Emotional and mental control techniques for stress, anxiety, anger
4. Concentration, attention control, and arousal regulation
5. Participation, achievement, and competition
6. Sport leadership and group cohesion in adolescent and adult sport and exercise programs
7. Signs and symptoms of physical adaptive stress

LEARNING OUTCOMES:
1. Identify sport psychology techniques and their relevance to enhancing exercise, physical activity and sport

2. Describe the relationship between psychological variables and performance in exercise, physical activity and sport. (1-7)
3. Explain how psychological factors influence involvement in exercise, physical activity and sport programs. (1,2,5,7)
4. Apply sport psychology models and theories to a variety of sport and exercise situations and age groups. (1-7)
5. Identify skills and knowledge about sport and exercise psychology that can be applied as a participant, teacher, coach or exercise leader. (1-7)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Physical Education Department

PHE 170 - 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: Additional Activity, Lab

Science, Health, Public Safety Division
Physical Education Department

PHE 171 - 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

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
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Physical Education Department

PHE 178 - Dance Topics:

COURSE DESCRIPTION:
PHE 178. 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
0.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Physical Education Department

PHE 198 - Professional Seminars:

COURSE DESCRIPTION:
PHE198. Professional Seminars: (.25-1.00). Exploration of a special topic related to exercise, wellness, fitness or sport. One-quarter to one lecture. [Repeatable for a total of 2 credit hours toward degree/certificate requirements.]

COURSE CONTENT:
1. Introduction to the special topic

3. Terms related to the topic

LEARNING OUTCOMES:
1. Describe and discuss the topic. (1, 2)
2. Explore issues related to the topic. (2)
3. Define and apply terms related to the topic. (3)

0.250 TO 1.000 Credit hours
0.250 TO 1.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Physical Education Department

PHE 200 - Introduction to Mindfulness Meditation and Self-Compassion

COURSE DESCRIPTION:
PHE 200. Introduction to Mindfulness Meditation and Self-Compassion (1). Introduction to the theory, practice, and techniques of mindfulness meditation and self-compassion. Focus is on practices and complementary activities which cultivate clear awareness to the present moment with self-acceptance. Includes science-based evidence supporting practice techniques and associated health benefits. One lecture. S/U grading only.

COURSE CONTENT:
1. Components, techniques and benefits of mindfulness meditation
2. Components, techniques and benefits of self-compassion

LEARNING OUTCOMES:
1. Define components, describe techniques and discuss health benefits associated with mindfulness meditation practices. (1)
2. Define components, describe techniques and discuss health beneftis associated with self-compassion. (2)
3. Use and apply mindfulness and compassion techniques for health benefits. (1, 2)

1.000 Credit hours
1.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety Division
Physical Education Department

PHE 200F - Path of Yoga

COURSE DESCRIPTION:
PHE 200F. The Path of Yoga (3). Introduction to Yoga history and philosophy. Practice of Hatha Yoga and meditation. Two lecture. Two lab.

COURSE CONTENT:
1. History of Yoga
2. Yoga philosophy
3. Techniques, precautions, and health benefits of Hatha Yoga and meditation
4. Components of Hatha Yoga practice

LEARNING OUTCOMES:
1. Trace Yoga origins and historical development. (1)
2. Identify and describe several Yoga schools. (1, 2)

4. Discuss the health benefits of Hatha Yoga and meditation. (3)
5. Apply techniques to enhance experience in Hatha Yoga and meditation. (3,4)

3.000 Credit hours
2.000 Lecture hours
2.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Science, Health, Public Safety Division
Physical Education Department

PHE 202 - Stress Reduction through Evidence-Based Strategies

COURSE DESCRIPTION:
PHE 202. Stress Reduction through Evidence-Based Strategies (3). Exploration of the factors that reduce stress, contribute to resiliency, awareness, non-reactivity and promote well-being combining the latest scientific evidence with experiential exercises. Includes science-based practice techniques that are associated with health benefits and happiness focusing on strategies to live, love, study and work creatively in the face of stress, adversity and/or change. Three lecture.

COURSE CONTENT:
1. Components, techniques and benefits of mindfulness meditation
2. Components, techniques and benefits of self-compassion meditation
3. Science of stress and effects of stress on health, well-being and happiness
4. Components, techniques and evidence-based benefits of resiliency practices
5. Evidence-based principles and mind-body practices for stress reduction

LEARNING OUTCOMES:
1. Define components, describe techniques and discuss health benefits associated with mindfulness meditation practices. (1)
2. Define components, describe techniques and discuss health benefits associated with self-compassion. (2)
3. Discuss the interplay between stress, health and happiness. (3)
4. Describe the components, techniques and benefits of resilience on well-being. (4)
5. Use and apply mind-body, self-compassion and emotional resilience techniques for stress reduction and well-being. (1-5)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Science, Health, Public Safety 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

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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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)

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

Arts & Humanities 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

Arts & Humanities Division
Humanities Department

Course Attributes:
Critical Thinking (AGEC), Critical Thinking (CT/GECCO), SUN# PHI 1103

COURSE DESCRIPTION:
PHI 105. Introduction to Ethics (3). Introduction to the philosophical study of morality, including theories of right and wrong behavior, moral responsibility, moral motivation, and the nature of good and evil. Prerequisite: Reading Proficiency. Three lecture.

COURSE CONTENT:
1. The nature of morality and moral reasoning
2. Moral realism, nihilism, relativism and subjectivism
3. Psychological egoism and moral egoism
4. Utilitarianism
5. Deontology
6. The relationship between religion and morality
7. The relationship between science and morality, and the fact-value gap

LEARNING OUTCOMES:
1. Identify the importance and relevance of distinguishing between unsupported ethical opinions and justified ethical beliefs. (1) (CT 1)
2. Analyze various theories of the nature of morality. (2-5) (CT 2)
3. Explain various theories of the relationship between religion and morality. (6) (CT 3)
4. Discuss the inferential gap between descriptive propositions and evaluative propositions, and the prospects for a scientific basis of morality. (7) (CT 4)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities Division
Humanities Department

Course Attributes:
Critical Thinking (AGEC)

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

Arts & Humanities Division
Humanities Department

Course Attributes:
Critical Thinking (AGEC), Critical Thinking (CT/GECCO)

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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & 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

Arts & Humanities Division
Humanities Department

Course Attributes:
Critical Thinking (AGEC), Critical Thinking (CT/GECCO)

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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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

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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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.

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

Arts & Humanities 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

Arts & Humanities Division
Humanities Department

PHT 100 - Fundamentals of Pharmacy Technology

COURSE DESCRIPTION:
PHT 100. Fundamentals of Phamracy 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: Additional Activity, Lecture

Science, Health, Public Safety 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)

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: Additional Activity, Lecture

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

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

Science, Health, Public Safety 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)

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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

PHY 111 - General Physics I

SUN#

COURSE DESCRIPTION:
PHY 111. 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# PHY 1111

PHY 112 - General Physics II

SUN#

COURSE DESCRIPTION:
PHY 112. 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 111. 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 (1rst Time), Dual Enrollment (Repeat), Lab, Lecture, Lecture/Lab

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, SUN# PHY 1112

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)

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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO)

PHY 150 - Physics for Scientists and Engineers I

SUN⊞

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.

4.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# PHY 1121

PHY 151 - Physics for Scientists and Engineers II

SUN#

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

Science, Health, Public Safety Division
Physical Sciences Department

Course Attributes:
Physical & Biological Science, Scientific (SL/GECCO), SUN# PHY 1131

PHY 196 - Directed Research: Physics

PHY 196. Directed Research: Physics (1-3). Faculty or mentor directed student research in an area of current scientific investigation culminating in a final report, paper, or presentation. Students will work in the lab or in the field to gain the intellectual, technical, and practical skills necessary to further the knowledge base in an area of scientific investigation with the objective of contributing to the professional body of scientific knowledge.

COURSE CONTENT:
1. Safety training relevant to the research area
2. Introduction to concepts and central themes in the research area
3. Methods of inquiry
4. Instrumental and laboratory 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. (1-4)
2. Maintain a permanent and timely record of research progress and results. (5-7)
3. Communicate the scope and detail of the project to others through written and verbal presentations. (6, and 7)
*There may be additional outcomes as appropriate to the specific research area. (1-7)

REQUIRED ASSESSMENT:
Professional laboratory notebook, including a log of research hours. Written, audio-visual, or verbal presentation of research outcomes.

1.000 TO 3.000 Credit hours
0.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Directed Research

Science, Health, Public Safety Division
Physical Sciences Department

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.

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

Science, Health, Public Safety 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

Science, Health, Public Safety Division
Physical Sciences Department

POS 110 - American National Government

SUN#

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

Arts & Humanities 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 governmentExplain 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.

1.000 Credit hours
1.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities 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 placementExhibit 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

Arts & Humanities 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 performanceDemonstrate 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

Arts & Humanities Division
Social Sciences Department

PPT 100 - Math & Pre-Employment Test Workshop

COURSE DESCRIPTION:
PPT 100. Math & Pre-Employment Test Workshop (1). Preparation for the Edison Electric entrance examination required by most energy industries. Includes timed daily quizzes, instruction, practice problems and exercises focused on applied math specific to the energy industry. One-half lecture. One lab.

COURSE CONTENT:
1. Division of fractions, averages, percentages, square roots, real numbers, ratios and proportions
2. Unit conversions, charts and graphs, and basic mechanical concepts
3. Pythagorean Theorem; area and perimeter of polygons; radius, diameter and circumference of circles
4. Variable expressions, simple, and two-step equations

LEARNING OUTCOMES:
1. Divide fractions, calculate averages, percentages, square roots, real numbers, ratios and proportions. (1)
2. Convert units of measurement. (2)
3. Read and understand information presented in charts and graphs. (2)
4. Identify and describe basic mechanical concepts. (2)
5. Use the Pythagorean Theorem, calculate area and perimeter of polygons. (3)
6. Calculate radius, diameter and circumference of circles. (3)
7. Solve variable expressions, simple, and two-step equations. (4)

1.000 Credit hours
0.500 Lecture hours
1.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture

Electronics Technology 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
0.000 Lab 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:

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

Business, Ed, & Social Science 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

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, cognititve, 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 sterotyping. (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

Business, Ed, & Social Science Division
Behavioral Sciences Department

Course Attributes:
Behavioral Science (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender

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

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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Oral Communication (OC/GECCO)

PSY 198 - Special Topics: Psychology

COURSE DESCRIPTION:
PSY 198. Special Topics: Psychology (1). Exploration of a special topic in psychology with practical applications. One lecture. [Repeatable for a total of 2 credit hours toward degree/certificate requirements.]

COURSE CONTENT:
1. Issues and concerns related to the topic
2. Underlying theoretical model or approach
3. Specific application of theoretical model or approach

LEARNING OUTCOMES:
1. Describe specific concerns related to the special topic. (1)
2. Analyze and critique underlying theoretical model or approach. (2)
3. Apply theoretical model or approach to specific situations. (3)

1.000 Credit hours
1.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Behavioral Sciences Department

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

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

Business, Ed, & Social Science 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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Critical Thinking (CT/GECCO), Digital Lit (DL/GECCO), Quantitative Lit (QL/GECCO)

PSY 222 - Fundamentals of Professional and Life Coaching

COURSE DESCRIPTION:
PSY 222. Fundamentals of Professional and Life Coaching (4). Introduction to the theory and practice of life, relationship and career coaching as a profession. Prepares students for certification by the International Coach Federation (ICF), the major credentialing body for professional coaching. Prerequisite: Any SOC or PSY course. Four lecture.

COURSE CONTENT:
1. Theoretical foundations for coaching
2. Ethical guidelines and professional standards
3. Coaching agreements
4. Trust and intimacy with the client
5. Coaching presence
6. Active listening
7. Powerful questioning
8. Direct communication
9. Creating awareness
10. Designing actions
11. Planning and goal setting
12. Managing progress and accountability
13. Models for coaching practice

LEARNING OUTCOMES:
1. Articulate social science underlying coaching models and practices. (1)
2. Apply ethical guidelines and professional standards in coaching situations. (2)
3. Discuss with the client the guidelines and specific parameters of the coaching relationship. (3)
4. Create with the client a safe, supportive environment that produces ongoing mutual respect and trust. (4, 5)
5. Use active listening skills such as complete focusing, and ask questions that produce information needed for maximum benefit to the coaching relationship and the client. (6-8)
6. Integrate and evaluate multiple sources of information that help clients gain awareness and take actions that will most effectively lead to agreed-upon coaching results. (9-12)
7. Design a working model of proposed coaching practice. (13)

REQUIRED ASSESSMENT:
1. Coaching Interview Examination.

4.000 Credit hours
4.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Behavioral Sciences Department

PSY 223 - Advanced Coaching Perspectives and Techniques

COURSE DESCRIPTION:
PSY 223. Advanced Coaching Perspectives and Techniques (4) (Spring). Theoretical perspectives and techniques for professional coaching, focusing on particular contexts - group, relationship, leadership, executive and business coaching. Prerequisite: PSY 222. Four lecture.

COURSE CONTENT:
1. Interdisciplinary perspectives impacting coaching
2. Case studies focusing on ethical guidelines and professional standards
3. Techniques for group coaching
4. Relationship coaching skills
5. Executive and leadership coaching models
6. Career and transitional coaching

8. Advanced tools for conducting the coaching conversation
9. Business models for various coaching practices

LEARNING OUTCOMES:
1. Compare coaching theories and models, matching them to the appropriate context. (1)
2. Recognize and analyze ethical dilemas which arise in coaching situations. (2)
3. Develop and conduct group coaching sessions. (3)
4. Implement techniques appropriate for different coaching clients (leaders, business executives, people in relationships, clients in job and life transitions). (4-6)
5. Self evaluate skills and presence as a professional coach. (7, 8)
6. Articulate a business model corresponding to the direction of the desired coaching practice. (9)

REQUIRED ASSESSMENT:
1. Coaching Interview Examination.

4.000 Credit hours
4.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Behavioral Sciences Department

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
0.000 Lab hours

Levels: Credit
Schedule Types: Lecture

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

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

Business, Ed, & Social Science Division
Behavioral Sciences Department

Course Attributes:
Behavioral Science (AGEC)

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. Prerequisite: 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
0.000 Lab hours

Levels: Credit

Business, Ed, & Social Science Division
Behavioral Sciences Department

Course Attributes:
Behavioral Science (AGEC), Diversity (DA/GECCO), Ethnic, Race & 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

Business, Ed, & Social Science 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

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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Scientific (SL/GECCO)

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

Business, Ed, & Social Science Division
Behavioral Sciences Department

Course Attributes:

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

Business, Ed, & Social Science 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. 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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Creative Thinking (CR/GECCO)

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

Business, Ed, & Social Science 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

Business, Ed, & Social Science 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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Written Comm (WC/GECCO)

PSY 277 - Human Sexuality

COURSE DESCRIPTION:
PSY 277. Human Sexuality (3). Introduction to the physical, social, cognitive and cultural issues to human sexuality, includiing sexual health, gender, orientations, pathology and treatments. Examination of the facts and myths, current literature, and changing norms 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 social psychological influences on human sexuality. (1) (BS 1,4,5)
2. Identify the cognitive approaches to the study of human sexuality. (1,2,9) (BS 1,2)
3. Describe the structure and function of male and female reproductive organs. (3) (BS 4)
4. Analyze issues relating to conception, pregnancy, and childbirth. (4,5) (BS 4)
5. Describe the transmissions, symptoms, diagnosis, and treatment of sexually transmitted infections. (6) (BS 4)
6. Investigate social psychological issues surrounding different sexual orientations. (10-12) (BS 1,4)
7. Evaluate attitudes and the psychology that facilitate or inhibit healthy sexual development. (7-9) (BS 1)
8. Describe common sexual dysfunctions and associated therapies. (13) (BS 4)
9. Identify common atypical sexual behaviors with reference to the clinical diagnoses. (14-16) (BS 4)
10. Explain the relationships between religious, ethical, legal and moral concerns relating to human sexual behavior. (17) (BS 1,4)

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

Business, Ed, & Social Science Division
Behavioral Sciences Department

Course Attributes:
Behavioral Science (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender

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
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

Business, Ed, & Social Science Division
Social Sciences Department

PSY 296 - Internship: Psychology

COURSE DESCRIPTION:
PSY 296. Internship: Psychology (3). Supervised field experience with businesses, corporations, government

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, Lecture

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Civic Engagement (CE/GECCO)

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 performanceDemonstrate 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.

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

Business, Ed, & Social Science 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

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Civic Engagement (CE/GECCO), Diversity (DA/GECCO)

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

Science, Health, Public Safety 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

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, milliampere-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

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Quantitative Lit (QL/GECCO)

RAD 135 - Radiation Physics and Equipment

COURSE DESCRIPTION:
RAD 135. Radiation Physics and EquipmentI (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

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

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Scientific (SL/GECCO)

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)

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

Science, Health, Public Safety 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.

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

Science, Health, Public Safety 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)

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

Science, Health, Public Safety 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)

9. Describe immobilization techniques for various procedures and patient conditions. (5)
10. Describe 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

Science, Health, Public Safety 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

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

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Info Literacy (IL/GECCO)

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

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

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:

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: Additional Activity, Lecture

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Written Comm (WC/GECCO)

RAD 230 - Radiology Pharmacology

COURSE DESCRIPTION:

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: Additional Activity, Lecture

Science, Health, Public Safety 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

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

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Creative Thinking (CR/GECCO), Critical Thinking (CT/GECCO)

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

Science, Health, Public Safety Division
Allied Health Services Department

Course Attributes:
Digital Lit (DL/GECCO)

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)

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

Science, Health, Public Safety 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: Additional Activity, Lecture

Science, Health, Public Safety 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)

(25)

3.000 Credit hours
0.000 Lecture hours
9.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab

Science, Health, Public Safety Division
Allied Health Services 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

Science, Health, Public Safety 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:

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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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 useSelect 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

Science, Health, Public Safety 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

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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

Science, Health, Public Safety 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, dislocations
11. Cold injuries, heat and hydration
12. Lightning and altitude illness
13. Submersion incidents

15. Abdominal emergencies
16. 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)
3. Perform CPR in a wilderness setting. (5)
4. Render first aid in a wilderness setting. (1, 4-16)
5. Create a first aid kit for wilderness use. (2)
6. Prepare a patient for evacuation. (7)
7. Plan and perform a rescue and evacuation. (7)
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

Science, Health, Public Safety 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

Science, Health, Public Safety 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

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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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)

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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:

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Diversity (DA/GECCO), Ethnic, Race & Gender, Intensive Writing, Written Comm (WC/GECCO)

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, Ed, & Social Science Division

SOC 101 - Introduction to Sociology

SUN#

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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), Ethnic, Race & Gender, Social Science (AGEC), SUN# SOC 1101

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

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

Business, Ed, & Social Science 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)

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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), Ethnic, Race & Gender, Social Science (AGEC)

SOC 142 - Race and Ethnic Relations

SUN#

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

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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), 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

Levels: Credit
Schedule Types: Additional Activity, Lecture

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), 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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Diversity (DA/GECCO), Info Literacy (IL/GECCO)

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

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
0.000 Lab hours

Levels: Credit
Schedule Types: Lecture

Business, Ed, & Social Science Division
Social Sciences Department

SOC 250 - Social Problems

SUN#

COURSE DESCRIPTION:
SOC 250. Social Problems (3).   **SOC 2250.** 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)

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

Business, Ed, & Social Science Division
Social Sciences Department

Course Attributes:
Ethnic, Race & Gender, Social Science (AGEC), SUN# SOC 2250

SOC 290 - Research Methods

COURSE DESCRIPTION:
SOC 290. Research Methods (4). Planning, execution, analysis, and written reporting of sociological research. Surveys the literature, procedures, and instruments in representative areas of sociological 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

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

Business, Ed, & Social Science 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

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

Business, Ed, & Social Science Division
Social Sciences Department

SPA 100 - Quick, Basic, and Fun Spanish for Travelers and Pre-Beginners

COURSE DESCRIPTION:
SPA 100. Quick, Basic, and Fun Spanish for Travelers and Pre-Beginners (2). Introductory Spanish phraseology as well as parts of speech for the would-be traveler and/or the most basic pre-beginner. Vocabulary terms akin to functional Spanish interactions in specific contexts for travelling and other specialized interests. Focuses on augmenting the most basic Spanish speaking/listening skills, and increasing understanding of cultural products and practices in Spanish speaking countries. Two lecture.

COURSE CONTENT:
1. Formulaic, courtesy and other basic expressions
2. Basic parts of speech such as nouns, adjectives, verbs and syntax
3. Contextualized vocabulary based on a functional syllabus (e.g., vocabulary in restaurants, in the airport, etc.)
4. Periphrastic future constructions
5. Regular ar/er/ir verbs and their present tense conjugations
6. Ser and estar
7. Agreement (number and gender)
8. Articles (definite and indefinite)
9. "Favor de" and "hay que" imperative constructions
10. Cultural products and practices of Spanish speaking countries
11. Basic geographical knowledge of Spanish speaking world

1. Identify parts of speech (e.g., noun, verb, adjective, etc.). (2)
2. Use formulaic and courtesy expressions and other phrases to perform basic day-to-day functions. (1,4,5,7-9)
3. Employ highly contextualized vocabulary to interact with a highly sympathetic native speaker. (3)
4. Recognize various products and practices of target Spanish speaking cultures/regions. (10)
5. Label maps and regions important to the Spanish speaking world. (11)
6. Narrate in the present tense. (5,6)
7. Create future narrations using the periphrastic future construction. (4)
8. Make basic imperative constructions. (9)

2.000 Credit hours
2.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities Division
Modern Languages Department

SPA 101 - Beginning Spanish I

SUN#

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. Prerequisite: 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). (1-4)
2. Describe objects, places, and people. (10)
3. Express basic biographical information on oneself and others (e.g., name, age, origin, profession, phone number, address). (5)
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). (6-10)
5. Respond and contribute to very simple face-to-face conversations with limited spontaneity using frequently used expressions and learned vocabulary. (1-10)
6. Apply the Spanish alphabet and phonetic system, the rules of stress, and the rules of accent marks. (11-13)
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). (14-15)

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

0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities Division
Modern Languages Department

Course Attributes:
SUN# SPA 1101

SPA 102 - Beginning Spanish II

SUN#

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

Arts & Humanities Division
Modern Languages Department

Course Attributes:
SUN# SPA 1102

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

Arts & Humanities 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

Arts & Humanities 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)

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

Arts & Humanities 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

Arts & Humanities Division
Modern Languages Department

SPA 135 - Introduction to Spanish Literature

COURSE DESCRIPTION:
SPA 135. Introduction to Spanish Literature (3). Basic panoramic view of Spanish language poetry and literature from selected countries and authors. Prerequisite: SPA 102. Reading Proficiency. Three lecture.

COURSE CONTENT:
1. Key Spanish literary terms for poetry and literature (e.g., setting, symbolism, simile, metaphor, rhyme scheme, etc.)
2. Historical events, figures and authors from selected Spanish speaking countries (Spain, North, Central and South America) for contextualization of the literature
3. Works of Spanish language literature and poetry from selected authors and countries
4. Cultural products and practices from the Spanish speaking world
5. Critical reasoning and debate of topics of specific import to Spanish speaking countries as represented in the literary works (e.g., justice, revolution, machismo, U.S. involvement, indigenous peoples and their treatment, etc.)
6. Key literary movements (e.g, boom literature, magical realism, etc.)
7. Physical/political geography of Spanish speaking countries and implications for Hispanic authors

LEARNING OUTCOMES:
1. Define key Spanish literary terms for poetry and literature. (1; AH3)
2. Identify major historical events, figures, and authors from Spanish speaking countries which serve to contextualize the literature. (2; AH6; ERG/GIH)
3. Analyze works of Spanish language literature and poetry from selected authors and countries. (3; AH6)
4. Evaluate works of Spanish literature and poetry within their historical/political/cultural context. (3; AH1,2,6; ERG)
5. Recognize the presence of cultural products and practices within major works of Spanish literature and poetry. (4; AH1,2; ERG)
6. Debate topics of specific import to Spanish speaking countries as represented in the literary works . (5, AH1,2,4,5; ERG)
7. Explain key literary movements represented in the Spanish literature and poetry cannon. (6; AH6; GIH)
8. Explain the influence of geography, both physical and political on hispanic authors and their works. (7; AH2; GIH)

REQUIRED ASSESSMENT:
1. Literature analysis essay(s) with MLA citations (1,500 words minimum).

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities Division
Modern Languages Department

Course Attributes:
Arts & Humanities (AGEC), Ethnic, Race & Gender, Global/Internl or Historical

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.

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

Arts & Humanities Division
Modern Languages Department

SPA 201 - Intermediate Spanish I

SUN#

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 or placement exam. Reading Proficiency. 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
12. Historical events and figures as well as literary works from the Spanish-speaking world.

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). (1, AH3)
2. Narrate a series of events with a moderate amount of elaboration. (1-9, AH3)
3. Maintain (i.e., initiate, respond, and contribute to) simple face-to-face conversations with a somewhat sympathetic speaker (or equivalent) with some spontaneity. (1-9, AH3)
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.). (4,6,7, AH3)
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!). (4,6, AH3)
6. Emotionally react to facts with some elaboration (e.g., It's sad that your brother is sick.). (4,6, AH3)
7. Employ the writing process (e.g., organizing thought, composing, revising, peer review, proofreading) in Spanish. (10, AH4,AH5)
8. Describe cultural norms, values, beliefs, and regional variations of areas where Spanish is spoken/used. (11, AH4, AH5, ERG,GIH)
9. Analyze key historical figures and events of the Spanish-speaking world. (12, AH1,AH2,ERG,GIH)
10. Evaluate key literay works from Hispanic authors. (12, AH1,AH2,AH6,ERG,GIH)
11. Recognize literary movements unique to Latin-American writers. (GIH)

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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Arts & Humanities Division
Modern Languages Department

Course Attributes:
Arts & Humanities (AGEC), Ethnic, Race & Gender, Global/Internl or Historical, SUN# SPA 2201

SPA 202 - Intermediate Spanish II

SUN#

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 or placement exam. Reading Proficiency. 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. Review of major tenses in Spanish, including present, preterite, imperfect, future, and conditional
3. Subjunctive versus indicative mood in noun, adjectival, and adverbial clauses in present and imperfect subjunctive environments
4. Commands
5. Present perfect indicative
6. Pluperfect indicative
7. Present perfect subjunctive
8. Review of pronouns (i.e., reflexive pronouns, direct object pronouns, indirect object pronouns, and double object pronouns) and objects of prepositions
9. The writing process in Spanish
10. Critical thinking skills in reading in Spanish
11. Interpretation of cultural norms, values, beliefs, and regional variations of areas where Spanish is spoken/used
12. Historical events and figures as well as literary works and movements from the Spanish-speaking world
13. Current and/or controversial issues important to Spanish-speaking countries

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. (1,AH3)
2. Narrate a series of events with a great amount of elaboration. (1-8,AH3)
3. Maintain (i.e., initiate, respond, and contribute to) simple face-to-face conversations with a native speaker (or equivalent) with some spontaneity. (1-8,AH3)
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!). (3,4,AH3)
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.). (3,AH3)
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. (1-3,8,AH3)
7. Employ the writing process (e.g., organizing thoughts, composing, revising, peer review, proofreading) on increasingly-complex topics in Spanish. (9,AH4,AH5)
8. Apply critical thinking skills to analyze and evaluate reading passages which have a clear, underlying internal structure. (10,AH1,AH2,AH6,GIH)
9. Interpret cultural norms, values, beliefs, and regional variations of areas where Spanish is spoken/used. (11,AH2,AH4,AH5,ERG,GIH)
10. Analyze key historical figures and events of the Spanish-speaking world. (12,AH1,AH2,ERG,GIH)
11. Recognize literary movements unique to Hispanic authors. (12,AH1,AH2,AH6,GIH)
12. Debate current and/or controversial issues important to Spanish-speaking countries. (13,AH1,AH2,AH4,AH5,ERG,GIH)

REQUIRED ASSESSMENT:
1. An impromptu oral (i.e., speaking) exam, interview, or presentation
2. An aural (i.e., listening) exam or demonstration

4.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), Lecture

Arts & Humanities Division
Modern Languages Department

Course Attributes:
Arts & Humanities (AGEC), Ethnic, Race & Gender, Global/Internl or Historical, 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

Arts & Humanities 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

Arts & Humanities 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)

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 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/GECCO)

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:

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

Arts & Humanities Division
Performing Arts Department

THR 132 - Acting II

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

Arts & Humanities Division
Performing Arts Department

THR 133 - Acting for Musical Theater

THR 133. Acting for Musical Theater (3). The study and performance of works from the musical theatre repertory, including musical comedy, reviews, operetta and basic vocal and movement skills. Theatre attendance and/or assistance in college productions required. Three lecture.

COURSE CONTENT:
1. Acting basics
2. Musical analysis
3. The language of the lyric and libretto
4. Elements of storytelling
5. Character analysis
6. The journey of the song: phrasing, staging, rehearsal into performance
7. Style in musical theatre, style tags, style overviews
8. The acting profession
9. Auditioning
10. A winning attitude

LEARNING OUTCOMES:
1. Discover, define and discuss the physical, emotional, intellectual, and technical skills involved with musical theater performance. (1-10)
2. Define and use musical theatre terminology. (1-3)
3. Utilize singing, acting and movement techniques. (1-6)

5. Participate in production numbers (song and dance). (6)
6. Select, memorize and rehearse audition songs. (6,7)
7. Attend and analyze live musicals. (7)
8. Perform before a live audience with self-confidence. (1, 8-10)

3.000 Credit hours
3.000 Lecture hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Arts & Humanities 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

Arts & Humanities Division
Performing Arts Department

Course Attributes:
Arts & Humanities (AGEC)

THR 141 - Stagecraft

3.000 Credit hours
1.000 Lecture hours
4.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Arts & Humanities Division
Performing Arts Department

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

Arts & Humanities Division
Performing Arts Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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

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 idenity. (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

Arts & Humanities Division
Humanities Department

Course Attributes:
Arts & Humanities (AGEC), Intensive Writing, Written Comm (WC/GECCO)

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.

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

Arts & Humanities 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

Arts & Humanities Division
Performing Arts Department

UAS 100 - Introduction to UAS

COURSE DESCRIPTION:
UAS 100. Introduction to UAS (3). Fundamentals of Unmanned Aircraft Systems (UAS). Includes history, legislation, concept of operations, types of systems, and current applications. Three lecture.

COURSE CONTENT:
1. Concept of operations
2. Types of UAS
3. Controls and displays

5. UAS Sub-Components
6. Current UAS applications
7. UAS history
8. UAS regulations

LEARNING OUTCOMES:
1. Identify basic UAS operational factors. (1-3)
2. Categorize types of UAS systems. (2)
3. Identify the sub-components of UAS and explain their operation. (3,5)
4. Associate the types of UAS systems with their advantages and disadvantages. (4,5)
5. Describe current UAS capabilities and applications. (1,6)
6. Discuss basic UAS history. (7)
7. Describe UAS regulations. (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

Course Attributes:
Diversity (DA/GECCO)

UAS 103 - UAS Simulations

COURSE DESCRIPTION:
UAS 103. UAS Simulations (3). Unmanned Aircraft System (UAS) concepts of operation using simulation. Includes map reading, data collection strategies and techniques, mission planning, live data dissemination, and end-of-mission report writing. Focus on aircrew coordination. Three lecture.

COURSE CONTENT:
1. Map reading and coordinate plotting
2. Data collection strategies.
3. Map to UAS video correlation
4. UAS searching strategies (point, route, and area)
5. Communication with ground personnel
6. Live scenario exercise training
7. End-of-mission report writing

LEARNING OUTCOMES:
1. Interpret map symbology and plot coordinates in Latitude and Longitude, UTM, and MGRS coordinate systems. (1)
2. Interpret and create data collection strategy sheets. (2)
3. Determine UAS locations using simulated videos and maps. (3)
4. Perform effective point, route, and area searches using a simulated UAS. (4)
5. Communicate data in real time to simulated ground personnel. (5)
6. Operate a simulated UAS in a live exercise to gather data, make decisions, communicate to ground personnel, and affect the outcome of a scenario. (6)
7. Create an end-of-mission report. (7)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Career & Technical Education Division

UAS 110 - UAS Aircraft and Ground Systems

COURSE DESCRIPTION:
UAS 110. UAS Fixed-Wing Systems (4). Fundamentals of fixed-wing Unmanned Aircraft System (UAS) airframes and ground systems. Basic component operation and use of airframe systems, the power system, flight controls, payloads, and avionics. Includes hands-on assembly of UAS systems. Two lecture. Four Lab.

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. Autopilot systems
9. Payload systems

LEARNING OUTCOMES:
1. Identify basic UAS airframe and powerplant systems and their component functions; construct airframe; install and test power and propulsion systems. (1,2)
2. Describe UAS flight controls, avionics, and autopilot components and functions; install and test flight control and autopilot systems. (3,4,8)
3. Describe basic UAS telemetry and ground station components and functions; install telemetry system on UAS; perform range test. (5,6)
4. Outline UAS launch and recovery system procedures. (7)
5. Describe UAS payloads, integration, and test procedures and install and test a payload system. (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
Aviation Department

Course Attributes:
Creative Thinking (CR/GECCO)

UAS 115 - UAS Multirotor Systems

COURSE DESCRIPTION:
UAS 115. UAS Multiroter Systems (4). Fundamentals of multicopter Unmanned Aircraft System (UAS) airframes and ground systems. Basic component operation and use of airframe systems, power system, flight controls, payloads, and avionics. Includes hands-on assembly of UAS systems, Two lecture. Four lab.

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. Autopilot systems
9. Payload systems
10. Rotary-winged aerodynamics

LEARNING OUTCOMES:
1. Identify basic UAS airframe and powerplant systems and their component functions. Construct airframe; install and test power and propulsion systems. (1,2)
2. Describe UAS flight controls, avionics, and autopilot components and functions; install and test flight control and autopilot systems. (3,4,8)
3. Describe basic UAS telemetry and ground station components and functions; install telemetry system on UAS and perform range test. (5,6)
4. Outline UAS launch and recovery system procedures. (7)
5. Describe UAS payloads, integration, and test procedures and install and test a payload system. (9)
6. Describe rotary-wing aerodynamics and relation to flight. (10)

REQUIRED ASSESSMENT:
Creation of a multirotor aircraft and systems.

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
Aviation Department

Course Attributes:
Quantitative Lit (QL/GECCO)

UAS 120 - UAS Communications, Telemetry and Sensors

COURSE DESCRIPTION:
UAS 120. UAS Sensing Systems (3). Unmanned Aircraft System (UAS) sensor systems, principles of remote sensing, imagery analysis, and payload selection. Includes component operation and use of electro-optical, near-infrared, short-and long-wave infrared, Synthetic Aperture Radar (SAR), and Light Information Detection and Ranging (LIDAR) sensors. Introduction to the electromagnetic spectrum, target detection criteria, and sensor/lens/aircraft pairing. Three lecture.

COURSE CONTENT:
1. Imagery analysis
2. Short and long range infrared sensors
3. Near infrared, multi- and hyper-spectral sensors
4. Electro-optical sensors
5. Synthetic Aperture Radar (SAR) sensors
6. Electromagnetic spectrum
7. Light Information Detection and Ranging (LIDAR) sensors
8. Detection, Identification, and Recognition (DRI) criteria
9. Sensor/lens/aircraft selection and pairing

LEARNING OUTCOMES:
1. Interpret aerial imagery from nadir and oblique angles. (1)
2. Identify parts of the electromagnetic spectrum. (6)
3. Describe the capabilities and limitations of near infrared, multi- and hyper-spectral sensors. (3)
4. Describe the capabilities and limitations of short and long wave infrared sensors. (2)
5. Describe the capabilities and limitations of Synthetic Aperture Radar (SAR) sensors. (5)
6. Describe the capabilities and limitations of Light Information Detection and Ranging (LIDAR) sensors. (7)
7. Use critical analysis to accurately select the appropriate sensor, lens, and aircraft for a given mission. (1-9)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit

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 optionally piloted vehicles, current UAS approval processes and common law court cases. Three lecture.

COURSE CONTENT:
1. History of Unmanned Aerial Vehicles (UAVs)
2. Technology development of UAVs
3. Federal Aviation Regulations (FARs)
4. Federal Aviation Administration (FAA) policy regarding UAS
5. UAS Certificate of Authorization of Waiver (COA)
6. UAS Special Airworthiness Certificate
7. Advisory Circular 91-57, UAS community-based hobbyist standards
8. Optionally Piloted Vehicles (OPVs)
9. Recent UAS court cases

LEARNING OUTCOMES:
1. Identify UAS historical events and technology breakthroughs. (1,2)
2. Explain how the FAA derived its authority to regulate UAS. (3)
3. Explain why UAS are unable to wholly comply with the FARs. (4)
4. Write a UAS COA application. (5)
5. Explain the privileges and limitations of the COA, UAS Special Airworthiness Certificate, and the Advisory Circular 91-57. (5-7)
6. Explain the privileges and limitations of OPVs. (8)
7. Analyze aspects of recent UAS court cases. (9)

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/GECCO)

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)

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 215 - UAS Mapping Systems

COURSE DESCRIPTION:
UAS 215. UAS Mapping Systems (3). Unmanned Aircraft Systems (UAS) concepts of operation in creation of high-resolution photo maps for decision making. Includes theory of data collection, concepts in photogrammetry, flight planning, photomapping software operation, and operation of Geographical Information System (GIS) software. Interpretation and manipulation of visual imagery, multispectral imagery, and digital surface models. Prerequisite: UAS 120. Three lecture.

COURSE CONTENT:
1. Photogrammetry theory
2. Photomap mission planning
3. Photomapping collection procedures
4. Photomapping software operation
5. GIS software operation
6. Multispectral imagery, Normalized Differential Vegetation Indices (NDVI)
7. Digital Surface Models (DSM)

LEARNING OUTCOMES:
1. Describe how photogrammetric maps are created. (1)
2. Plan a photogrammetry mission with sufficient coverage. (2)
3. Explain the field procedures for collecting photogrammetric data. (3)
4. Create and export an orthomosaic using photogrammetry software. (4)
5. Import an orthomosaic into a GIS software program and extract layers of data. (5)
6. Create orthomosaics using multispectral images and convert to NDVI. (6)
7. Create and export DSMs; import DSMs into a GIS program and apply an elevation scale. (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:
Info Literacy (IL/GECCO)

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:

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 250 - UAS Applications and Analytics

COURSE DESCRIPTION:
UAS 250. UAS Applications and Analytics (3). Unmanned Aircraft Systems (UAS) applied operations to solve real-world problems. Evaluation of a real or simulated problem which will involve determining the appropriate UAS, payload, and operating procedures, collecting the required imagery/data, and evaluating the effectiveness of the proposed solution. Prerequisite: UAS 103, 110, 115, 120 and 215. Three lecture.

COURSE CONTENT:
1. UAS business cases
2. Parameters and representatave studies of business cases
3. Data/imagery collection
4. Meaningful data assembly formats
5. Cost/benefit analyses

LEARNING OUTCOMES:
1. Evaluate an industrial application for UAS applicability. (1)
2. Select an appropriate UAS, payload, and operating procedures for the industrial application. (2)
3. Define a representative test to prove the business case. (2)
4. Collect data/imagery to prove the business case. (3)
5. Assemble data into a meaningful format to present to industry professionals. (4)
6. Collaborate with industry professionals to complete a cost/benefit analysis. (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

Course Attributes:
Critical Thinking (CT/GECCO)

VEN 100 - Introduction to Viticulture

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, phonology, 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 (1rst 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

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)

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/GECCO), Digital Lit (DL/GECCO)

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/GECCO)

VEN 121 - Wines of the World

COURSE DESCRIPTION:
VEN 121. Wines of the World (2). History of the vine, the growth of grapes, and the production of wine throughout the world. Emphasis on classification and critique of Old and New World wines. Must be 21 years of age or older to enroll. One lecture. Two lab.

1. World history of wine
2. Old World wines
3. New World wines
4. Types and varieties of wine by country and region
5. Wine pairing
6. Wine tasting

LEARNING OUTCOMES:
1. Discuss the world history of wine. (1)
2. Classify wine by Old World and New World. (2-4,6)
3. Critique Old and New World wines. (2-4,6)
4. Pair Old and New World wines 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

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. 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/GECCO)

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. 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/GECCO)

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 concurently). 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)

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/GECCO)

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/GECCO), Scientific (SL/GECCO)

VEN 202 - Science of Winemaking III

COURSE DESCRIPTION:
VEN 202. Science of Winemaking III (3). Economics related to wine production and sales including federal, state, and local regulations. Winery business plans, state and federal winery permits, wine production, taxation, reporting, labeling, market research, and sales and distribution. Must be 21 years of age or older to enroll. Prerequisite: VEN 201. Two lecture. Two lab.

2. State and federal permitting
3. Alcohol production records
4. Label approval process
5. Winery business plan development

LEARNING OUTCOMES:
1 Facilitate blind tasting to a consumer panel. (1)
2. Analyze consumer feedback as it relates to winemaking decisions. (1)
3 Explain state and federal alcohol production permits. (2)
4. Identify state and federal excise tax classes. (2)
5. Explain the purpose of an alcohol production bond. (2)
6. Create compliant production records. (3)
7. Complete federal wine on premises report. (3)
8. Describe the legal requirements for alcohol labeling. (4)
9. Apply for a label COLA. (4)
10. Develop a business plan for a model winery. (1, 2, 4, 5)
11. Determine required funding for 10 years of winery operation. (4, 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
Agriculture Science Department

VGD 121 - Video Game Development for Game Engines I

COURSE DESCRIPTION:
VGD 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division

Course Attributes:
Digital Lit (DL/GECCO)

VGD 122 - Video Game Development for Game Engines II

COURSE DESCRIPTION:
VGD 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. Prerequisite: VGD 121. Three lecture.

COURSE CONTENT:
1. Screen based text and audio files
2. Character controllers
3. Particle Systems
4. Animator and animations introduction
5. Audio
6. Use of variables to maintain object states
7. Use of variables and simple probabilities in determining decision outcomes
8. Introduction to Mobile Development

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 platforms introduction. (8)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Info Literacy (IL/GECCO)

VGD 151 - 3D Modeling and Animation I

COURSE DESCRIPTION:
VGD 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

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

VGD 152 - 3D Modeling and Animation II

COURSE DESCRIPTION:
VGD 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Creative Thinking (CR/GECCO)

COURSE DESCRIPTION:
VGD 171. Video Game Development I (3). Introduction to modern Object Oriented Programming through the development of video games for a variety of platforms, using an integrated development environment (IDE) and related software. Three lecture.

COURSE CONTENT:
1. Modern IDE and related development software
2. Game projects
3. Game application code structure
4. IDE Familiarization
5. Editing code using an IDE
6. Code autocompletion
7. IDE Debugger
8. Variable Types and Variable Casting
9. Coding math operations
10. Logical branching tests
11. Code loops
12. Methods
13. Classes
14. Overloading
15. Inheritance
16. Game sprites and sprite motion
17. Testing for object collisions
18. Sound effects in 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 the IDE and related development software. (1)
2. Use the IDE to create game software applications. (2-7)
3. Use coding techniques to translate logical processes into programming code. (8-15)
4. Create a functioning 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Civic Engagement (CE/GECCO)

VGD 172 - Video Game Development II

COURSE DESCRIPTION:
VGD 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,

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Quantitative Lit (QL/GECCO)

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 the use and control of biped and other characters in the game environment. Prerequisite: VGD122. Three lecture.

COURSE CONTENT:
1. Importing and configuring characters
2. Adapting character rigs
3. Animation controllers
4. Coding user input for character control
5. Character animation sequence blending

LEARNING OUTCOMES:
1. Import and configure articulated animated character models. (1,2)
2. Code characters for control by users. (3-5)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support 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

COURSE CONTENT:
1. Coding for mobile device input
2. Game content limitations for handheld devices
3. Externally created character animation sequences in a game environment
4. Character animation sequence splicing

LEARNING OUTCOMES:
1. Build commercial grade games for smartphone and tablet devices. (1,2)
2. Incorporate character animation into games. (3,4)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Scientific (SL/GECCO)

VGD 251 - 3D Modeling and Animation III

COURSE DESCRIPTION:
VGD 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 surfacing tools and techniques. Prerequisite: VGD152. Three lecture.

COURSE CONTENT:
1. Freehand organic character design
2. Organic character model topology
3. Edge flow
4. Advanced UV mapping and layout
5. Styled hair creation

LEARNING OUTCOMES:
1. Create organic characters without the aid of reference images. (1-3)
2. Employ proper edge flow for the creation of animatable characters. (2-4)
3. Design and create complex surfacing systems. (4,5)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

VGD 252 - 3D Modeling and Animation IV

COURSE DESCRIPTION:
VGD 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: VGD 152. Three lecture.

2. Biped character control rigs
3. Character animation
4. Blend shapes for facial expressions
5. Motion capture data tools and formats
6. Manipulation and transfer of motion capture data files between software packages
7. Scrubbing motion capture data errors

LEARNING OUTCOMES:
1. Create efficient character animation systems. (1-2)
2. Apply professional character animation paradigms to rigged 3D character models. (2-4)
3. Use motion capture data formats and tools for various animation projects. (5-7)
4. Create and edit motion capture data files for use in animation. (5-7)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Diversity (DA/GECCO)

VGD 281 - Game Design I

COURSE DESCRIPTION:
VGD 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
0.000 Lab hours

Levels: Credit

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Written Comm (WC/GECCO)

VGD 282 - Game Design II

COURSE DESCRIPTION:
VGD 282. Game Design II (3). Hands-on experience with principles of game design. Emphasis on converting a pre-existing tabletop game into a video game proposal, with accompanying design documents, marketing materials, and financial projections. Prerequisite: VGD122 and VGD172 and VGD281. 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. Storyboards, sketches, and other visualizations
16. Game assets
17. Intellectual property considerations
18. Financial projections
19. Characteristics of effective game proposals

LEARNING OUTCOMES:
1. Create a rules document, including detailed description of game mechanics, dynamics, and the player's experience in the game. (1-13)
2. Create a narrative document describing the story elements present in the game. (14)
3. Create game storyboards or other media showing the look and feel of the game. (15)
4. Create an inventory of all assets needed for the game. (16-17)
5. Create a financial projection detailing the costs of the game project. (18)
6. Combine work from throughout the course to create a complete game proposal. (1-19)

3.000 Credit hours
3.000 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

VGD 293 - VGD Project I

COURSE DESCRIPTION:
VGD 293.VGD Project I (3). Creation of game design documents to be used in the development of a game. Prerequisite: VGD221 and VGD281. Three lecture.

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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Critical Thinking (CT/GECCO)

VGD 294 - VGD Project II

COURSE DESCRIPTION:
VGD 294. VGD Project II (3). Creation and publication of a game using the elements of a self-prepared game design document package. Prerequisite: VGD222 and VGD252, and VGD282. 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
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support Division
Computer Information Systems Department

Course Attributes:
Oral Communication (OC/GECCO)

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;

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

Comp Tech & Instruct Support 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

Levels: Credit
Schedule Types: Additional Activity, Lab, Lecture, Lecture/Lab

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support Division
Computer Information Systems Department

WEB 150 - HTML5 & CSS: Concepts and Techniques

COURSE DESCRIPTION:
WEB 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 CSA 150. Three lecture.

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

Comp Tech & Instruct Support 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

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

Comp Tech & Instruct Support 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 Lecture hours
0.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Lecture

Comp Tech & Instruct Support 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

Comp Tech & Instruct Support 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

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). Basics of oxyacetylene welding, including safety, welding techniques, basic metallurgy and welding gases. One lecture. Three lab.

COURSE CONTENT:
1. Safety in the workplace
2. Oxyacetylene safety and equipment
3. Welding fuel gases
4. Oxyacetylene fillet and groove welds
5. Manual and machine cutting
6. Fillet and groove braze welds

LEARNING OUTCOMES:
1. Explain and use oxyacetylene safety procedures. (1,2)
2. Explailn oxyacetylene welding theory. (3-6)
3. Operate oxyacetylene equipment to weld, cut and braze weld to industry requirements. (1-6)

2.000 Credit hours
1.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst 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). Basics of shielded metal arc welding (SMAW) and gas metal arc welding (GMAW). One lecture. Three lab.

COURSE CONTENT:
1. Shielded metal arc welding (SMAW) safety and equipment
2. Gas metal arc welding (GMAW) safety and equipment
3. Machine adjustments and operation
4. Selection of electrodes for SMAW and GMAW

LEARNING OUTCOMES:
1. Explain and use SMAW safety procedures. (1)
2. Explain and use GMAW safety procedures. (2)
3. Operate SMAW and GMAW to industry requirements. (1-4)

2.000 Credit hours
1.000 Lecture hours
3.000 Lab hours

Levels: Credit
Schedule Types: Additional Activity, Dual Enrollment (1rst 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.

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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), 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, Dual Enrollment (1rst Time), Dual Enrollment (Repeat), 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.

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 - Gas Tungsten Arc Welding

COURSE DESCRIPTION:
WLD 200. Gas Tungsten Arc Welding (4). Selection of electrode, gas, cups, and filler rod for gas tungsten arc welding (GTAW). Techniques and practice in welding butt-joint, t-joint, lap and corner joints in various positions. Prerequisite: WLD 130. Two lecture. Six lab.

COURSE CONTENT:
1. Gas tungsten arc welding (GTAW) safety and equipment
2. Machine adjustments and operation
3. Tungsten, filler metal, gases, and cup selection
4. GTAW welding techniques

LEARNING OUTCOMES:
1. Explain and use GTAW safety procedures. (1)
2. Explain GTAW theory based on its method of operation, equipment and application. (2-4)
3. Operate GTAW equipment to industry requirments. (1-4)

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:

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 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. Two lecture. Six lab.

COURSE CONTENT:
1. Fabrication safety and equipment
2. Metal shapes and sizes
3. Design blueprints
4. Order steel from a drawing
5. Layout and cutting of steel
6. Use of fabrication equipment
7. Square and tack welding
8. Distortion control
9. Applying finishes to metal

LEARNING OUTCOMES:
1. Explain and use metal fabrication safety procedures. (1)
2. Identify different structural shapes, sizes and types of metal. (2)
3. Design quality blueprints of welded metal fabrications. (3)
4. Use layout tools and fabrication equipment. (1, 5-9)
5. Order, layout, and fabricate material as required by blueprints. (4-9)
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
Welding Technology Department

Course Attributes:
Creative Thinking (CR/GECCO)

COURSE DESCRIPTION:
WLD 282. Pipe Welding I (4). Welding of pipe in cross-country pipe lines in industry including chemical, petroleum, salt water, fresh water, fuel system, hydraulic systems and mining. Prerequisite: WLD 145. Two lecture. Six lab.

COURSE CONTENT:
1. Safety
2. Symbols and terminology
3. Types and uses of pipe
4. Preparation and assembly of a pipe joint
5. Methods of cutting pipe
6. Methods of welding pipe using shielded metal arc welding (SMAW)
7. Inspecting pipe welds

LEARNING OUTCOMES:
1. Use safe work techniques while pipe welding. (1)
2. Identify and describe various piping systems. (2-3)
3. Explain proper welding skills for fabricating pipe. (4-7)
4. Fabricate pipe in various positions. (4-7)

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/certificaterequirements.] 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.

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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