

People

EXCELLENCE Integrity

Collaboration

Communication

Open Admissions and Open Access

2018-2019
College Catalog



PimaCommunityCollege



PimaCommunityCollegeCatalog 2018-2019

Pima County Community College District

4905 East Broadway Blvd.
Tucson, AZ 85709-1010
(520) 206-4500

Pima Community College is an equal opportunity, affirmative action employer and educational institution committed to excellence through diversity. **See page 521 for more information.**

Reasonable accommodations, including materials in an alternative format, will be made for individuals with disabilities, including students with intellectual disabilities, as soon as can be reasonably expected upon receiving proper notification. For the public, please contact the PCC information line at 520-206-4500 (TTY 206-4530); for PCC students, contact the appropriate campus Access and Disability Resources office. Additional information on services and facilities that support individuals with disabilities is available in the Student Services and Student Life section of this document.

The PCC Police Department provides an Annual Crime Statistics and Clery Crime Act Report of information and statistics for the previous three years concerning reported crimes that occurred on campus and in certain off-campus buildings or property owned or controlled by the Pima County Community College District; and on property within, or immediately adjacent to and accessible from, the campus. The report also includes institutional policies concerning campus security, such as policies concerning sexual assault, and other matters. You can obtain a copy of this report by contacting 520-206-2671. The report can be found online at www.pima.edu/dps/reports.

The Pima Community College Catalog and online class schedules can be found at www.pima.edu.

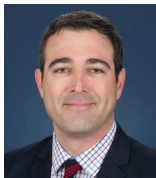
All information—including statements on admission, tuition, fees, course offerings and graduation requirements—is subject to change without notice, obligation or liability.

Published: July 2018

Pima County Community College District Governing Board



District 1
Mark Hanna



District 2
Demion Clinco,
Chair



District 3
Sylvia Lee, Ph.D.



District 4
Meredith Hay, Ph.D.,
Vice Chair/Secretary



District 5
Luis Gonzales



PimaCommunityCollege

(520) 206-4500
www.pima.edu



Message from the Chancellor

Welcome to Pima Community College. PCC is dedicated to giving our constituents the best opportunity to achieve their personal goals through the promise inherent in education.

PCC is an open-admissions institution that welcomes everyone who can benefit from our programs and services. We are committed to imparting knowledge that furthers academic achievement, economic development and cultural connection.

Our 2018-2019 Catalog contains a wealth of information on the wide variety of learning opportunities offered at PCC. Our credit programs award certificates and associate degrees in dozens of fields. PCC also provides workforce development, career training, continuing education and adult education.

Whether you choose to attend PCC to transfer to a bachelor's-degree granting college or university, to improve your job skills or to pursue an entirely new career, we can help you achieve your objective.

Pima Community College will be here as a lifelong partner to help you grow academically and professionally.

Lee D. Lambert, J.D.
Chancellor

Table of Contents

| | |
|--|----|
| Message from the Chancellor | 2 |
| Academic Calendar | 4 |
| The College | 5 |
| How This Catalog Can Help Students to Succeed | 6 |
| Accreditation | 6 |
| College Mission | 6 |
| College Vision | 6 |
| College Values | 6 |
| Core Themes and Objectives | 6 |
| Institutional Effectiveness Policy | 7 |
| College Profile | 7 |
| Pima County Community College District | |
| Addresses/Contact Information | 8 |
| College Locations Map | 9 |
| Campuses and Centers | 10 |
| Admissions, Registration and Records | 13 |
| Admission to the College | 14 |
| Eligibility for Admission | 14 |
| Admission of Under Age 18 Students | 14 |
| Admission of International Students | 15 |
| Border Commuter Students | 15 |
| Student Residency Requirements | 16 |
| In-State Student Status (Section ARS 15-1802) | 16 |
| Residency Determination and the Domicile/Residency Affidavit | 16 |
| Verification of Lawful Presence | 17 |
| Assignment of Student Identification Number and Use of Social Security Number | 17 |
| Before the First Semester | 17 |
| Placement Tests | 18 |
| Advising | 18 |
| Registration Sessions | 18 |
| Declaring a Program of Study | 18 |
| Transfer of Credits | 18 |
| General Education Mobile | 19 |
| Prior Learning Assessment | 19 |
| National Standardized Tests | 19 |
| Enrolling in Classes (Registration) | 25 |
| Maximum Credit Hours per Semester | 25 |
| Course Prerequisites | 25 |
| Important Student Information | 25 |
| Student Rights and Responsibilities | 25 |
| If You Have a Problem | 25 |
| Religious Observances | 25 |
| Family Educational Rights and Privacy Act (FERPA) | 25 |
| Academic Reporting | 26 |
| Academic Policies | 26 |
| Grading Policies | 26 |
| Clock Hour Grading Policy | 27 |
| Standards of Academic Progress for Credit Students | 27 |
| Satisfactory Academic Progress for CTD Clock Hour Students | |
| Good Academic Standing | 28 |
| Financial Aid Academic Standing | 29 |
| Satisfactory Academic Progress for International Students | 29 |
| Student Classification and Standing | 30 |
| General Attendance Policy | 30 |
| Class Attendance and Participation | 30 |
| Tracking Attendance and/or Participation in Credit Classes | 31 |
| Center for Training and Development (CTD) Attendance Policy | 31 |

| | | | |
|---|----|--|-----|
| Costs and Payments | 33 | Student Code of Conduct | 49 |
| Tuition and Fees | 34 | I. Introduction | 49 |
| In-State Resident Tuition for Credit Classes Fall 2018, Spring 2019, Summer 2019 | 34 | II. Code Violations | 50 |
| Center for Training and Development (CTD) Cost Breakdown 2018-2019 | 35 | III. Code Sanctions | 52 |
| Current Fees | 36 | IV. Due Process | 54 |
| Financial Holds | 36 | V. Immediate Suspension | 57 |
| Tuition and Fees Payment Methods | 36 | VI. Student Behavior Assessment Committee | 58 |
| Student Refund Policy for Credit Courses | 37 | VII. Miscellaneous Provisions | 59 |
| Regular Refund Policy | 37 | Educational Options | 61 |
| Special Notes on Refunds | 38 | Introduction | 62 |
| Special Refunds Policy | 38 | Traditional-Style Classes | 62 |
| Special Provisions Refund Schedule (pro-rated) | 38 | Alternative-Style Classes | 62 |
| Refund of Federal Financial Aid Funds (Title IV Funds)* | 38 | Honors Program | 62 |
| Financial Assistance | 40 | Distance Learning – Pima Online – Online Education | 62 |
| Financial Aid/Scholarships | 41 | Earning a Degree or a Certificate | 65 |
| General Information | 41 | Degree, Certificate, and Graduation Requirements | 66 |
| Federal Student Aid Programs | 41 | Earning a Degree or Certificate | 66 |
| State Financial Aid Programs | 41 | Program Requirements | 66 |
| PCC Foundation Scholarships | 42 | Graduation Requirements | 66 |
| PCC Scholarships and Grants | 42 | General Education Information | 67 |
| Payment Plan | 42 | General Education Requirements for Career and Technical Education Programs and the Associate of General Studies | 68 |
| Veterans Education Benefits | 42 | General Education Requirements for Transfer Programs | 69 |
| Pima Community College Foundation | 43 | Educational Programs, Degrees and Certificates | 79 |
| Student Services and Student Life | 44 | Degree and Certificate Definitions | 80 |
| Student Services | 45 | Lists of Credit Degrees and Certificates | 81 |
| Admission/Registration | 45 | Educational Program Displays | 87 |
| Advising/Counseling | 45 | Educational Courses | 229 |
| Placement Tests | 45 | Credit Courses | 230 |
| Bookstores | 45 | Credit Course Numbering System and Prerequisites | 232 |
| Cafés | 45 | Credit Courses | 235 |
| Police Department | 45 | Center for Training and Development (CTD) Clock Hour Modules | 489 |
| Career Services | 46 | Other Educational Programs | 504 |
| Cashier | 46 | Workforce Response Programs | 504 |
| Access and Disability Resources (ADR) | 46 | Center for Training and Development (CTD) | 513 |
| Financial Aid | 47 | Selected Policies, Governance and Faculty | 520 |
| Insurance | 47 | Selected Board Policies | 521 |
| International Student Services | 47 | Equal Employment Opportunity / Affirmative Action | 521 |
| Job Information | 47 | Pima County Community College District Governing Board | 521 |
| Library Services | 47 | College District Administrators | 521 |
| New Student Registration Sessions | 47 | Emeritus Status | 523 |
| Parking and Bus Service | 47 | Distinguished Staff Status | 523 |
| Specialized Programs | 47 | Pima Community College Faculty | 523 |
| Student Identification Cards | 47 | | |
| Transcripts | 48 | | |
| Tutoring | 48 | | |
| Student Life | 48 | | |
| Clubs and Organizations | 48 | | |
| Student Advisory Boards | 48 | | |
| Performing Arts | 48 | | |
| Phi Theta Kappa | 48 | | |
| Publications | 48 | | |
| Sports (Intercollegiate Athletics) | 48 | | |
| Student Housing | 48 | | |
| Drug-Free Schools and Communities Act Information | 49 | | |
| Standards of Conduct | 49 | | |
| Legal Sanctions | 49 | | |
| Health Risks | 49 | | |
| Support Resources | 49 | | |

Academic Calendar

Fall Semester 2018

| | |
|---|---|
| Faculty advising begins | Aug. 15 |
| All College Day (College closed in the morning) | Aug. 17 |
| Fall classes begin (for 16-week classes) | Aug. 22 |
| ‡ First 8-week session begins | Aug. 22 |
| Registration deadline: <i>Students can register until the day before the first meeting of a course for any session.</i> | |
| Labor Day holiday (College closed) | Sept. 3 |
| Drop/Refund/Audit deadline (for 16-week classes) | Sept. 4 |
| Fall Graduation Application deadline | Oct. 12 |
| First 8-week session ends | Oct. 16 |
| ‡ Second 8-week session begins | Oct. 17 |
| Student Withdrawal deadline (for 16-week classes) | Nov. 8 |
| Veterans Day holiday observed (College closed) | Nov. 12 |
| Thanksgiving holiday (College closed) | Nov. 22-25 |
| Fall classes end (for 16-week classes) | Dec. 16 |
| Second 8-week session ends | Dec. 16 |
| Holiday break (College offices closed) | Dec. 24–Jan. 1 (College closed at noon on Dec. 24) |

Spring Semester 2019

| | |
|---|-------------|
| College offices reopen | Jan. 2 |
| Faculty advising begins | Jan. 15 |
| All Faculty Day | Jan. 16 |
| Registration deadline: <i>Students can register until the day before the first meeting of a course for any session.</i> | |
| Spring classes begin (for 16-week classes) | Jan. 17 |
| ‡ First 8-week session begins | Jan. 17 |
| Martin Luther King Jr. holiday (College closed) | Jan. 21 |
| Drop/Refund/Audit deadline (for 16-week classes) | Jan. 31 |
| Spring Graduation Application deadline | Feb. 27 |
| ** Rodeo holiday (College closed) | Feb. 21-22 |
| First 8-week session ends | March 17 |
| Spring break (no classes) | March 18-24 |
| ‡ Second 8-week session begins | March 26 |
| Student Withdrawal deadline (for 16-week classes) | April 11 |
| Second 8-week session ends | May 20 |
| Spring classes end (for 16-week classes) | May 20 |
| Graduation | May 23 |

Summer Sessions 2019

| | |
|--|---------|
| Memorial Day holiday (College closed) | May 27 |
| Summer Graduation Application Deadline | June 29 |
| Independence Day (College closed) | July 4 |

Session A

| | |
|-----------------------------|---------|
| Registration deadline | May 27 |
| Classes begin | May 28 |
| Drop/Refund/Audit deadline | May 31 |
| Student Withdrawal deadline | June 19 |
| Classes end | July 1 |

Session B

| | |
|-----------------------------|---------|
| Registration deadline | July 7 |
| Classes begin | July 8 |
| Drop/Refund/Audit deadline | July 11 |
| Student Withdrawal deadline | July 29 |
| Classes end | Aug. 9 |

Session C (8-week session)

| | |
|-----------------------------|---------|
| Registration deadline | May 27 |
| Classes begin | May 28 |
| Drop/Refund/Audit deadline | June 3 |
| Student Withdrawal deadline | July 5 |
| Classes end | July 23 |

Session C (10-week session)

| | |
|---|---------|
| Registration deadline | May 27 |
| Classes begin | May 28 |
| Drop/Refund/Audit deadline | June 5 |
| Student Withdrawal deadline | July 15 |
| Classes end | Aug. 7 |
| ‡ Sessions may begin earlier at Davis-Monthan Air Force Base. | |

** The College will be open for classes/activities on the Saturday and Sunday following the 2019 Rodeo Holiday.



The College

How This Catalog Can Help Students To Succeed

The Pima Community College Catalog is a valuable tool in answering your questions and helping you while you are at Pima Community College. This catalog is organized to guide you through each step of your college career at this institution:

- Admission/Registration
- Tuition and Fees
- Financial Aid
- Certificate and Degree Requirements
- Course Descriptions
- Campus Services
- Faculty Information
- Selected Policies

If you have any questions about the material in this catalog or need help in planning your educational goals, please see a PCC advisor or counselor at one of the campuses or centers.

This catalog is one of four publications essential to a student's success at Pima Community College.

The other three publications are:

- **Class Schedules**—Pima's online class schedules allow students to easily find when and where classes are offered. Credit class schedules are posted one month before the beginning of registration for that semester. Other class schedules are posted annually. The class schedules are available at www.pima.edu/schedule.
- **Student Success & Registration Guide**—This guide is a semesterly publication that provides details and contact information for our programs, services, costs, financial aid, admissions, registration and more. The guide is available at the Student Services Centers.
- **Student Handbook**—An annual publication of regulations and resources at PCC. The handbook is distributed to students attending New Student Registration Sessions and available at the Student Services Centers.

Accreditation

Pima Community College (4905 E. Broadway Boulevard., Tucson, AZ 85709, 520-206-4500) is accredited by the Higher Learning Commission of the North Central Association of Colleges. The Commission can be reached through its website (www.higherlearningcommission.org), by telephone (800-621-7440), or by mail at 30 N. LaSalle Street, Suite 2400, Chicago, IL 60602-2504. The following programs also have been accredited or certified by specialized agencies recognized by the Arizona Department of Education and/or the U.S. Department of Education: Automotive Technology, Building and Construction Technology, Dental Assisting, Dental Hygiene, Dental Laboratory Technology, Early Childhood Education, Emergency Medical Technology, Health Information Technology, Machine Tool Technology, Medical Laboratory Technology, Nursing, Paralegal, Pharmacy Technology, Radiologic Technology, Respiratory Care, Surgical Technologist, Teacher Education, Therapeutic Massage, and Veterinary Technology. In addition, Pima's Aviation Technology Program is approved by the Federal Aviation Administration.

College Mission

Pima Community College is an open-admissions institution providing affordable, comprehensive educational opportunities that support student success and meet the diverse needs of its students and community.

College Vision

Pima Community College will be a premier community college committed to providing educational pathways that ensure student success and enhance the academic, economic and cultural vitality of our students and diverse community.

College Values

To guide Pima Community College, these values characterize the way in which we accomplish our mission:

People

We value our students, employees and the community members we serve, by making decisions that address the needs of those populations.

Integrity

We make a commitment to academic honesty, personal ethics and institutional decision-making that is based on sound moral principles, accountability and transparency.

Excellence

We embrace best practices and value high quality services and programs that lead to successful outcomes for our students through evidence-based continuous improvement practices.

Communication

We are committed to sharing information with internal and external stakeholders in a transparent, timely and meaningful way that is open, honest and civil.

Collaboration

We encourage teamwork and cooperation within the College and with the community to support student success.

Open Admissions and Open Access

We value open admissions and access to our programs and services for all who may benefit from them, regardless of where they are starting from or what their final goal may be.

Core Themes and Objectives

Student Success

- Support and increase student goal achievement
- Support student progress toward goals
- Enhance course, program and general education assessment to improve learning

Access

- Provide educational pathways and resources that meet student and community needs
- Increase enrollment across the College

Teaching and Program Excellence

- Provide excellent teaching that utilizes best practices to support student success
- Offer relevant and quality programs that provide positive contributions to the economy of the region

Student Services

- Provide quality and appropriate student support services at the campuses
- Provide student-centered admissions and financial aid processes that support student success

Community Engagement

- Promote initiatives that provide opportunities for the development of our students and community
- Engage with national, state and local authorities on initiatives that support the mission of the College
- Develop and enhance partnerships that identify and respond to the educational needs of the community
- Engage with industry and increase the skilled workforce within Pima County

Diversity, Inclusion and Global Education

- Expand and support the diversity of the College’s student population
- Close the achievement gap
- Expand and support the diversity of the College’s workforce
- Develop and increase the student population through global education

Institutional Effectiveness

- Ensure effective and ethical use of the College’s financial resources, technology and infrastructure
- Enhance an evidence-based approach to decision-making that is based on continuous improvement processes

Institutional Effectiveness Policy

The College is committed to ensuring institutional effectiveness through continuous assessment and quality improvement. Accordingly, the College will establish responsive and integrated planning, evaluation, development and project-support systems to help the College fulfill its mission in the most effective and efficient manner.

The College annually measures its overall mission performance by reporting to the community through the College planning process.

College Profile

In 1966 the citizens of Pima County, Arizona, voted by a large margin to form a junior college district. The county superintendent of schools appointed a five-member governing board that laid the groundwork for Pima College. With help from committees composed of citizens, the board developed educational goals, created a financial plan, selected a president, and chose a campus site.

The next year the citizens of Pima County elected a board to replace the appointed officials and approved a \$5.9 million bond issue for the College. In 1969, construction on the first campus began on a 267-acre site in the foothills of the Tucson Mountains, west of the city.

The College’s first classes met in the fall of 1969 at Tucson Medical Center, Villa Maria and in Marana. In the fall of 1970 Pima College officially opened its doors to 3,543 students. Classes were held in unlikely quarters, a hangar at Tucson International Airport. By January of 1971, students in all programs attended classes in the 11 buildings on Anklam Road — today’s West Campus, which has expanded to include the Center for the Arts to serve about 15,000 students annually.

Expansion and evolution soon began. In 1972 the board renamed the institution Pima Community College to better reflect its mission of service to the community. It began to offer greater access through additional campuses.

In 1974 the College opened the Downtown Campus at Stone Avenue and Speedway Boulevard. The first classes were held in a remodeled post office building. With the purchase of neighboring structures and the construction of the campus center and classroom technology building, the campus grew to 10 buildings. The campus currently serves about 11,000 students annually.

In 1975 the College established the Community Campus to supplement traditional on-campus education. After occupying several sites, the permanent Community Campus facility opened in 1997 near St. Mary’s Road and Interstate 10 and serves about 20,000 students annually.

The College established the East Education Center in 1976. It became the East Campus in 1980. Located on a desert site east of Davis-Monthan Air Force Base, the campus doubled in size in the fall of 1989 with the construction of the student union and library. The campus serves about 6,800 students annually. In 2004, the College and Tucson Parks and Recreation built a 21-acre park on the northwest edge of the campus, with soccer and softball fields, and a fitness facility for students.

The South Education Center opened in 1986, and by 1993 had grown into the Desert Vista Campus, located near Interstate 19 and Valencia Road. Annually, the campus serves 5,900 students, including many who use the training and student services of the Center for Training and Development. The campus also houses a charter high school serving American Indian students.

The Northwest Community Learning Center opened in 1998 and in fall 2003 was replaced by Northwest Campus on North Shannon Road. The Northwest Campus offers a full spectrum of educational, recreational and cultural programs and services to more than 6,000 students annually.

The College is one of the largest multi-campus community college districts in the nation, and currently serves more than 44,000 students annually.

Pima County Community College District Presidents/Chancellors

Presidents

| | |
|-----------------------------|-----------|
| Dr. Oliver Lane | 1967-1969 |
| Dr. Kenneth Harper | 1969-1972 |
| Dr. Irwin Spector | 1972-1978 |
| Donald Klaasen (Acting) | 1978-1979 |
| Dr. S. James Manilla | 1979-1988 |
| Diego Navarrette | 1988-1989 |
| Dr. Brenda Beckman (Acting) | 1989-1990 |
| Dr. Johnas Hockaday | 1990-1992 |

Chancellor (title change)

| | |
|-----------------------------|--------------|
| Dr. Johnas Hockaday | 1992-1995 |
| Dr. Robert Jensen | 1995-2003 |
| Dr. Roy Flores | 2003-2012 |
| Dr. Suzanne Miles (interim) | 2012-2013 |
| Dr. Zelema Harris (interim) | 2013 |
| Lee D. Lambert , J.D. | 2013-present |

Pima County Community College District

District Office

4905 E. Broadway Blvd.
Tucson, AZ 85709-1010
520-206-4500
520-206-4530 (TTY)

Maintenance and Security

6680 S. Country Club Road
Tucson, AZ 85709-1700
520-206-2733
520-206-2682 (TTY)

Campuses

Community Campus

401 N. Bonita Ave.
Tucson, AZ 85709-5000
520-206-3933

Desert Vista Campus

5901 S. Calle Santa Cruz
Tucson, AZ 85709-6000
520-206-5101

Downtown Campus

1255 N. Stone Ave.
Tucson, AZ 85709-3000
520-206-7171

East Campus

8181 E. Irvington Road
Tucson, AZ 85709-4000
520-206-7000

Northwest Campus

7600 N. Shannon Road
Tucson, AZ 85709-7200
520-206-2200

West Campus

2202 W. Anklam Road
Tucson, AZ 85709-0001
520-206-6600

Educational Centers and Offices

Alumni Association

(See District Office)
4905C E. Broadway Blvd.
Tucson, AZ 85709-1320
520-206-4646

Aviation Technology Center

7211 S. Park Ave.
Tucson, AZ 85709-6185
520-206-5910

Center for the Arts

(See West Campus)
2202 W. Anklam Road
Tucson, AZ 85709-0295
520-206-6986

Center for Learning Technology

(See Community Campus)
401 N. Bonita Ave.
Tucson, AZ 85709-5000
520-206-6410

Center for Training and Development

(See Desert Vista Campus)
5901 S. Calle Santa Cruz
Tucson, AZ 85709-6365
520-206-5100

Center for Transportation Training

(Truck Driver Training site at
Maintenance & Security)
6680 S. Country Club Road
Tucson, AZ 85709-1850
520-206-2744

Davis-Monthan Air Force Base Education Center

5355 E. Granite St.
Building 2441, Suite 100
Tucson, AZ 85707-3011
520-206-4866

Adult Basic Education for College & Career Administrative Offices

(See Community Campus)
401 N. Bonita Ave.
Tucson, AZ 85709-5600
520-206-6500

El Pueblo Liberty Adult Learning Center

101 W. Irvington Road
Building 7
Tucson, AZ 85709-5640
520-206-3737

HSE/GED® Testing

Community Campus,
East Campus and Northwest Campus
520-206-3987

El Rio Adult Learning Center

1390 W. Speedway Blvd.
Tucson, AZ 85709-5630
520-206-3800

PCC 29th Street Coalition Center Adult Learning Center

4355 E. Calle Aurora
Tucson, AZ 85709-5000
520-206-3550

PCC - Santa Cruz County

2021 N. Grand Ave., Nogales, AZ 85621
520-394-7181

Pima Community College Foundation

(See District Office)
4905C E. Broadway Blvd.
Tucson, AZ 85709-1320
520-206-4646

Public Safety and Emergency Services Institute -

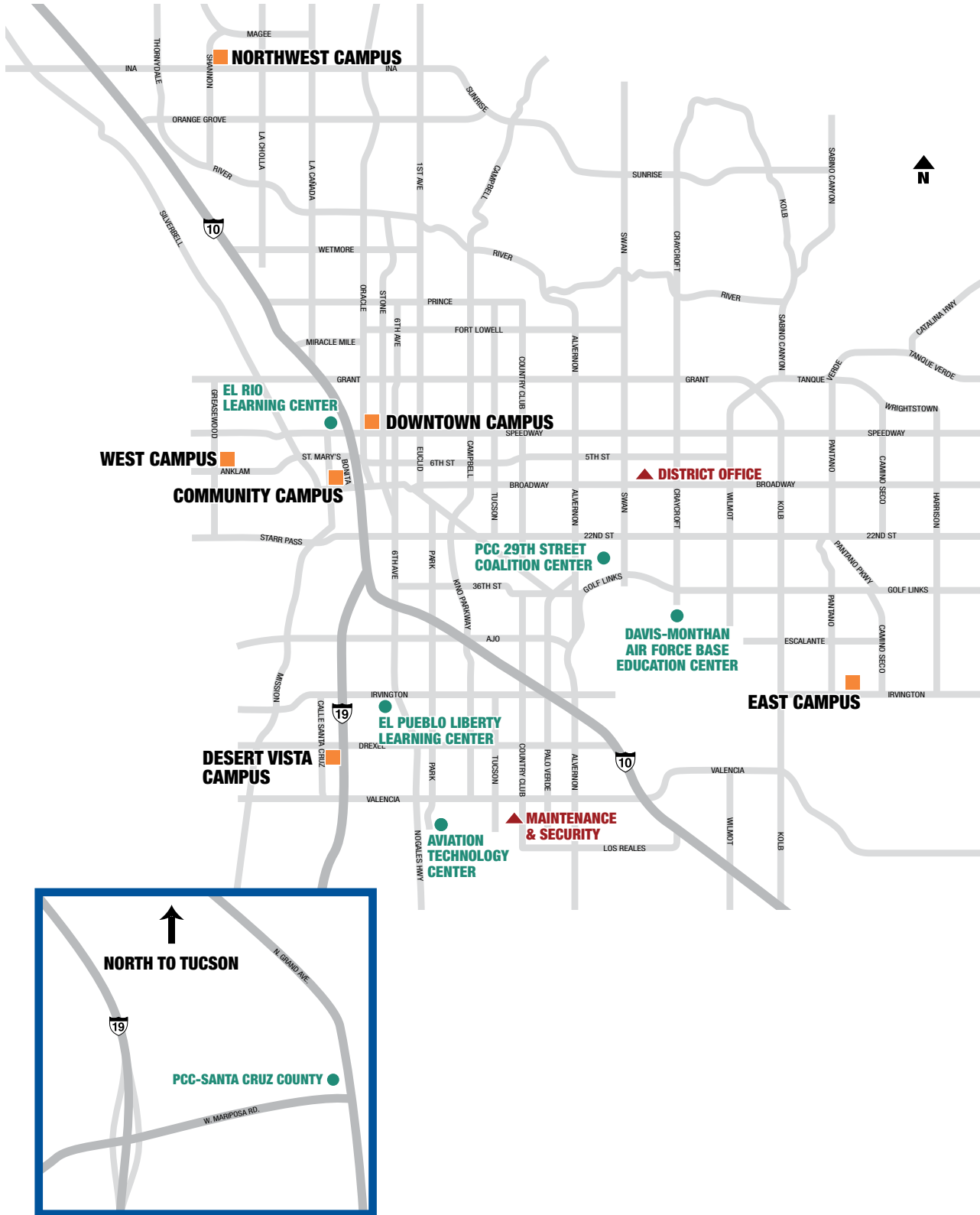
PCC 29th Street Coalition Center

4355 E. Calle Aurora
Tucson, AZ 85709-5000
520-206-3535

Workforce Development and Continuing Education

(See Community Campus)
401 N. Bonita Ave.
Tucson, AZ 85709-5500
520-206-6593

College Locations



Campuses and Centers

Pima Community College campuses and centers offer degrees, certificates and training, as well as comprehensive student services that include advising, counseling, tutoring and library services.

Campuses

Community Campus

- Adult Basic Education for College and Career: Adult Basic Education, HSE preparation and testing, English Language Acquisition for Adults, Math Bridge classes, IBEST programs, Refugee Education, Rights and Responsibilities of Citizenship
- Continuing Education
- PimaOnline
- Small Business Development Center
- Workforce Development

Desert Vista Campus

- Center for Training and Development
- Culinary Arts
- Early Childhood Education
- Teacher Education

Downtown Campus

- Automotive Technology
- Building and Construction Technology
- Computer Aided Drafting and Design
- Heating, Ventilation and Air Conditioning
- Machine Tool Technology
- Mechatronics
- Welding and Fabrication
- Paralegal

East Campus

- Administration of Justice Studies
- Logistics and Supply Chain Management
- Emergency Medical Technology
- Veterinary Sciences

Northwest Campus

- Clinical Research Coordinator
- Hotel and Restaurant Management
- Pharmacy Technology
- Therapeutic Massage

West Campus

- Anthropology/Archaeology
- Dance
- Dental Assisting
- Dental Hygiene
- Dental Lab Technology
- Digital Arts
- Fashion Design
- Medical Lab Technician
- Music
- Nursing
- Radiologic Technology
- Respiratory Care
- Theater
- Visual Arts

Centers

PCC 29th Street Coalition Center

- Fire Science
- Law Enforcement
- Paramedic
- Adult Basic Education for College and Career: Adult Basic Education, HSE preparation and testing, English Language Acquisition for Adults, Math Bridge classes, IBEST programs, Refugee Education, Rights and Responsibilities of Citizenship

PCC- Santa Cruz County

- For-credit college courses

Aviation Technology Center

- Aviation mechanics
- Avionics
- Aviation Structural Repair

Davis-Monthan AFB Education Center

- General Education Mobile

El Rio Learning Center

- Adult Basic Education for College and Career: Adult Basic Education, HSE preparation and testing, English Language Acquisition for Adults, Math Bridge classes, IBEST programs, Refugee Education, Rights and Responsibilities of Citizenship

El Pueblo Liberty Learning Center

- Adult Basic Education for College and Career: Adult Basic Education, HSE preparation and testing, English Language Acquisition for Adults, Math Bridge classes, IBEST programs, Refugee Education, Rights and Responsibilities of Citizenship

Maintenance & Security

- Bus Driver Training
- Truck Driver Training







Admissions, Registration and Records

Admission to the College

Pima Community College (PCC) encourages all individuals to further their education. No person will be denied admission to, or registration for courses at the College on the basis of gender, race, ethnicity, national origin, age, disability, sexual orientation, gender identity or expression.

Some programs at the College have special admissions requirements. Admission to some specific degree or certificate programs cannot be guaranteed. Additionally, there are other programs for which students need to apply separately. For information on some of these programs, please contact the program directly:

Workforce Development and Continuing Education
Community Campus 520-206-6569

Center for Training and Development (CTD)
Desert Vista Campus 520-206-5100

Adult Basic Education for College and Career (ABECC)
Community Campus 520-206-6500

Center for Transportation Training
6680 S. Country Club Road 520-206-2744

Eligibility for Admission

All individuals who complete the Application for Admission are admitted to the College, issued a student identification number, and assigned an admission classification based on their intent. Admission to the College does not guarantee admission to a specific degree program or to all courses offered by the College.

I. Admission Classification for Credit Students

The College designates three classifications for credit admission in order to comply with federal regulations and state statutes, and to facilitate College reporting; the three classifications are Regular/Degree-Seeking, Non-Degree Seeking and International. Students in any credit classification are eligible to take any credit course for which they meet the prerequisite(s).

A. Classification as Regular/Degree-Seeking

Students who are degree- or certificate-seeking and who fall within one of the following categories pursuant to ARS 15-1805.01 and ARS 15-1821 are classified as Regular/Degree-Seeking:

1. Is a graduate of a high school that is accredited by a regional accrediting association as defined by the United States office of education or approved by a state board of education or other appropriate state educational agency;
2. Has a high school certificate of equivalency;
3. Is a transfer student in good standing from another college or university;
4. Is a homeschooled student at least 18 years of age;
5. Demonstrates evidence of potential success at Pima Community College as outlined in the College's placement evaluation process (AP 3.12.01);
6. Is under the age of 18 and who achieves one of the following:

- a. A passing score on the relevant portions of the Arizona Instrument to Measure Standards test;
- b. The completion of a college placement test designated by the community college district that indicates the student is at the appropriate college level for the course
- c. Is a graduate of a private or public high school or has a high school equivalency diploma.
- d. Is a homeschooled student and provides supporting documentation that meets state standards.

B. Classification as Non-Degree Seeking

Students who intend to take credit classes (for personal interest, skill development, high school dual enrollment, upgrading job skills, or for transfer toward a degree at another institution), and who do not intend to pursue a degree or certificate at Pima Community College are classified as Non-Degree Seeking.

C. Classification as International

Students from other countries attending Pima Community College on a visa are classified as International.

II. Admission Classification for Non-Credit Students

A. Clock-Hour Students

Students who are certificate seeking in the College's clock-hour training programs, and who meet the criteria listed in Section I.A. are classified as Regular/Degree-Seeking.

B. Adult Basic Education Students

Students pursuing adult education through Adult Basic Education for College and Career are classified as Adult Basic Education.

C. Non-Credit Continuing Education Students

Students pursuing continuing education courses are classified as Continuing Education.

D. Non-Credit Community Education

Students pursuing non-credit, community education courses are classified as Non-Credit.

Admission of Under Age 18 Students

Guidelines:

No student under the age of 18 will be denied admission to the College because of age, lack of high school diploma or high school equivalency diploma, grade in school, lack of permission of school officials, or lack of concurrent enrollment in a public or private school, provided that the general parameters have been met to assess student preparedness. Admission to the College does not guarantee admission to a specific degree program or to all courses offered by the College.

Details of requirements for students under the age of 18 are identified in the previous section. For students under the age of 16, additional requirements to register for classes are specified below.

Registration of Students Under Age 16

Pima Community College strives to provide quality instruction and

support for all students taking post-secondary level courses. In accordance with ARS15-1805.01 and ARS 15-1821, PCC has adopted an admissions policy for underage students. These students have the same rights and same responsibilities as any other college student, except as noted here and in applicable College policies. Because the student is a minor, each underage student and her/his parent/guardian are required to review and sign an agreement accepting responsibility for the decision to enroll.

Underage admissions review process: Until a student reaches the age of 16, the Director of Student Affairs must review and approve the admission application each semester. The College may limit enrollment to no more than 2 courses or 8 credit hours based on a variety of factors. These factors include, but are not limited to: student academic performance, academic readiness, social and emotional readiness for college level engagement, the demands of the courses proposed, time constraints, etc. Continued enrollment will be based upon academic progress and course completion and is at the discretion of the Director of Student Affairs or designee.

Federal Financial Aid Eligibility: Underage students are not eligible for federal financial aid until they complete high school, obtain a High School Equivalency Diploma, or become 18 years of age and are no longer in high school.

Academic Freedom in College: Course content and discussion are subject to faculty academic freedom and student rights of free speech. Topics may emerge which the student/parent may not consider age appropriate. If the student or parent is not comfortable with an assignment or classroom discussion, the faculty member is not required to substitute an alternate activity or graded exercise.

Grading: The grade received by the student is part of the student's permanent post-secondary academic record and may affect the student's eligibility for college scholarships or freshman/first-time status at other institutions of higher education.

Student Support Services: Although the student will have equal access to all academic support services offered to the student body, the College does not provide additional resources specifically for underage students. For more information, go to www.pima.edu/current-students/advising/early-academic-alert.html.

FERPA: The student's academic record (grades, registration information, progress, etc. in class) cannot be accessed by the parent without a written release, signed by the student. For more information, go to www.pima.edu/current-students/code-of-conduct/ferpa.

Faculty communication: The faculty member will provide standard updates on academic progress directly to the student. This may include graded homework, graded test papers, etc. In a college environment, attendance records are not provided as a measure of progress and faculty do not provide written or personal/telephone summaries during the semester.

Admission of International Students

Admission for all international students is through the Center for International Education and Global Engagement located at the West Campus. For further information, call 520-206-6732 or visit www.pima.edu/international.

1. International students intending to pursue full-time study must submit the following documents to the Center for International Education and Global Engagement to satisfy admission requirements. Necessary forms are available at the Center for International Education and Global Engagement or online.
 - a. A completed International Student Application Form verifying program of study, academic history and language proficiency information.
 - b. A completed Affidavit of Support, along with a bank statement or bank certification, verifying availability of funds in the amount required.
 - c. Proof of health insurance coverage. This requirement is met by enrolling in the student health insurance plan provided by PCC. Students who are under the sponsorship of their government or an agency that is responsible for their educational expenses, including medical coverage may waive the student health insurance plan provided by the College.
 - d. A copy of their passport showing validity for at least six (6) months.
 - e. All admissions requirements are pursuant to Title 8 of Code of Federal Regulations.

2. International student applicants must submit the following to satisfy admissions requirements in addition to those listed above (student who is applying for part-time admission and is in the United States on an active non-immigrant visa status that is not F-1 and eligible for study in the United States):
 - a. A completed International Student Application Form verifying program of study, academic history and language proficiency information.
 - b. A copy of the current I-94, either from the applicant's passport or the United States Department of Homeland Security website.
 - c. A copy of the visa page from the applicant's passport.

International student applicants under the age of 18 should be informed of the College's recommendation that they have a "guardian" in the United States to represent them in emergency situations since the College is not permitted to act in the place of the parent or guardian.

Once accepted, all international students must comply with the appropriate immigration standards and regulations.

Persons on other non-immigrant visas may be allowed to enroll in part-time course work in accordance with immigration policy.

Border Commuter Students

In compliance with U.S. Citizenship and Immigration Services regulations, a border commuter student is a national of Canada or Mexico who is admitted to the United States as an F-1 nonimmigrant student to enroll in a full course of study, albeit on a part-time basis, in an approved school located within 75 miles of a United States land border. A border commuter student must maintain an actual residence and place of abode in the student's country of nationality, and seek admission to the United States at a land border port-of-entry.

Part-time border commuter students are not admitted for "duration of status," but rather "until a date certain." Regulations require the DSO to "specify a completion date on the Form I-20 that reflects the actual semester or term dates for the commuter student's current term of study," and issue a new Form I-20 "for each new semester or term that the commuter student attends at the school." The date-certain for which the students are admitted would be based on the end date of each I-20.

Student Residency Requirements

For tuition purposes, students must indicate their residency status when applying for admission. Legal residency will be determined by the College before registration and payment of fees for any semester or session. Students will be notified of their residency status via their admission letter and their MyPima student portal. Review this information carefully before registering. If you believe it is incorrect, visit a campus Student Services Center for assistance. It is the student's responsibility to register under the correct residency status.

The process of determining residency is called domicile determination. Domicile is determined as of the first day of the session in which a student is enrolling. The guidelines to determine residency status are taken from the Arizona Revised Statute section 15-1801 through 15-1807. For questions about these guidelines, or for help determining residency status, please contact a campus Student Services Center.

In-State Student Status (Section ARS 15-1802)

1. 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.
2. A person is not entitled to classification as an in-state student until the person is domiciled in this state for one year, unless the person meets one of the following requirements:
 - a. 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.
 - b. 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.
 - c. 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.
 - d. The person's spouse has established domicile in this state for at least one year, has demonstrated intent and financial independence, and is entitled to claim the student as an exemption for state and federal tax purposes or the person's spouse was temporarily out-of-state for educational purposes, but maintained a domicile in this state. If the person is a non-citizen, the person must be in an eligible visa status pursuant to federal law to classify as an in-state student for tuition purposes.
3. The domicile of an unemancipated person is that of such person's parent.
4. 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, as long as such person maintains continuous attendance.
5. 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. A spouse or a dependent child does not lose in-state student classification under this subsection if the spouse or dependent child qualifies for in-state tuition classification at the time the spouse or dependent child is accepted for admission to a community college under the jurisdiction of a community college district governing board or a university under the jurisdiction of the Arizona Board of Regents. The student, while in continuous attendance toward the degree for which currently enrolled, does not lose in-state student classification.
6. A person who is a member of the armed forces of the United States or the spouse or 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.
7. 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 the following requirements:
 1. Registered to vote in this state **and**
 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. Transfer of major banking services to Arizona
 - e. Change of permanent address on all pertinent records
 - f. Other materials of whatever kind or source relevant to domicile or residency status
8. A person who is a member of an Indian tribe recognized by the United States Department of the Interior whose reservation land lies in this state and extends into another state and who is a resident of the reservation is entitled to classification as an in-state student.

Residency Determination and the Domicile/Residency Affidavit

Arizona residency requirements can be divided into three areas:

1. Physical Presence

A person may be eligible for classification as a resident if that person can provide clear and convincing evidence of physical presence in the state of Arizona with the intent to establish a

domicile for 12 full months preceding the official start date of the semester of enrollment.

2. Intent to establish a domicile

Intent is measured by a variety of evidence, but the following may be required to provide clear and convincing evidence for establishing a domicile:

- a. Arizona driver's license
- b. Arizona motor vehicle registration
- c. Filing of Arizona state income taxes
- d. Filing of Federal tax forms as an Arizona resident
- e. Arizona voter registration
- f. Lease/Rental agreement
- g. Purchase of primary residence in Arizona
- h. Employment verification

3. Financial independence/dependence

A person applying for classification as a resident must prove financial independence from out-of-state parents, or dependence on in-state parents, for the entire domicile year. A person may be financial independent if:

- a. They were not claimed as a tax dependent by out-of-state parents for any portion of the domicile year;
- b. They did not receive more than one-half of their financial support from out-of-state parents during the domicile year;
- c. They were self-supporting for the entire domicile year; and/or
- d. Receiving financial aid, filed as an independent student, as defined per Federal financial aid guidelines.

A person may be financially dependent if:

- a. They were claimed as a tax dependent by an in-state resident parent for any portion of the domicile year;
- b. They received more than one-half of their financial support from in-state resident parents during the domicile year;
- c. They were not self-supporting for the entire domicile year; and/or
- d. They received financial aid as a dependent student, with in-state resident parents.

To petition for a change in your residency classification you must respond to all questions and statements on the Residency Correction Form and provide documentation supporting your request for residency change. You must:

- a. Complete a Residency Correction Form
- b. Provide proof that you resided in Arizona for at least one year prior to the start date of the semester for which you are applying, and
- c. Provide proof that you have taken steps to establish permanent residency in Arizona.

Failure to do so by the start date of the term in which you applied will be interpreted as evidence of not establishing residency in Arizona. As indicated by the Arizona residency regulations, the burden of proof that all requirements for residency classification have been met rests with the student. Clear and convincing evidence must be submitted by you to support all responses given on your petition.

All statements, information, and evidence provided on your petition must be consistent with other College/official documents. Inconsistencies may jeopardize your petition for residency and subject you to disciplinary action, dismissal from the College, repayment of tuition, and repayment of financial aid.

Change in residency is not automatic. You must complete an affidavit and turn it in to a campus Student Services Center or the Office of Admissions.

Verification of Lawful Presence

Since March 12, 2007, PCC students seeking in-state tuition have been required to complete a one-time Tuition Assessment Form/Verification of Lawful Presence Form. This enables the College to comply with state law.

All new and continuing students seeking in-state tuition and registering for credit classes, who have not previously had their lawful presence verified by the College, must complete the form and provide documentation. Once completed, you won't need to file again while at PCC.

You have 10 days from the date of admission to complete and submit the form. If you do not complete and submit the form within this time period a hold will be placed on your student account record. You will not be able to view your grades or receive a transcript until the form is processed. You must provide documentation to support your application. Acceptable documents are provided on the Tuition Assessment/Verification of Lawful Presence Form.

This form must be submitted in person if you are a resident of Pima County. Bring the form and required documentation to a campus Student Services Center or the Office of Admissions. Pima Community College requires the original signed form. Fax or scanned copies are not acceptable. The form is available at www.pima.edu/new-students/apply/lawful-presence.html.

If you do not live in Pima County, call 520-206-4640 and a staff member will assist you.

Assignment of Student Identification Number and Use of Social Security Number

Pima Community College assigns all new students a student identification number. PCC does not use your Social Security numbers for student identification numbers.

Pima Community College requests the Social Security numbers of all students who are U.S. citizens, Resident Aliens, or noncitizens (who have been issued a Social Security number) on the Application for Admission to match current and future records, ensuring that students receive full credit for all academic work. All local, state and federal student financial aid applications, and forms for College employment require student Social Security numbers.

Note: You must provide your Social Security number in the event the College is required by the Internal Revenue Service (IRS) to file a form 1098-T Tuition Statement.

Before the First Semester

Student requirements for taking the placement tests, meeting with an advisor and registering for classes.

Placement Tests

Depending on your application type, before you can register for courses, you may have to take a placement test in reading, writing and mathematics. If English is not your first language, take the Combined English Language Skills Assessment (CELSA).

The College utilizes two methods to determine placement, Multiple Measures and Accuplacer.

High school graduates or students that have completed their high school equivalency (GED) in the past three years are first placed in courses using their high school transcript data and/or tests results, the College's Multiple Measures placement process. If the placement level in each discipline is lower than expected, students may take the Accuplacer to challenge the placement level.

Students who are required to take the placement tests must also take the pre-placement tutorial in MyPima, under the New Students tab. This tutorial allows students to brush-up on mathematics, reading and writing before taking the placement tests. Placement Prep sessions in developmental mathematics, college mathematics, reading and writing are also available. These sessions provide a stress free learning environment to brush-up on content in each discipline. Students can also utilize Web-based interactive programs provided free of charge. For more information, please refer to www.pima.edu/placement.

Placement tests are offered at campus Testing Centers. You must bring a current, valid photo ID from a state or educational institution. You do not need an appointment. It is best if you can plan two days for testing, focusing on English, reading and writing one day and mathematics on a separate day. Each test, on average, takes 40 to 60 minutes, and in mathematics and English as a Second Language, you could potentially take two tests. There is no charge for the first two attempts of the Accuplacer.

Special Accommodations

Special accommodations, such as extended time, large print, writing assistants and interpreters, are available for qualified disabled students through the Access and Disability Resources office. For more information, please refer to the Access and Disability Resources section.

Other Testing Services

For students without a high school diploma, PCC offers the GED® (General Education Development) test to earn a High School Equivalency (HSE) diploma. Students take the test on a computer at an authorized testing center. The test is offered in English and Spanish. For GED® test locations and hours, call 520-206-3987. Additionally, the institutional TOEFL (Test of English as a Second Language) is available at the West Campus Testing Center.

Advising

Students are strongly encouraged to meet with an advisor or counselor on a regular basis, but not less than once per semester, to discuss short and long term academic goals, financial aid options, major and semester course planning, career planning, academic workload and life balancing.

Advising Resources for Students

All students are urged to make use of MyDegreePlan, the College Catalog, the online class schedules, Student Success & Registration

Guide, and the Student Handbook when selecting courses or developing an educational plan. These resources are available at a Student Services Center or www.pima.edu. MyDegreePlan is available for all active students through their MyPima student account.

Registration Sessions

New Student Registration Sessions are designed to help students succeed in college, and are highly recommended. Registration Sessions cover the necessary information about programs, services, university transfer, study skills and registration. Each campus provides a schedule for the upcoming semester. Registration Sessions are offered at a variety of times, dates, and in many formats. All degree- and certificate-seeking students new to higher education are required to complete a New Student Registration Session prior to their first semester of taking credit courses. A student may, with the permission of an advisor or counselor, enroll in a designated Student Success course in place of attending a Registration Session. Visit www.pima.edu/orientation or contact a Student Services Center for more information.

Declaring a Program of Study

Advising staff and counselors are available at the campuses and online to help you choose the right program of study, which may affect your eligibility for financial aid or veterans educational benefits. Declaring a program of study will help you clarify your academic goals and will increase your likelihood of success.

Transfer of Credits into PCC

Students who have taken classes at another college or university may transfer the credits to Pima Community College. The College may accept class credit (with a grade of C, its equal, or better) from colleges and universities accredited by any of the following regional accreditation commissions:

- Middle States Association of Colleges and Schools
- New England Association of Schools and Colleges, Inc.
- The Higher Learning Commission
- Northwest Commission on Schools, Colleges and Universities
- Southern Association of Colleges and Schools
- Western Association of Schools and Colleges

Pima Community College will also consider international transcripts that have been evaluated by the National Association of Credential Evaluation Services (NACES) or member agency of the American Association of Collegiate Registrars and Admissions Officers (AACRAO).

To transfer credits to Pima Community College, the student must:

- Be admitted to Pima Community College
- Request an official transcript from the institution(s) previously attended be sent to PCC's Office of Enrollment Services/Registrar:
4905B E. Broadway, Suite 220, Tucson, AZ 85709-1120.
- The student will be notified when the transcript has been received.
- Submit a Request for Transcript Evaluation Form for evaluation at a campus Student Services Center.

Military Servicemembers Opportunity College

Pima Community College is an institutional member of Servicemembers Opportunity Colleges (SOC). The SOC is a group of more than 400 college and universities that willingly provide post-secondary (after high school) education to members of the military throughout the world. As a member of the SOC, the College recognizes the unique nature of the military lifestyle.

General Education Mobile (GEM)

Pima Community College is a General Education Mobile (GEM) participating institution. GEM allows active-duty Air Force students to complete their 15-hour Community College of the Air Force (CCAF) General Education Course requirements online through Pima Community College and the General Education Mobile program (GEM) site. Courses are offered in five CCAF general education areas: Oral Communication, Written Communication, Mathematics, Social Sciences and Humanities. For more information, visit pima.edu/new-students/apply/gem-program.html.

Prior Learning Assessment (PLA)

Prior Learning Assessment (PLA) is a way to earn credit for college-level knowledge or skills you have attained outside the traditional college classroom and have not been previously evaluated for or awarded college credit. PLA credit is not awarded for experience; it is awarded for college-level knowledge gained from experience that is equivalent to the required competencies in a PCC course. Students who apply for PLA can earn up to 50 percent of the credits required for a program of study.

PCC offers the following methods to earn credit for prior learning (NOTE: Not all courses are available in all methods, and some courses may not have any PLA options):

- National Standardized Tests (information on this form of PLA is detailed below)
- Challenge Exams/Assessment
- Evaluated Military Training
- Noncredit to Credit
- Evaluated Industry Certificates and Training Programs
- Portfolio Assessment

For more information, visit a campus Student Services Center to meet with an academic advisor or www.pima.edu.

National Standardized Tests

Pass these national exams to earn equivalent college credit:

- Advanced Placement (AP)
- Cambridge International Exams (CIE)
- International Baccalaureate (IB)
- College-Level Examination Program (CLEP)
- Dantes (DSST)

Credits earned through this process:

- may meet general education requirements—the display will indicate general education categories that the exam may fulfill
- may or may not transfer to other colleges or universities—exams are re-evaluated upon transfer to another institution so students planning to transfer should check with the transfer institution to determine if and how credits are awarded
- do not fulfill the requirement of completing 15 credits at PCC

- cannot be used in qualifying a student for veterans' education benefits
- are not eligible for financial assistance
- are awarded a grade of "TP" and will not be stated in terms of a specific course grade. No record is made of failing scores.

Advanced Placement (AP), International Baccalaureate (IB), and Cambridge International Exams (CIE) Programs

Pima Community College accepts many Advanced Placement (AP), International Baccalaureate (IB), and Cambridge International Exam (CIE) credits. Taking AP, IB or CIE courses in high school can accelerate a student's college career. At PCC, students can earn up to 30 credits toward a degree simply by taking examinations at the end of AP, IB, or CIE classes. Credits earned based on exam performance may be counted toward a certificate or degree, including General Education requirements. See the following AP, CIE and IB credit tables. Contact a Pima Community College advisor to confirm course credit toward specific programs.

An effort has been made to match Pima Community College's AP, IB and CIE scores and equivalencies with those of the three state universities. For more information, visit the AZTransfer website <http://aztransmac2.asu.edu/cgi-bin/WebObjects/ATASS.woa/wa/EEG>.

Please refer to the table on the following pages for the required scores for course equivalencies and any General Education credit awarded. These scores are reviewed annually by the respective discipline faculty and the College Curriculum Office.

College-Level Examination Program (CLEP) and DSST

The College-Level Examination Program and DSST offer a means by which students can obtain college credits without having to enroll formally in the courses. Pima Community College accepts certain CLEP and DSST for college credit, providing satisfactory scores are attained. Students must pay a registration service fee and an examination fee for each test. CLEP examinations are offered at PCC's Northwest Campus (520-206-2212) and the Davis-Monthan Air Force Base Education Center (520-206-4866), as well as the University of Arizona Testing Office (520-621-7589). Contact these offices to obtain information on the specific examinations offered.

In most cases an effort has been made to match Pima Community College's CLEP and DSST scores with those of the three state universities when those scores align. Otherwise PCC tries to match those at the University of Arizona.

CLEP and DSST credit may fulfill Arizona General Education Curriculum (AGEC) credit and/or Occupational General Education credit if the CLEP score results in credit given in a course in the General Education list. For example, a score of 56 on the "Western Civilization II: 1648 to Present" test results in HIS 102 credit that will fulfill AGEC and Occupational General Education requirements.

For CLEP and DSST, please refer to the tables on the following pages for the required scores for course equivalencies and any General Education credit awarded. These scores are reviewed annually by the respective discipline faculty and College Curriculum Office.

Advanced Placement (AP)**Advanced Placement (AP) Table**

| Exam Title | Exam Score | PCC General Education Category | PCC Course Equivalency | PCC Credit |
|--------------------------------------|-------------------|--|-------------------------------|-------------------|
| Art History | 4 or 5 | Humanities and Fine Arts - Humanities | ART 130 & 131 | 6 |
| | 3 | Humanities and Fine Arts - Humanities | ART 130 or 131 | 3 |
| Art: Studio Art–2D | 4 or 5 | Humanities and Fine Arts—Fine Arts | ART 115 | 3 |
| Art: Studio Art–3D | 4 or 5 | Humanities and Fine Arts—Fine Arts | ART 120 | 3 |
| Art: Studio Art-Drawing | 4 or 5 | Humanities and Fine Arts—Fine Arts | ART 110 | 3 |
| Biology | 4 or 5 | Biological and Physical Sciences | BIO 181IN & 182IN | 8 |
| | 3 | Biological and Physical Sciences | BIO 100IN | 4 |
| Calculus | | | | |
| A/B exam | 3, 4 or 5 | Mathematics | MAT 220 | 5 |
| B/C exam | 4 or 5 | Mathematics | MAT 220 & 231 | 9 |
| B/C exam | 3 | Mathematics | MAT 220 | 5 |
| Chemistry | 5 | Biological and Physical Sciences | CHM 151IN & 152IN | 8 |
| | 4 | Biological and Physical Sciences | CHM 151IN | 4 |
| Chinese Language and Culture | 5 | Other Requirements-Second Language | CHI 101, 102, 201 & 202 | 20 |
| | 4 | Other Requirements-Second Language | CHI 101, 102 & 201 | 15 |
| | 3 | Other Requirements-Second Language | CHI 101 & 102 | 10 |
| Computer Science A | 4 or 5 | None | CIS 131 | 4 |
| Economics | | | | |
| Macroeconomics | 4 or 5 | Social and Behavioral Sciences | ECN 202 | 3 |
| Microeconomics | 4 or 5 | Social and Behavioral Sciences | ECN 201 | 3 |
| English | | | | |
| Language/Composition | 4 or 5 | English Composition | WRT 101 | 3 |
| Literature | 4 or 5 | English Composition | WRT 101 | 3 |
| Environmental Science | 4 or 5 | None | ZTR ELEC* | 3 |
| European History | 4 or 5 | Humanities and Fine Arts - Humanities OR Social and Behavioral Sciences | HIS 101 & 102 | 6 |
| French Language and Culture | 5 | Other Requirements—Second Language | FRE 101, 102, 201 & 202 | 16 |
| | 4 | Other Requirements—Second Language | FRE 101, 102 & 201 | 12 |
| | 3 | Other Requirements—Second Language | FRE 101 & 102 | 8 |
| German Language and Culture | 5 | Other Requirements—Second Language | GER 101, 102, 201 & 202 | 16 |
| | 4 | Other Requirements—Second Language | GER 101, 102 & 201 | 12 |
| | 3 | Other Requirements—Second Language | GER 101 & 102 | 8 |
| Government & Politics | | | | |
| Comparative | 4 or 5 | Social and Behavioral Sciences | POS 204 | 3 |
| United States | 4 or 5 | Social and Behavioral Sciences | POS 201 | 3 |
| Human Geography | 4 or 5 | Social and Behavioral Science | GEO 103 | 3 |
| Italian Language and Culture | 4 or 5 | Other Requirements-Second Language | ZTR LA** | 8 |
| Japanese Language and Culture | 5 | Other Requirements-Second Language | JPN 101, 102, 201 & 202 | 20 |
| | 4 | Other Requirements-Second Language | JPN 101, 102 & 201 | 15 |
| | 3 | Other Requirements-Second Language | JPN 101 & 102 | 10 |
| Latin-Vergil | 3, 4 or 5 | Other Requirements—Second Language | ZTR LA** | 8 |
| Music Theory | 4 or 5 | Humanities & Fine Arts - Fine Arts | MUS 125 & 127 | 4 |

Advanced Placement (AP) Table *(continued)*

| Exam Title | Exam Score | PCC General Education Category | PCC Course Equivalency | PCC Credit |
|---|------------|--|------------------------------|------------|
| Physics | | | | |
| Physics 1 | 4 or 5 | Biological and Physical Sciences | PHY 121IN | 4 |
| Physics 2 | 4 or 5 | Biological and Physical Sciences | PHY 122IN | 4 |
| Physics C - Electricity & Magnetism | 3, 4 or 5 | Biological and Physical Sciences | PHY 122IN | 4 |
| Physics C - Mechanics | 3, 4 or 5 | Biological and Physical Sciences | PHY 121IN | 4 |
| Psychology | | | | |
| | 4 or 5 | Social and Behavioral Sciences | PSY 101 | 3 |
| Spanish Language | | | | |
| | 4 or 5 | Other Requirements—Second Language | SPA 101, 102, 201, 202 & 251 | 19 |
| | 3 | Other Requirements—Second Language | SPA 101, 102, 201 202 | 16 |
| Spanish Literature & Culture | | | | |
| | 4 or 5 | Other Requirements—Second Language | SPA 101, 102, 201, 202 & 251 | 19 |
| | 3 | Other Requirements—Second Language | SPA 101, 102, 201 & 202 | 16 |
| Statistics | | | | |
| | 3, 4 or 5 | Mathematics (AGEC-A only) | MAT 167 | 3 |
| U.S. History | | | | |
| | 4 or 5 | Social and Behavioral Sciences | HIS 141 & 142 | 6 |
| World History | | | | |
| | 4 or 5 | Humanities and Fine Arts - Humanities OR Social and Behavioral Sciences | ZTR HU or ZTR SB*** | 6 |

* ZTR ELEC awards credit as an elective applicable toward transfer degrees.

** ZTR LA awards credit toward AGECE Other Requirements - Second Language

*** ZTR HU or ZTR SB awards credit toward either AGECE Humanities and Fine Arts - Humanities or AGECE Social and Behavioral Sciences. The default is Social and Behavioral Sciences.

International Baccalaureate Diploma Programme (IB)

International Baccalaureate (IB) Table

| Exam Title | Exam Score | PCC General Education Category | PCC Course Equivalency | PCC Credit |
|---|--------------|--|------------------------|------------|
| Africa & Middle East History (HL) | 5, 6, 7 | None | ZTR ELEC* | 3 |
| American History (HL) | 5, 6 or 7 | Humanities and Fine Arts - Humanities OR Social and Behavioral Sciences | HIS 141 & 142 | 6 |
| | 4 | Humanities and Fine Arts - Humanities OR Social and Behavioral Sciences | HIS 141 | 3 |
| Biology (HL) | 6 or 7 | Biological and Physical Sciences | BIO 181IN & 182IN | 8 |
| | 4 or 5 | Biological and Physical Sciences | BIO 100IN | 4 |
| Biology (SL) | 4, 5, 6, 7 | None | ZTR ELEC* | 3 |
| Business and Management (HL) | 5, 6 or 7 | None | ZTR ELEC* | 3 |
| Chemistry (HL) | 5, 6 or 7 | Biological and Physical Sciences | CHM 151IN & 152IN | 8 |
| | 4 | Biological and Physical Sciences | CHM 151IN | 4 |
| Classical Languages: Latin (HL) | 4, 5, 6 or 7 | Other Requirements - Second Language | ZTR LA** | 8 |
| Classical Languages: Latin (SL) | 4, 5, 6 or 7 | Other Requirements - Second Language | ZTR LA** | 8 |
| Computer Science (HL) | 5, 6 or 7 | None | CIS 279 | 3 |
| East, Southeast Asian and Oceania History (HL) | 5, 6 or 7 | None | ZTR ELEC* | 6 |
| Economics (HL) | 5, 6 or 7 | Social and Behavioral Sciences | ECN 201 & 202 | 6 |
| English A (HL) | 5, 6 or 7 | English Composition | WRT 101 | 3 |
| | 4 | None | ZTR ELEC* | 3 |
| Environmental Systems & Society | 5, 6, 7 | None | ZTR ELEC* | 3 |
| European History (HL) | 5, 6 or 7 | Humanities and Fine Arts—Humanities OR Social and Behavioral Sciences | HIS 101 & 102 | 6 |
| European History (HL) | 4 | Humanities and Fine Arts—Humanities OR Social and Behavioral Sciences | HIS 101 | 3 |

International Baccalaureate (IB) Table *(continued)*

| ExamTitle | ExamScore | PCCGeneralEducationCategory | PCCCourseEquivalency | PCCCredit |
|--|--------------|---------------------------------------|----------------------|-----------|
| Geography (HL) | 5, 6 or 7 | Social and Behavioral Sciences | GEO 103 | 3 |
| Islamic History (HL) | 5, 6 or 7 | None | ZTR ELEC* | 3 |
| Mathematics- Higher Level (HL) | 5, 6 or 7 | Mathematics | MAT 220 | 5 |
| Modern Languages: French B (HL) | 5, 6 or 7 | Other Requirements - Second Language | FRE 201 & 202 | 8 |
| | 4 | Other Requirements - Second Language | FRE 101 & 102 | 8 |
| Modern Languages: German B (HL) | 5, 6 or 7 | Other Requirements - Second Language | GER 201 & 202 | 8 |
| | 4 | Other Requirements - Second Language | GER 101 & 102 | 8 |
| Modern Languages: Spanish B (HL) | 5, 6 or 7 | Other Requirements - Second Language | SPA 201 & 202 | 8 |
| | 4 | Other Requirements - Second Language | SPA 101 & 102 | 8 |
| Music (HL) | 5, 6 or 7 | Humanities and Fine Arts - Humanities | MUS 201 & 202 | 6 |
| Physics (HL) | 6 or 7 | Biological and Physical Sciences | PHY 121IN & 122IN | 8 |
| | 5 | Biological and Physical Sciences | PHY 121IN | 4 |
| Physics (SL) | 6 or 7 | Biological and Physical Sciences | PHY 121IN | 4 |
| Psychology (HL) | 5, 6 or 7 | Social and Behavioral Sciences | PSY 101 | 3 |
| Psychology (SL) | 4, 5, 6 or 7 | None | ZTR ELEC* | 3 |
| Social and Cultural Anthropology (HL) | 4 | Social and Behavioral Sciences | ANT 102 | 3 |
| Visual Arts (HL) | 5, 6 or 7 | Humanities and Fine Arts - Fine Arts | ART 110 & ART 115 | 6 |
| | 4 | Humanities and Fine Arts - Fine Arts | ART 115 | 3 |

* ZTR ELEC awards credit as an elective applicable toward transfer degrees.

** ZTR LA awards credit toward AGEC Other Requirements - Second Language

*** ZTR HU awards credit toward AGEC Humanities and Fine Arts – Humanities

**** ZTR SB awards credit toward AGEC Social Behavioral Sciences

College-Level Examination Program (CLEP)**College-Level Examination Program (CLEP) – Subject Exams**

| ExamTitle | ExamScore | PCCGeneralEducationCategory | PCCCourseEquivalency | PCCCredit |
|--|-----------|---------------------------------------|-------------------------|-----------|
| American Government | 50 | Social and Behavioral Science | POS 201 | 3 |
| American Literature | 55 | Humanities and Fine Arts - Humanities | ZTR HU* | 3 |
| Analyzing and Interpreting Literature | 50 | Humanities and Fine Arts - Humanities | ZTR HU* | 3 |
| Biology | 50 | None | ZTR ELEC** | 3 |
| Calculus | 50 | Mathematics | MAT 220 | 5 |
| Chemistry | 50 | Biological and Physical Sciences | CHM 151IN | 4 |
| College Algebra | 50 | Mathematics (AGEC-A only) | MAT 151 | 4 |
| College Composition | 50 | English Composition | WRT 101 | 3 |
| English Literature | 55 | Humanities and Fine Arts - Humanities | ZTR HU* | 3 |
| Financial Accounting | 50 | None | ZTR ELEC** | 3 |
| French Language | 66 | Other Requirements—Second Language | FRE 101, 102, 201 & 202 | 16 |
| | 62 | Other Requirements—Second Language | FRE 101, 102 & 201 | 12 |
| | 55 | Other Requirements—Second Language | FRE 101 & 102 | 8 |
| | 50 | Other Requirements—Second Language | FRE 101 | 4 |

College-Level Examination Program (CLEP) – Subject Exams *(continued)*

| Exam Title | Exam Score | PCC General Education Category | PCC Course Equivalency | PCC Credit |
|---|------------|--|-------------------------|------------|
| German Language | 60 | Other Requirements—Second Language | GER 101, 102, 201 & 202 | 16 |
| | 51 | Other Requirements—Second Language | GER 101, 102 & 201 | 12 |
| | 46 | Other Requirements—Second Language | GER 101 & 102 | 8 |
| | 39 | Other Requirements—Second Language | GER 101 | 4 |
| <hr/> | | | | |
| History of the United States I: Early Colonization to 1877 | 56 | Humanities and Fine Arts - Humanities OR Social and Behavioral Sciences | HIS 141 | 3 |
| <hr/> | | | | |
| History of the United States II: 1865 to Present: | 56 | Humanities and Fine Arts - Humanities OR Social and Behavioral Sciences | HIS 142 | 3 |
| <hr/> | | | | |
| Human Growth & Development | 50 | None | ECE 107 | 3 |
| <hr/> | | | | |
| Introductory Business Law | 50 | None | ZTR ELEC** | 3 |
| <hr/> | | | | |
| Introductory Psychology | 50 | Social and Behavioral Science | PSY 101 | 3 |
| <hr/> | | | | |
| Introductory Sociology | 50 | Social and Behavioral Science | SOC 101 | 3 |
| <hr/> | | | | |
| Natural Sciences | 56 | None | ZTR ELEC** | 6 |
| | 53 | None | ZTR ELEC** | 3 |
| <hr/> | | | | |
| Precalculus | 50 | Mathematics (AGEC-A Only) | MAT 189 | 3 |
| <hr/> | | | | |
| Principles of Macroeconomics | 50 | Social and Behavioral Science | ECN 202 | 3 |
| <hr/> | | | | |
| Principles of Management | 50 | Non-transferable Elective | MGT 000 | 3 |
| <hr/> | | | | |
| Principles of Marketing | 50 | Non-transferable Elective | MKT 000 | 3 |
| <hr/> | | | | |
| Principles of Microeconomics | 50 | Social and Behavioral Science | ECN 201 | 3 |
| <hr/> | | | | |
| Social Sciences and History | 56 | Social and Behavioral Science | ZTR SB*** | 6 |
| | 50 | Social and Behavioral Science | ZTR SB*** | 3 |
| <hr/> | | | | |
| Spanish Language | 68 | Other Requirements—Second Language | SPA 101, 102, 201 & 202 | 16 |
| | 66 | Other Requirements—Second Language | SPA 101, 102 & 201 | 12 |
| | 55 | Other Requirements—Second Language | SPA 101 & 102 | 8 |
| | 50 | Other Requirements—Second Language | SPA 101 | 4 |
| <hr/> | | | | |
| Western Civilization I: Ancient Near East to 1648 | 56 | Humanities and Fine Arts - Humanities OR Social and Behavioral Sciences | HIS 101 | 3 |
| <hr/> | | | | |
| Western Civilization II: 1648 to the Present | 56 | Humanities and Fine Arts - Humanities OR Social and Behavioral Sciences | HIS 102 | 3 |

* ZTR HU awards credit toward AGEC Humanities and Fine Arts - Humanities.

** ZTR ELEC awards credit as an elective applicable toward transfer degrees.

*** ZTR SB awards credit toward AGEC Social and Behavioral Services.

Cambridge International Exams (CIE)

Cambridge International (CIE) - Subject Exams

| Exam Title | Exam Score | PCC General Education Category | PCC Course Equivalency | PCC Credit |
|---------------------------|------------|--|------------------------|------------|
| Accounting A Level | E or D | None | ZTR ELEC* | 6 |
| Accounting AS Level | E or D | None | ZTR ELEC* | 3 |
| Biology A Level | D | Biological and Physical Sciences | BIO 181IN & BIO 182IN | 8 |
| Biology AS Level | D | Biological and Physical Sciences | BIO 100IN | 4 |
| Business A Level | E | None | ZTR ELEC | 6 |
| Business AS Level | E | None | ZTR ELEC | 3 |
| Chemistry A Level | A | Biological and Physical Sciences | CHM 151IN & CHM 152IN | 8 |
| Chemistry A Level | C or B | Biological and Physical Sciences | CHM 151IN | 4 |
| Chemistry A Level | E or D | Biological and Physical Sciences | CHM 130IN | 4 |
| Chemistry AS Level | D | Biological and Physical Sciences | CHM 130IN | 4 |
| Classical Studies A Level | E or D | None | ZTR ELEC* | 6 |
| Economics A Level | D | Social and Behavioral Science | ECN 201 & ECN 202 | 6 |
| English Language A Level | E or D | English Composition or Humanities and Fine Arts - Humanities | WRT 101 or ZTR HU** | 3 |
| Music A Level | E or D | None | ZTR ELEC* | 6 |
| Music AS Level | E or D | None | ZTR ELEC* | 3 |
| Psychology A Level | E or D | Social Behavioral | PSY 101 & ZTR SB*** | 6 |
| Psychology AS Level | E or D | Social Behavioral | PSY 101 | 3 |

* ZTR ELEC awards credit as an elective applicable toward transfer degrees.

** ZTR HU awards credit toward AGECHumanities and Fine Arts - Humanities.

*** ZTR SB awards credit toward AGECSocial and Behavioral Services.

DANTES Standardized Tests (DSST)

DANTES Standardized Tests (DSST) - Subject Exams

| Exam Title | Exam Score | PCC General Education Category | PCC Course Equivalency | PCC Credit |
|-----------------------------------|------------|--------------------------------|------------------------|------------|
| Civil War & Reconstruction | 400 | None | ZTR ELEC* | 3 |
| Environmental Science | 400 | None | ZTR ELEC* | 3 |
| Foundations of Education | 400 | None | ZTR ELEC* | 3 |
| Fundamentals of Counseling | 400 | None | ZTR ELEC* | 3 |
| History of the Viet Nam War | 400 | None | HIS 281 | 3 |
| Lifespan Developmental Psychology | 400 | None | ZTR ELEC* | 3 |

* ZTR ELEC awards credit as an elective applicable toward transfer degrees.

Enrolling in Classes

Each semester the College publishes a Student Success & Registration Guide that provides instructions on when and how to register, information on financial aid, advising, student resources, and important dates and deadlines for the upcoming semester or sessions. This guide is available at campus Student Services Centers. A list of classes offered, with the dates, times and locations of each course is available online.

There are two ways to register for classes:

- MyPima online registration
- Walk-in registration at campus Student Services Centers

Students can audit most credit classes with the instructor's permission. Auditing a class means that you enroll, pay for, attend and do work for the class but do not receive credit or a grade. Audit registration must be conducted in person at a campus or district admissions office between the first day of class and the drop/refund deadline for the class. Once you begin a course for credit, you cannot change to audit status.

Student enrollment is not official for any academic term until all tuition and fees are paid.

For more information:

- See www.pima.edu
- Contact a campus Student Services Center or call the general information line 520-206-4500.

Maximum Credit Hours Per Semester

To promote student success and retention, the College limits the number of credits in which a student can enroll each term. Students can enroll in a maximum of 18 credit hours in the fall and spring semesters and 12 credit hours in summer sessions. Enrollment beyond these limits requires approval from the Director of Student Affairs or designee. Students are encouraged to meet with an advisor to discuss the appropriate maximum number of credits for their individual circumstances. Credits or coursework taken concurrently outside of Pima Community College should be taken into consideration. For more information, please contact a campus Student Services Center.

Course Prerequisites

Students must meet course prerequisites as stated in this catalog and class schedules, or demonstrate to the instructor their ability to take the class. If the student does not have the proper prerequisite(s) for the class the student will not be allowed to register for the class or, if the prerequisite was not successfully completed, the student may be dropped from the class.

Important Student Information

Student Rights and Responsibilities

All PCC students are considered to be responsible individuals and are accountable for their own behavior. The College expects all students to obey local, state and federal laws, and to follow the College's Student Code of Conduct. Those standards, as well as the student complaint process, are explained online under Student Rights and Responsibilities at www.pima.edu/current-students/code-of-conduct/.

If You Have a Problem

Students with general complaints should see the campus Vice President or Director of Student Affairs for guidance in resolving problems. Student Rights and Responsibilities regarding procedures for appealing grades or code of conduct penalties can be found online at www.pima.edu.

Religious Observances

Pima Community College accommodates the religious observances and practices of students unless it will result in undue hardship to College programs. Arrangements should be made with the instructor at least two weeks in advance.

Family Educational Rights and Privacy Act (FERPA)

FERPA is the Family Education Rights and Privacy Act of 1974 that requires students to provide written permission for release of their grades and other information. This act was designed to protect the privacy of educational records, to establish the right of students to inspect and review their educational records, and to provide guidelines for correcting inaccurate or misleading data through informal or formal hearings.

When a student turns 18 or enters PCC at any age, all rights afforded to parents under FERPA transfer to the student. However, FERPA also allows PCC to share information with parents without the student's consent. For example PCC may:

- Disclose education records to parents if the student is a dependent for income tax purposes. However, disclosure is at the discretion of the Registrar and the request must be based on a legitimate educational interest;
- Disclose education records to parents if a health or safety emergency involves their child;
- Inform parents if their student (who is younger than 21) has violated any law or its policy concerning the use or possession of alcohol or a controlled substance;
- Share information that is based on an official's personal knowledge or observation of the student.

FERPA and Emergencies

FERPA permits PCC officials to disclose education records without student consent in an emergency, including personally identifiable information from those records, to protect the health and safety of students or other individuals. At such times, records and information may be released to appropriate parties such as law enforcement or public health officials, and trained medical personnel. This exception to FERPA's general consent rule is limited to the period of the emergency and generally does not allow for a blanket release of personally identifiable information from a student's education records.

FERPA and Disciplinary Records

While student disciplinary records are protected as education records under FERPA, there are certain circumstances in which disciplinary records may be disclosed without the student's consent. PCC may disclose to an alleged victim of any crime of violence or non-forcible sex offense the final results of a disciplinary proceeding conducted by PCC against the alleged perpetrator of that crime, regardless of whether the institution concluded a violation was committed. PCC may disclose to anyone – not just the victim – the

final results of a disciplinary proceeding, if it determines that the student is an alleged perpetrator of a crime of violence or non-forcible sex offense, and with respect to the allegation made against him or her, the student has committed a violation of PCC rules or policies.

FERPA and Student and Exchange Visitor Information System (SEVIS)

FERPA permits PCC to comply with information requests from the U.S. Department of Homeland Security (DHS) and its Immigration and Customs Enforcement Bureau (ICE) in order to comply with the requirements of SEVIS. Officials who have specific questions about this and other matters involving international students should contact the U.S. Department of Education's Family Policy Compliance Office.

FERPA and Transfer of Education Records

FERPA permits PCC officials to disclose any and all education records, including disciplinary records, to another institution at which the student seeks or intends to enroll. While student consent is not required for transferring education records, PCC's annual FERPA notification should indicate that such disclosures are made. In the absence of information about disclosures in the annual FERPA notification, PCC officials must make a reasonable attempt to notify the student about the disclosure, unless the student initiates the disclosure.

FERPA and Directory Information

The College may disclose directory information without prior written consent, unless notified by the student in writing by the first official class meeting date of each semester.

Directory information includes:

- Student name
- Major field of study
- Participation in officially recognized activities and sports
- Dates of attendance
- Degrees and awards received
- Most recent educational institution attended
- Enrollment status (i.e. full-time, three-quarter-time, half-time, less than half-time, withdrawn, graduated or deceased)
- College-issued email address (e.g. jdoe@pima.edu)

For more information about FERPA policies and procedures, students can login to MyPima.

FERPA Contact

Dean of Enrollment Services/Registrar
520-206-4700

Family Policy Compliance Office

U.S. Department of Education
400 Maryland Ave. S.W.
Washington, D.C. 20202-5920
202-260-3887

Academic Reporting

Throughout the United States, colleges and universities monitor the progress students make in achieving their academic goals. PCC is pleased to provide information regarding our institution's graduation/completion and transfer rates, in compliance with the Higher Education Act of 1965, as amended. Student success information,

including information about student-athletes, is available online at www.pima.edu, or call 520-206-4500 and ask to receive a copy of the Student Right to Know brochure.

Academic Policies: Grades, Academic Progress and Student Classification

Grading Policies

Grades at Pima Community College are recorded at the end of each session according to the following system:

- A** – Superior = 4 grade points per credit hour
- B** – Above Average = 3 grade points per credit hour
- C** – Average = 2 grade points per credit hour
- D** – Below Average = 1 grade point per credit hour
- F** – Failure = 0 grade point per credit hour
- P** – Pass = "C" or better without grade differentiation ordinarily indicated by the College grading system. A "D" grade may be given at the student's request and the instructor's option.
- I** – Incomplete: A record of Incomplete as a grade will be made at the student's request and the instructor's option. A student receiving a grade of "I" will be provided with a standard form specifying the work necessary for completion of the course. After the student completes the work, or after the "I" deadline set by the instructor, the instructor submits a Change of Grade form to the campus Student Services Center. If no Change of Grade form is submitted within a year, the "I" will be automatically changed to "F."
- IP** – Work in progress in open entry/open exit course. A record of "IP" (in progress) as a grade will be made when a student is making satisfactory progress in a course that crosses sections in start and end dates. At the specified end date of the course, the student will be assigned a grade of "A," "B," "C," "D," "F," "I," "P," or "W."
- W** – Withdrawal: This grade may be requested by the student only during the first two-thirds of any session. This grade may also be given at the discretion of the instructor on or before the final grading date for the class. The "W" withdrawal grade is initiated in one of two ways:
 - a. By the student after the drop deadline and on or before the 67 percent point of the term which is the official withdrawal date, or
 - b. At the discretion of the faculty. This grade is not included in the grade point average computation. This grade will impact the completion rate and will be recorded on a student's transcript. The last date that a student is engaged in an academically related activity will be recorded in conjunction with this grade.
- X** – Credit by Exam: An "X" placed next to the grade indicates the grade was earned through the successful completion of a proficiency test.

PLA – Prior Learning Assessment: “PLA” placed next to the grade indicates the grade was earned through PLA assessment.

AU – Audit: To audit a class means to enroll in and to attend a class without working for or expecting to receive credit. The symbol for audit, “AU,” appears on the academic transcript and on the class enrollment list by the student’s name. Students auditing a class must register by the end of the official refund period and must receive the written permission of the instructor.

NA – Never Attended: “NA” indicates that a student was registered for the course, but never engaged in the course by the drop deadline. This grade will have the effect of dropping the student from the course and causing a recalculation of the students’ enrolled credit hours. This grade is not included in the grade point average or completion rate computations nor will it be recorded on a student’s transcript.

Grade Point Average (GPA) Calculation

The GPA is figured by multiplying the number of credit hours for each class by the number of points for the grade given and dividing the sum of the points by the total number of credit hours of “A,” “B,” “C,” “D” and “F” grades. The GPA is based only on work completed at Pima Community College. A complete record of all credit courses attempted at the College is kept for each student.

Grade Reports

Grades are viewable on the student’s MyPima Academics tab. Grade reports or mailers are not mailed.

Appeal of Grades

To challenge a grade, a student must do so through a formal process. Please refer to pima.edu/current-students/complaint-process-es/.

Course Repeat Grades

The higher of two grades earned for the same class will be used to figure the GPA. The higher of the two grades will be included (I) and the other will be excluded (E). Both courses will appear on the student’s transcript (special courses that are repeated more than twice may not fall under this guideline.) See a counselor for additional information.

Clock Hour Grading Policy

Grades for Clock Hour programs at Pima Community College are recorded at the end of each module according to the following system:

- F** – Failure = failed clock hour module with less than 80%; without grade differentiation ordinarily indicated by the College grading system.
- P** – Pass = 80% or better without grade differentiation ordinarily indicated by the College grading system.
- W** – Withdrawal: This grade may be requested by the student only during the first two-thirds of any module. This grade may also be given at the discretion of the instructor on or before the final grading date for the module. The “W” withdrawal grade is initiated in one of two ways:
 - a. By the student after the drop deadline and on or before the 67 percent point of the term which is the official withdrawal date, or

- b. At the discretion of the faculty. The last date that a student is engaged in an academically related activity will be recorded in conjunction with this grade.

IP – In Progress: This grade is used for incomplete module work that must be moved from one academic year to the next.

Standards of Academic Progress for Credit Students

Good Academic Standing

To have Good Academic Standing, a student must complete the minimum academic requirements, maintain a cumulative grade point average (GPA) of 2.0 and have a completion rate of 67 percent. Completion rates are calculated by dividing the number of credits a student attempts by the number of credits they have completed. Withdrawals and retakes are included in this calculation. Satisfactory Academic Progress will be assessed by the institution at the end of each semester.

Academic Warning

The first semester a student falls below a 2.0 GPA and 67 percent completion rate, the student will be placed on Academic Warning. Veteran Benefit Recipients (VBRs) and Financial Aid eligible students (FAES) are eligible to use benefits while on Warning.

Academic Probation

Any student on Academic Warning whose GPA remains below 2.0 and 67 percent completion rate, will be placed on Academic Probation. VBR’s must meet with their veteran advisor. VBR’s are eligible to use VA benefits while on Probation. FAES are only eligible to use their aid if an appeal has been approved by Financial Aid.

Academic Restriction

In any subsequent semester following Academic Probation where the GPA remains below 2.0, the student will be placed on Academic Restriction. During Academic Restriction, students are limited in the total amount of credit hours they are allowed to take per semester until they’ve achieved a semester GPA of 2.0 or higher. Full-year programs and selective programs require faculty approval.

Academic Extension

In any subsequent semester following either Academic Probation or Restriction a student has a term GPA of 2.0 but does not yet meet the cumulative requirements (2.0 and 67 percent completion rate) will be placed on Academic Extension. Academic Extension is for the student who is making progress towards graduation on a term-to-term basis. VBR’s are eligible to use VA benefits while on Extension. FAES are only eligible to use their aid if an appeal has been approved by Financial Aid.

Veteran Benefit Recipient (VBR) Standards of Academic Progress (SAP) Appeals:

- If you failed to maintain Academic Good Standing due to unforeseeable extenuating circumstances you may appeal your loss of VA benefit eligibility. For further information see the Satisfactory Academic Progress Appeal Information/Form.
- Students have a right to appeal their SAP status through the Military and Veteran Services Appeal Committee.
- If your SAP appeal is denied you can only re-appeal if you have extenuating circumstances and/or documentation that

- you did not include with your initial appeal submission. Only one appeal is permitted for the same semester the student has not met SAP
- All students who submit an appeal must meet with their Veteran Advisor to develop an academic plan and agree to adhere to all associated requirements.
- If your appeal has been approved, you must adhere to the associated academic plan during any semester you are on SAP probation. Your probation will continue to be extended as long as significant academic progress continues or until you are back in good academic standing.
- Students are eligible to use Veterans Educational Benefits during the extended Probation period.
- Students with an approved appeal will remain on SAP probation until they achieve good academic standing provided they make significant academic progress each semester. Failure to show academic progress will result in suspension of Veteran Educational Benefits.
- If a student has not met Satisfactory Academic Progress and/or their appeal has been denied, their eligibility to use Veteran Educational Benefits will be suspended for all subsequent classes. If the appeal is approved the courses will be retroactively certified.
- The Veteran Services Office will review the student's progress at the end of the probationary semester to determine if the terms of the academic plan have been met.
- If a student leaves PCC on probation and returns they will remain on probation until Satisfactory Academic Progress has been met or eligibility is suspended.
- The committee's decision is final and may not be appealed because the student disagrees with the decision.

Veteran Benefit Recipient (VBR) Academic Improvement Plan Requirements:

In order for Veterans Educational Benefits to be reinstated after suspension, the student must provide to their veteran advisor:

- A statement describing actions taken to ensure Satisfactory Academic Progress
- Maintain satisfactory evaluations and attendance
- Student may not change their program of study without the consent and counsel of their assigned veteran advisor.
- Veteran Educational Benefits will be suspended if the student does not adhere to the Academic Improvement Plan and does not meet SAP Standards.

Academic Fresh Start Program

The Academic Fresh Start program allows a one-time forgiveness of up to 30 failed credits (grades of "D" or "F" only), from no more than four academic semesters. To be considered eligible, students must have completed their courses at least three years prior to the submission of the request. All grades representing the student's academic history will remain on the student's academic record (transcript). All academic Fresh Start approved courses will be excluded from the calculation of the grade point average (GPA). Academic Fresh Start does not change the status of a previously earned degree or certificate.

Since the student's complete record of academic history (before and after Academic Fresh Start) remains on the transcript, other institutions may consider all classes when a student transfers or applies to a professional or graduate-level program.

For additional information, the student should see a PCC counselor. ***VBR's must consult with their veteran advisor prior to applying for Fresh Start.***

Satisfactory Academic Progress for CTD Clock Hour Students Good Academic Standing

- Students are in good academic standing if they have a cumulative Grade Point Average (GPA) of 2.0 from prior credit courses taken at Pima Community College and 80% or higher course grading in each of their clock hour modules. (Students earning a grade of "P" in program modules have demonstrated at least 80% or higher competency for that module. Students will not move forward in their course module if they do not meet the 80% requirement in grade or attendance.)
- If students fail to achieve Good Academic Standing, they will be placed on Academic Warning, indicating a serious institutional concern about their academic progress.

Frequency of Evaluation

- For Veterans Benefits Recipient (VBR) students in a clock hour program, Standards of Academic Progress (SAP) will be evaluated via Individual Progress Reports (IPRs) at the following three (3) intervals:
 - When the student has attended 25% of their scheduled clock hours, and
 - When the student has attended 50% of their scheduled clock hours, and
 - When the student has attended 75% of their scheduled clock hours.
- VBR students requesting a Leave of Absence (LOA) will receive a withdrawal effective the last date of attendance. This could potentially create a debt with the VA unless documentation of mitigating circumstances are submitted to their Veteran Advisor or directly to the VA (in an attempt to avoid a debt).
- If a student on Academic Warning regains Good Academic Standing by their next SAP review, the student will be removed from Academic Warning.
- Students on Academic Warning who do not regain Good Academic Standing will be placed on Academic Suspension and be ineligible for VA benefits for a minimum of 90 days.

Academic Warning

- At the indicated evaluation periods, SAP will be run and academic progress will be evaluated using an IPR. Students who are not in Good Academic Standing will be placed on Academic Warning.
- Students may still use Veterans Education Benefits while on Academic Warning.
- When placed on Academic Warning students will be sent an email through their official Pima email address.
- Students must meet with a counselor, CTD advisor, and Military and Veteran Services advisor for further academic support and needs.
- Students must have an immediate IPR meeting to set up a plan for success. This meeting will include the student, the program coordinator, faculty/instructor and student services personnel.

- Academic Warning continues until the student is reevaluated after attending an additional 25% of scheduled clock hours (based on the frequency of evaluation for VBR students).
- At the next SAP review, academic progress is evaluated using the program IPR to determine if the student has returned to a good academic standing or academic suspension.

Academic Suspension

- If students on Academic Warning have not achieved Good Academic Standing at the point of the next SAP review, they will be put on Academic Suspension for 90 days and will not be eligible to continue using VA Educational Benefits during that time.
- If Academically Suspended, students using Veteran Education Benefits will have their VA certifications terminated effective the date of their final IPR review or based on their Last Day of Attendance.
- Students that are Academically Suspended may continue the program at their own cost.
- After 90 days, the student may resume using VA benefits.
- Upon return, students will be placed on an Academic Warning status until they regain Good Academic standing.

Appeals

- Students who want to appeal their Academic Suspension must meet with a Military and Veterans Services Advisor. The final decision for suspension of appeal resides within the Military and Veteran Services Coordinators.

Readmission

- Clock hour students who are academically disqualified and want to return to the program, must sit out a minimum of 90 days, demonstrate that they meet all selective admissions standards and be approved for readmission by the Program Coordinator and CTD Director.

Financial Aid Academic Standing

Students receiving financial aid have additional and separate policies and requirements regarding their Academic Standing. Information is available at www.pima.edu/paying-for-school/financial-aid/satisfactory-progress/index.html.

Satisfactory Academic Progress for International Students

The U.S. Immigration and Customs Enforcement/U.S. Department of Homeland Security require schools to have and enforce standards of academic progress for international students. The law requires that an I-20 Form and the accompanying F-1 visa be terminated when a student ceases to make satisfactory progress toward completion of their educational objectives.

PCC international students will have their academic standing monitored under the following guidelines. International students must understand that these requirements are in addition to, and are more restrictive than, the College's Standards of Academic Progress (SAP), much like the separate requirements for financial aid and Veteran's Benefits recipients. If a student has uncontrollable, unpredictable, extenuating circumstances that prevented successful course completion, he/she should discuss their situa-

tion with a PCC International Student Advisor.

1. All international students must maintain a grade point average of 2.0 or greater and complete at least 12 credits each semester and/or 24 credits per academic year. Satisfactory academic progress will be reviewed at the end of every semester. Withdrawals, incomplete grades and repeated classes are considered attempted classes. Repeated courses with a grade that is the same or lower than a prior attempt are considered attempted but not completed credit.
2. An international student will be placed on an International Warning when their grade point average falls below 2.0 and/or fails to complete 12 credits for that semester. An international student placed on warning will have one semester of enrollment to bring their grade point average to 2.0 or above and maintain 12 or more credits. An international student on warning will be:
 - a. Notified via PCC email of being placed on warning and registration being blocked.
 - b. Required to meet with an International Student Advisor to develop a Learning Agreement.
3. If the international student fails to maintain a 2.0 GPA and/or complete at least 12 credits within one semester of enrollment, they will be placed on International Probation. A student on probation will be:
 - a. Notified via PCC email of being placed on probation and registration being blocked.
 - b. Required to meet with an International Student Advisor to develop an Academic Improvement Plan and successful completion. Students must adhere to the agreed upon plan during any semester(s) when they are on probation. The Center for International Education and Global Engagement will review the student's progress at the end of the probationary semester to determine if the terms of the academic plan have been met. Registration will be completed by the advisor after the meeting.
 - c. Required to complete an Academic Probation Workshop or STU 100, 102, 121 or 150 course found in the online class schedule. If the student chooses the workshop instead of an STU course, they must also bring the Academic Probation Workshop materials with them to earn the full credit.
4. An international student placed on probation will have one semester of enrollment to bring their grade point average to 2.0 or above, complete at least 12 credits and the courses determined in their Academic Improvement Plan or they will be placed on International Disqualification. A student on disqualification will:
 - a. Be notified via PCC email of being placed on Disqualification;
 - b. No longer be eligible to be enrolled in classes at PCC.
5. An international student has the right to appeal his/her disqualification within 15 days of notification.
 - a. If an appeal is not submitted by the student, their I-20 will be terminated and they will have to immediately leave the United States as immigration regulations provide no grace period for being suspended.

Steps for submitting an International Disqualification Appeal:

Step 1: Submit a typed and signed personal statement explaining the circumstances contributing to your inability to maintain Satisfactory Academic Progress. You must address all unsuccessful courses and how your circumstances have changed. In addition, if you have completed more courses than those required for your program, you must also explain the reasons why you did not graduate in a reasonable timeframe.

Documented extenuating circumstances might include, but are not limited to:

- Student's major illness or injury
- Major illness or injury in the student's immediate family
- Student's spouse's major illness or injury
- Student's parent's loss of employment
- Student's spouse's loss of employment
- Student's separation or divorce
- Student's parent's separation or divorce
- Death in the student's immediate family
- Death of student's spouse
- Natural disaster affecting the student
- Natural disaster affecting the student's parent(s)
- Natural disaster affecting the student's spouse
- Describe what has changed and your plan for making satisfactory progress.

Step 2: Provide Documentation

It is extremely important that you include documentation to support your statement.

Examples:

- Letters from health providers
- Copies of medical bills showing health provider visits

If the circumstances that contributed to your inability to maintain Satisfactory Academic Progress were medical in nature, you may also wish to work with your physician to complete the Evaluation Questionnaire for Physician/Health Care Provider Form and submit this with your completed appeal packet.

Any other statements or documentation to support your extenuating circumstance that prevented you from making satisfactory progress.

Your appeal will be denied by the committee if documentation is not provided.

Step 3: Make an appointment with an International Student Advisor to review and/or update your planner in MyDegreePlan. Contact the Center for International Education and Global Engagement at the West Campus to schedule an appointment.

1. For your appointment you must bring the following:
2. Typed and signed personal statement of what prevented you from being successful during the previous semester.
3. Supporting documentation.
4. A print out of the degree requirements for your Program of Study (POS).

Step 4: Submit appeal packet to the Associate Director, International Admission, Compliance and Operations at the West Campus Center for International Education and Global Engagement

Step 5: Await Decision

Appeals are reviewed by the Center for International Education and Global Engagement team. You will be informed of the committee's decision through your PCC email account. The committee's decision is final.

Student Classification and Standing

Pima Community College students will be classified using the following criteria:

Full-Time Student

Students enrolled for 12 or more credit hours for the fall or spring semester, six or more credit hours for a 10-week summer session, or four or more credit hours for a five-week summer session will be classified as full-time students.

Note: For financial aid purposes, summer session students must enroll for a total of 12 hours in one or any combination of the established summer sessions to be considered full-time students.

Part-Time Student

Students enrolled for one to 11 credit hours during the fall or spring semester, five or fewer credit hours for a 10-week summer session, or three or fewer credit hours for a five-week summer session will be classified as part-time students.

Freshman

Students who have earned fewer than 28 semester hours of credit will be considered freshmen.

Sophomore

Students who have earned 28 or more semester hours of credit will be considered sophomores.

General Attendance Policy

Class Attendance and Participation

PCC recognizes that attending college, whether you are a new or continuing student, can be both exciting and challenging. However, your regular attendance and active participation contribute not only to your academic success and standing but may have a significant impact on your ability to receive Federal Financial Aid and Veterans Benefits.

Tracking Attendance and/or Participation in Credit Classes

The College tracks credit class attendance and notifies students if their attendance record might jeopardize their success, aid and/or benefits. The College must make adjustments in Veterans Benefits and Federal Financial Aid when a student drops a class and/or when a student no longer attends or actively participates. These adjustments may result in students owing funds to the College, the U.S. Department of Education, and/or the Veterans Administration.

What you need to know:

- Prior to the drop deadline, you must attend and/or actively participate in your class(es). The drop date can be found in your syllabus. If you do not attend and/or actively participate by the drop deadline, your instructor will enter NA,

Never Attended, on the roster and the registration will be dropped for that class. A refund will be issued.

- After the drop deadline, if you are registered but not attending and/or actively participating for 14 days, your status will be changed to RN, Registered – Not Attending, for the class and you may be issued a withdrawal by the instructor. You will receive a notification from the College indicating that you are in an RN registration status.
- Failure to complete courses for which you register, and or receiving withdrawal or failing grades, will impact your academic standing with the College.

What can you do:

- See your syllabus and/or contact your instructor to find out how attendance and/or active participation are defined for your class(es).
- Contact your instructor if you have to miss a class.
- If you receive an RN notification and plan to continue in the class:
 - check the attendance policy for your class and see your instructor
 - return to class and/or resume active participation
- If you receive an RN notification and do not plan to continue in the class, contact an advisor or counselor about withdrawing from the class.
- If you have questions about your aid or benefits, contact the Financial Aid Office at 520-206-4950 or fahelp@pima.edu or contact your assigned Veterans advisor found in the Veterans tab of MyPima.
- Contact a campus Student Services Center for further information about registration statuses, attendance, withdrawing and academic success resources.

Center for Training and Development (CTD) Attendance Policy

Preface

These procedures are for the Center for Training and Development (CTD) clock-hour certificate programs only. Credit programs follow the standard PCC systems.

Clock-hour Department Titles:

The divisions within CTD are

- **Business Technology**
 - Accounting
 - Computer/IT
 - General Office
 - Legal Office
 - Medical Office
- **Nursing Professions**
 - Nursing Assistant
 - Practical Nursing
 - RN and LPN Refresher
- **Health Occupations**
 - Patient Care Technician
 - Surgical Technology

Documents used as part of this process:

- Student Attendance Sheet
- Student Leave of Absence Forms
- Individual Progress Reports

Student Attendance Procedure

1. All student attendance is captured utilizing the student attendance spreadsheet. This form that calculates hours offered, hours attended, and hours absent. It also records leaves of absence and scheduled days off.
 - 1.1. Leave of Absence is defined as a period that students remain enrolled with a program but are not in training. The duration of a leave of absence is established by Federal Financial Aid guidelines.
 - 1.1.1. Students on federal financial aid must follow the federal aid guidelines. No exceptions are allowed.
 - 1.1.2. Students not on financial aid still follow the established guidelines; however, additional time or leaves of absence may be granted by the CTD Director with documented evidence of both extreme circumstances and that the additional time or opportunity most likely will help to resolve the extreme circumstances.
 - 1.2. Scheduled Days Off is defined as a day or days in which education is not offered to the student or groups of students. These are established by PCC's Academic Calendar, the students course schedule, and by the CTD Director. The total continuous scheduled days off cannot exceed two weeks unless the College is closed for a duration longer than two weeks which is a decision established by the Chancellor, Campus President, and possibly the Governing Board.
2. Attendance is gathered daily through timesheets, timecards, online tracking, and similar systems. The official record is the Student Attendance Sheet.
3. Weekly attendance is reported to Financial Aid for those students receiving financial aid.
4. Monthly attendance is reported to agencies sponsoring students.
5. Attendance is one of the items monitored for student progress, success, and completion. It is also for FTSE reporting purposes.

Scheduled Days Off

1. Established by the College's Academic Calendar, student course schedule, and/or CTD Director.
 - 1.1. Scheduled Days Off reflect holidays, College closures, CTD Closures, Student Activity closures, and breaks between classes.
2. Documented on the student attendance as a scheduled day off using a SDO indicator.
3. These do not count towards hours offered. No training was offered on scheduled days off.

Student Attendance Requirements

1. Students are required to attend a minimum of 90% of the offered hours for each module. Students who fail to attend at least 90% of the offered hours for any module will fail the module. Specific modules may require 100% attendance; this will be noted in the syllabus for that module. For modules without finite start and end dates, as in the case of Culinary Arts, Business Technology and Medical Office Modules, students who are slow to progress due to poor attendance will first receive a warning via their Individual Progress Report (IPR) and then will fail that module or modules. Module failure will be documented on the IPR from.
2. Absences up to 10% of the clock hours in a payment period are considered to be excused absences. Absences in excess of 10% may be considered as excused under extenuating circumstances with supporting documentation submitted by the student. Excused absences will be determined by the instructor, program coordinator or CTD Director. Any absences in excess of 10% will NOT be considered excused for financial aid purposes.
3. Students who have reached 100% of their completion time but have not yet completed their program, need the written approval of the Program Coordinator or the CTD Director and the approval of any applicable funding agency prior to be extended and continue in the program. Modules not completed will be graded with a failing grade and students will need to be re-enrolled in any modules they are repeating due to failures.
4. If a student repeats hours, they must complete the repeat hours prior to be taken off of an LOA).
6. If a student fails to return from an LOA, the student's withdrawal date is the student's last date of attendance.
7. LOA has a time limit of 180 days in 12 months and includes all repeated hours, weekends and scheduled breaks.
8. Leaves of absences for students on financial aid must comply with current financial aid guidelines throughout the time they are granted. Leave of absences will be Approved or Unapproved for federal financial purposes according to federal financial aid guidelines.
9. Students not on financial aid must follow the financial aid guidelines for the general leaves of absence.

Leave of Absence

1. A student may request a Leave of Absence (LOA) due to unforeseen barriers that prevent the student from completing training and have a reasonable expectation of the student's return.
2. The student must request an LOA in advance, utilizing a Leave of Absence Form, which includes the reason for the LOA.
 - 2.1. In some cases a student may not be available when the emergency occurs. In those cases the coordinator of the program may note on the Leave of Absence Form that the student was unavailable but was notified of the impact the leave of absence will have on them and the reason the student was unavailable (for example, hospitalization). The form must be collected at a later date.
3. The program coordinator or CTD director must approve a leave of absence in order to verify that the student and program know the impact of the leave of absence on the students training. Students must also sign the FA acknowledgement if they are receiving federal financial aid so they understand the impact of the leave of absence regarding their funding and financial aid.
4. Any time additional fees are charged (i.e. repeat class that is not free), this must be considered an exit and then a new enrollment, with a new enrollment agreement. This is not a Leave of Absence. This is regardless of receipt of Federal Financial Aid or other assistance.
5. A student can return to class prior to the end of the LOA, but the LOA does not end until a student has returned AND completed hours to the point in which they left the program (If a



Costs and Payments

Tuition and Fees

The following information reflects the College's tuition, fees and refund policies for the Fall 2018, Spring 2019 and Summer 2019 (all sessions) terms. Tuition is determined by whether a student is an in-state resident or a nonresident and whether a course is subject to differential tuition. For further residency information, please review the residency requirements or see an advisor.

Tuition, fees, and refunds are subject to change without notice. See www.pima.edu/tuition for the most up-to-date information.

In-State Resident Tuition for Credit Classes Fall 2018, Spring 2019, and Summer 2019

Total Tuition = Cost of General Tuition credit hours +
Cost of Differential Tuition A credit hours +
Cost of Differential Tuition B credit hours

| Credit Hours | General Tuition | Differential Tuition A* | Differential Tuition B** |
|--------------|-----------------|-------------------------|--------------------------|
| 1 | \$82.50 | \$25.00 | \$33.00 |
| 2 | \$165.00 | \$50.00 | \$66.00 |
| 3 | \$247.50 | \$75.00 | \$99.00 |
| 4 | \$330.00 | \$100.00 | \$132.00 |
| 5 | \$412.50 | \$125.00 | \$165.00 |
| 6 | \$495.00 | \$150.00 | \$198.00 |
| 7 | \$577.50 | \$175.00 | \$231.00 |
| 8 | \$660.00 | \$200.00 | \$264.00 |
| 9 | \$742.50 | \$225.00 | \$297.00 |
| 10 | \$825.00 | \$250.00 | \$330.00 |
| 11 | \$907.50 | \$275.00 | \$363.00 |
| 12 | \$990.00 | \$300.00 | \$396.00 |
| 13 | \$1,072.50 | \$325.00 | \$429.00 |
| 14 | \$1,155.00 | \$350.00 | \$462.00 |
| 15 | \$1,237.50 | \$375.00 | \$495.00 |
| 16 | \$1,237.50 | \$400.00 | \$528.00 |
| 17 | \$1,237.50 | \$425.00 | \$561.00 |
| 18 | \$1,237.50 | \$450.00 | \$594.00 |
| 19 | \$1,237.50 | \$475.00 | \$627.00 |
| 20 | \$1,237.50 | \$500.00 | \$660.00 |
| 21 | \$1,237.50 | \$525.00 | \$693.00 |
| 22 | \$1,237.50 | \$550.00 | \$726.00 |

| Credit Hours | General Tuition | Differential Tuition A* | Differential Tuition B** |
|--------------|-----------------|-------------------------|--------------------------|
| 23 | \$1,237.50 | \$575.00 | \$759.00 |
| 24 | \$1,237.50 | \$600.00 | \$792.00 |
| 25 | \$1,237.50 | \$625.00 | \$825.00 |
| 26 | \$1,237.50 | \$650.00 | \$858.00 |
| 27 | \$1,237.50 | \$675.00 | \$891.00 |
| 28 | \$1,237.50 | \$700.00 | \$924.00 |
| 29 | \$1,237.50 | \$725.00 | \$957.00 |
| 30 | \$1,237.50 | \$750.00 | \$990.00 |

* Differential Tuition A is assessed for courses in Automotive Technology, AUT; Aviation Technology, AVM; Computer Aided Design/Drafting, CAD; Dental Assisting Education, DAE; Law Enforcement Academy, LEA; Therapeutic Massage, TMA; Medical Laboratory Technician, MLT; Music Studio Instruction, MUP; Radiologic Technology, RAD; Respiratory Therapy, RTH; Truck Driver Training, TDT; Welding, WLD. MLT 110 (crosslisted with BIO 110), will be charged general tuition rates. Disciplines with changes for 2017-2019: Truck Driver Training TDT (Changed from Differential Tuition B to Differential Tuition A)

** Differential Tuition B is assessed for courses in Dental Hygiene, DHE; Dental Lab Technology, DLT; Nursing, NRS; Technology, TEC.



Center for Training and Development (CTD) Cost Breakdown 2018-2019

| Program | Program Clock Hours | Module (Course) Fees | Program Fees | Uniforms/Supplies | HIPPAA/OSHA Training | CPR Training (Healthcare Provider Level) | Textbooks | HESI Practical Nurse Exam | Program Total |
|--------------------------------|---------------------|----------------------|--------------|-------------------|----------------------|--|-----------|---------------------------|------------------|
| Nursing Assistant | 120 | \$1,236 | \$234 | \$150 | \$26 | \$70 | \$78 | | \$1,794 |
| Practical Nurse | 1,350 | \$13,905 | \$2,633 | \$744 | \$52 | \$70 | \$737 | | \$18,141 |
| Patient Care Technician (PCT) | 96 | \$989 | \$187 | \$125 | \$26 | | \$54 | | \$1,381 |
| Surgical Technology | 1,326 | \$13,660 | \$2,588 | \$384 | \$26 | \$70 | \$663 | | \$17,391* |
| Surgical Instrument Technician | 746 | \$7,684 | \$1,455 | \$137 | \$26 | \$70 | \$681 | | \$10,053 |
| Keyboard Operator | 80 | \$730 | \$156 | | | | \$317 | | \$1,203 |
| Medical Office Clerk | 220 | \$2,007 | \$430 | | | | \$729 | | \$3,166 |
| Medical Office Specialist | 604 | \$4,415 | \$944 | \$17 | | | \$811 | | \$6,187 |
| Medical Records Technician | 969 | \$8,291 | \$1,891 | \$34 | | | \$1,366 | | \$11,582 |
| Medical Terminology | 66 | \$602 | \$129 | | | | \$154 | | \$885 |
| Office Assistant 1 | 370 | \$2,464 | \$528 | \$17 | | | \$385 | | \$3,394 |
| Office Assistant 2 | 360 | \$3,282 | \$702 | | | | \$96 | | \$4,080 |
| Office Assistant 1 & 2 | 630 | \$5,746 | \$1,230 | \$17 | | | \$481 | | \$7,474 |
| Professional Medical Coding | 323 | \$2,946 | \$632 | \$17 | | | \$709 | | \$4,304 |

* *Surgical Technology: Association of Surgical Technologists (AST) student membership/certification exam. The AST membership/exam fee (\$247) is a third-party fee not included in the cost of the program.*

Current Fees

(subject to change)

| | |
|---|---|
| Student Services Fee (per credit) | \$3.00 |
| Technology Fee (per credit) | \$2.50 |
| Processing Fee (per semester) | \$15.00 |
| International Student Fee (per semester) | \$75.00 |
| Placement Test Retake Fee (per test type) to retake third or any subsequent | \$10.00 |
| Challenge Exam Fee | \$80.00 (per exam plus \$25 administrative fee) |
| Prior Learning Assessment Portfolio Evaluation Fee | \$125.00 (per course plus \$25 administrative fee) |
| Prior Learning Assessment Noncredit to Credit Evaluation Fee | \$25 (per course) |
| GED/HSE Testing Fees For current GED/HSE fees, please go to www.pima.edu/ged | |
| Payment Plan Enrollment Fee..... | \$10.00 (per semester) |
| Payment Plan Late Fee | \$25.00 (per occurrence) |
| Credit/Debit Card Service Fee | 2.75% (minimum \$3.00) |
| Returned Item Fee | \$25.00 (per occurrence) |
| Excessive Loss or Breakage..... | Replacement cost |
| Lost Library Books | Replacement cost |
| Parking and Traffic Fines | \$10.00 - \$25.00 (per applicable regulation) |

Financial Holds

If you owe an outstanding debt to the College, a financial hold will be placed on your account. You will not be allowed to register or receive any other services until your debt is paid in full. You can pay your debt online, at a campus cashier's office during regular business hours, or by mail. If your debt has been placed with a debt collection agency you must deal directly with the agency to pay your debt. If you have any questions about your debt, please contact Student Accounts at bursaronline@pima.edu. **For an immediate release of a financial hold, the debt must be paid in full online or in person.**

Your debt may include the following (subject to change):

| | |
|---|---|
| Past-due Tuition and Fees | Amount of tuition and fees due |
| Past-due Book Charges | Amount of unpaid balance |
| Debt Collection Agency Fees..... | Not to exceed 50 percent of balance owed |
| Late Fees | \$25.00 - \$100.00 \$25 per occurrence; maximum \$100 per semester |
| Non-sufficient Funds (NSF) Payment /Returned Check Fee | \$25.00 (per occurrence) |
| Excessive Loss or Breakage | Replacement cost |
| Lost Library Books | Replacement cost |
| Parking and Traffic Fines | \$10.00 - \$25.00 (per applicable regulation) |

Tuition and Fees Payment Methods

Tuition and fees must be paid in full by the published payment deadlines. Failure to pay by the deadlines may result in the loss of registration or late fees. The payment deadlines for each academic term can be found at www.pima.edu/paying-for-school. **Please Note:** If you are unable to pay the required tuition in full, options such as a Payment Plan may be available.

Important Notice: By registering for classes you are accepting financial responsibility for all related tuition and fees. You must drop any unwanted classes by the official drop/refund/audit deadline, or be responsible for payment of all related tuition and fees associated with those classes. **Note:** Pima Community College reserves the right to drop unpaid registrations at any time.

Tuition and Fees may be paid via:

- Credit Card - Visa, MasterCard, American Express and Discover
- Check - personal, traveler's or cashier's
- Money order
- Cash (please do not mail).

Please refer to www.pima.edu/payments for more information.

Paying Online

To pay online, login to MyPima, select the Student tab, Register and Pay, and view the My Account section. The current balance is displayed in this section. Select the MyAccount Manager link in this section to make an online payment. Online payments can be made using a credit card or by electronic transfer from a personal checking or savings account. **Note:** Credit and debit card payments are subject to a non-refundable convenience fee.

Paying in Person

Payments can be made in person at a campus cashier's office. Hours of operation can be found at www.pima.edu/paying-for-school/paying-your-bill/contact-us.html. A picture ID is required for all in-person payments.

Paying by Mail

Mail your payment directly to the Pima Community College Student Accounts Office. The College accepts personal checks, money orders, cashier's checks and traveler's checks by mail. Do not mail cash. To mail a payment, please follow these simple steps:

1. Make your check or money order payable to Pima Community College.
2. Include your student identification number and the term for which you are paying (e.g., Fall 2018) on the check/money order. This will ensure timely processing of your payment.
3. Be sure to mail your payment early enough for it to be received by the payment deadline.
4. **Mail your payment to the following address:**
Pima Community College
Student Accounts Office
4905D E. Broadway Blvd.
Tucson, AZ 85709-1225

Additional Notes on Payments

- The College will not accept checks printed without a name or address, second-party, out-of-country or postdated checks.
- College employees will write student identification numbers on checks as needed.



- Returned check payments are subject to a \$25.00 fee.
- Returned checks may be forwarded to a debt collection agency and/or the Pima County Attorney's Office for collection.
- Check or cash payments made on a student's behalf that result in a check being issued will be refunded to the student unless special arrangements are made with the Student Accounts Office at the time of payment.

Attention: It is the policy of Pima Community College to electronically convert and process paper checks received via mail using the Automated Clearing House (ACH) Network, under the rules governed by the National Automated Clearing House Association (NACHA) and the Federal Reserve Bank.

Payment with Financial Aid

Your tuition and fees will be authorized for payment through financial aid if you meet **both** of the following requirements:

1. You have received confirmation of a financial aid award.
2. The award is large enough to cover your entire tuition and fees.

If you have any questions regarding the status of your financial award, you may contact a campus Student Services Center or call the Financial Aid Hotline at 520-206-4950.

Student Refund Policy for Credit Courses

Regular Refund Policy

Students who officially drop one or more classes by the refund deadline may be eligible for a refund. The drop must result in a decrease to the total tuition assessment as determined by the number of credit hours for which the student is registered and

the overall credit balance on the account. Go to pima.edu/paying-for-school/paying-your-bill/refunds to determine if the drop will decrease the tuition assessment.

Students who drop all classes within the official refund period are eligible for a 100 percent refund of paid tuition and fees. Outstanding charges owed to the College may be deducted from the refund amount.

If the College cancels a class or classes, students will receive a 100 percent refund of paid tuition and fees for the class(es) being canceled. Tuition covered by financial assistance may be returned to the awarding entity.

Refunds are processed by the Student Accounts Office beginning the week following the drop/refund/audit deadline. For more information, go to pima.edu/paying-for-school/paying-your-bill/refunds. Early refunds must be requested through the Student Accounts Office at bursaronline@pima.edu.

Note: Withdrawing from a class after the drop/refund/audit deadline will not reduce the tuition obligation or create a refund.

Regular Refund Schedule

Course Length

(Enrollment Period) Refund Deadline

Regular 16 weeks within 13 calendar days from the first class meeting or the start of the term

Seven or more weeks within seven calendar days from the first class meeting or the start date of the term. See instructor for information.

Four or more weeks within four calendar days from the first class meeting or the start of the term

| | |
|---|--|
| Two or less than four weeks . . . by the day of the first class meeting | |
| less than two weeks prior to the day of first class meeting | |
| Noncredit/Study tours | Special conditions, see Student Refund Policy for Noncredit Activities and Study Tours |
| Audit classes. | no refunds |

Note: Refer to the online class schedules for start dates. Refunds will not be issued for audit classes or classes withdrawn after the official refund deadlines.

Special Notes on Refunds

- Refunds for payments made by cash or check are generally processed via check or electronic refund. The electronic refund option allows any refund due you to be delivered to your checking or savings account electronically. Please note: It may take five business days for your bank to verify the information you entered.
- If you paid by credit card, your refund will be credited back to the most recent payment method used.
- Signature debit payments will be refunded back to the card; pin debit payments will be in the form of a check.
- Payment made by an official sponsoring agency will be returned to that agency.
- Check or cash payments made on a student's behalf that result in a check being issued will be refunded to the student unless special arrangements are made with the Student Accounts Office at the time of payment.
- The first official refund checks will be mailed the week after the drop/refund/audit deadline.
- Any outstanding debts owed to the College may be deducted from your refund.
- If you receive federal financial assistance, your refund will be paid directly back to the sponsoring program as required under federal guidelines. Please see "Return of Federal Financial Aid Funds" for more details.

Special Refunds Policy

Students who **totally withdraw** from the College due to an unforeseen circumstance may request a special provision refund at the admissions office on the campus where they are taking classes. The request must be made in writing and must be made during the semester that the withdrawal occurred. Only tuition will be refunded and the amount of the refund will be pro-rated based on the schedule. The campus president (or designee) may approve a refund for extenuating circumstances not specifically included in the following provisions:

1. Serious illness or injury. A written doctor's statement verifying that an illness or injury prevented the student from completing classes must be provided.
2. Death of a close family member. The College defines close family members as your spouse, children, parents, grandparents, siblings, grandchildren, or in-laws. Official documentation (such as a death certificate) must be provided in order to receive a refund.
3. Military Temporary Duty (TDY) Assignments. The assignment must be involuntary and unforeseen as of the official deadline for dropping the classes in question. A copy of the official orders requiring the TDY must be provided with the request.

Note: The College reserves the right to refuse any special provision request.

You must make your special provisions refund request before the end of the academic term from which you withdrew. Requests for refunds made after the academic term has concluded will not be granted.

Special Provisions Refund Schedule (pro-rated)

Refer to www.pima.edu for specific dates.

| Elapsed Portion of Class(es) | Refund (paid tuition) |
|------------------------------|-----------------------|
| 30% | 75% |
| 45% | 50% |
| 60% | 25% |
| Greater than 60% | No refund |

Return of Federal Financial Aid Funds (Title IV Funds)*

Federal regulations stipulate that when a student receives Federal Student Aid (FSA) funds and withdraws from a payment period (semester), the College is required to return a percentage of those funds to the Department of Education. The College will then charge the student for unearned FSA funds that were disbursed.

A student earns FSA funds based on the time the student attends a payment period (semester). Once a student is determined to have withdrawn from a payment period (semester), the College must follow these steps in the return of funds process:

1. Determine the amount of FSA funds that were disbursed or could have been disbursed to the student for the payment period (semester).
2. Calculate the percentage of the payment period (semester) that the student completed (Days attended divided by the days in period = Percentage completed).
 - If this percentage is greater than 60%, the student has earned 100% of FSA funds that have been disbursed.
 - Any other percentage less than or equal to 60% is that percentage completed.
3. Multiply the percentage of FSA funds earned by the Total FSA funds that have been disbursed or that could have been disbursed for the payment period (semester).
 - If the earned FSA funds are greater than the FSA funds that were disbursed, the student may qualify for a Post Withdrawal Disbursement (PWD).
 - FSA funds received from a PWD must be applied to the student's account prior to being disbursed to the student.
4. From the total FSA funds disbursed for the payment period (semester) subtract the amount of FSA funds earned by the student. This is the amount of FSA funds that must be returned (unearned funds).
5. Subtract the percentage completed from 100% to determine the amount of the payment period (semester) that was not completed.
 - Multiply the percentage of the payment period (semester) that was not completed by the institutional charges at the time the student withdrew. This equals the amount of unearned institutional charges.

- Select the lesser amount between the unearned FSA funds (step 4) or unearned institutional charges.
6. After selecting the lesser amount between the unearned FSA funds (step 4) or unearned institutional charges.
 - The school must return the unearned aid to the FSA Program in this order:
 1. Unsubsidized FFEL/Direct Stafford Loan
 2. Subsidized FFEL/Direct Stafford Loan
 3. FFEL/Direct PLUS (Parent)
 4. Pell
 5. FSEOG
 7. If the College determines that the student received an overpayment of grant funds, the student is responsible for returning the FSA funds to the FSA Program.
 8. The student is charged for any unearned FSA funds returned to the FSA Programs by the College.

Withdrawals

The withdrawal date is the last date of attendance as determined by the attendance records. Please refer to the withdrawal process at www.pima.edu.

- Attendance is taken for all courses; the withdrawal date used is the student's last day of academic attendance.
- If a student drops or does not attend a course (es) in the term, the student's Federal Student Aid funds are completely cancelled and the student is required to repay all Federal Student Aid funds disbursed.
- If a student withdraws from a part-of-term course within the term, he/she must still be attending another course or considered to be withdrawn, even if registered for a future course(s) starting in the next term. The student must, at the time of withdrawal from a part-of-term course, if they are not attending another course, provide a written statement to the College indicating their intent to attend a future course within that term. (If the student doesn't attend the future course, a Return of Title IV calculation is required; withdrawal date/last date of attendance back to the original confirmed date).

***Note:** This refund policy is based on U.S. Department of Education regulations and it is subject to change if Federal regulations change.



Financial Assistance

Financial Aid/Scholarships

General Information

PCC Financial Aid offers a full range of financial aid information and options. Financial assistance comes from federal, state, and institutional programs, as well as scholarships from private donors. The first step to applying for financial aid is to complete the Free Application for Federal Student Aid (FAFSA).

The Free Application for Federal Student Aid (FAFSA) is available online at www.fafsa.gov.

All PCC students are encouraged to complete the FAFSA. The FAFSA becomes available every October for the following academic year. It is highly recommended to complete the FAFSA no later than February 1 to have the best opportunity to funds that have limited availability.

Students who submit the FAFSA early will be considered for federal and state funds that have limited availability. Visit a campus Student Services Center for help completing your FAFSA.

Additional information about PCC Financial Aid is available at www.pima.edu/financialaid and via your MyPima Financial Aid tab.

Federal Student Aid Programs

Federal Pell Grants

The Federal Pell Grant program provides financial assistance for students who meet Pell eligibility guidelines. Determination of eligibility begins with completion of the FAFSA. Pell funds are considered “gift aid” and are awarded based on financial need and enrollment level. Gift aid does not have to be repaid, unless the student fails to complete the enrollment for which they received aid.

Federal Direct Stafford Loans

The Federal Direct Stafford Loan Program offers “subsidized” and “unsubsidized” loans. A Federal Direct Subsidized Stafford Loan is awarded on the basis of financial need. If a student qualifies for a Subsidized Stafford loan, the federal government pays the interest on the loan as long as the student is enrolled in at least six credits and has not exceeded the published length of time needed to complete the program of study for which they received the loan. The student is responsible to begin repaying the interest upon dropping below six credits or leaving school.

Unsubsidized Stafford loans are not awarded on the basis of need. If a student qualifies for an Unsubsidized Stafford loan, the student pays the interest from the date the loan is given until the loan is repaid in full. For both Subsidized and Unsubsidized loans, the interest rate and origination fee are determined each year, and the borrower enters repayment of the loan(s) beginning six months after they graduate, leave school, or drop below six credits in a term.

Federal Direct Plus Loan Program

The Federal Direct Plus Loan program is for parents who have dependent students. This loan program enables parents to borrow funds to pay for the education expenses of a child who is an undergraduate student enrolled at least half-time. Parents cannot borrow more than the cost of education minus the amount of other financial aid received. The interest rate is variable, but will never

exceed 9 percent. The interest rate for Plus Loans is adjusted each year.

Payment of principal and interest begins within 60 days after the last issuance of loan money to the parents. In addition, interest begins to accrue from the date the first loan payment is made to the student and/or parent.

Campus-Based Programs

Pima Community College participates in two campus-based programs: the Federal Supplemental Educational Opportunity Grant (FSEOG) and Federal Work Study (FWS). Every year, the Federal government provides the College a certain amount of funds to award students. FSEOG funds will be awarded to the neediest students first. FWS funds are awarded based on need and acceptance of a qualifying campus job. Since the funds given to the College are limited, students are encouraged to complete their FAFSA as early as possible.

Federal Supplemental Educational Opportunity Grants (FSEOG)

A Federal Supplemental Educational Opportunity Grant (FSEOG) is for undergraduate students with exceptional financial need. FSEOG funds are limited and awarding is given to students who receive the Federal Pell Grant and have filed the FAFSA early. FSEOG is gift-aid and need not be paid back if a student completes the enrollment for which the award was received.

Federal Work Study

The Federal Work Study (FWS) Program provides jobs for students with financial need who are enrolled. Students may work part-time in a job that is either on-campus or off-campus. The program encourages community service work and work related to the student’s program. Funds are limited and awarding is given to students who filed the FAFSA early. For more information on securing an FWS position, visit www.pima.edu/financialaid.

State Financial Aid Programs

Arizona Leveraging Educational Assistance Partnership (LEAP)

The Arizona Leveraging Educational Assistance Partnership (LEAP) program makes grants available to students with financial need. The College determines the amount of each award based on individual need. Funds are limited and awarding is given to students who filed the FAFSA early.

Arizona Foster Youth Programs

PCC and the state of Arizona are committed to helping Arizona’s foster youth meet their educational goals and make college a financial reality. The state of Arizona offers specific programs that do not require repayment to help eligible current and former foster youth with college costs.

Arizona Foster Youth Award (tuition waiver)

This five-year pilot program, which began in 2013, uses a combination of federal grants, scholarship and college aid to cover the full amount of Arizona resident tuition and fees for foster youth.

Arizona Education and Training Voucher (ETV)

The Arizona Education and Training Voucher (ETV) is a federally funded grant used to support foster youth who have aged out of

the foster care system and have enrolled in a college, university or vocational training program. Students must enroll before their 21st birthday and may continue to receive support until age 26. Funds may be used for tuition, housing, books, student loan repayments and qualified living expenses.

For More Information

For more information on managing your financial aid, Academic Progress guidelines and Title IV refunds go to www.pima.edu/financialaid or your MyPima Financial Aid Tab.

PCC Foundation Scholarships

Every year, the Pima Community College Foundation oversees hundreds of scholarships funded by generous private donors. Scholarships may be awarded on the basis of merit, financial need or a combination of both, as well as other criteria set by the donors.

Many scholarships are general in nature, while others target specific program areas such as healthcare or occupational programs.

The PCC scholarship application is accessible through Academic Works or your MyPima account. Go to www.pima.academicworks.com and use your MyPima login information.

Students are not required to complete the Free Application for Federal Student Aid (FAFSA) to be eligible for Foundation scholarships. However, students must be enrolled at Pima before a PCC Foundation scholarship is awarded.

Applications are reviewed by the PCC Scholarship Committee composed of representatives from PCC, the Office of Financial Aid and Scholarships, as well as the community.

PCC Scholarships and Grants

Pima Community College helps students achieve their dreams through scholarships and grants. For additional scholarship opportunities, visit www.pima.edu/paying-for-school/scholarships-grants.

All-Arizona Academic Team Scholarship

All-Arizona Academic Team Scholarships are available to qualified students from each PCC campus. Applications are generally accepted October through November.

Chancellor's Service Scholarship

The Chancellor's Service Scholarship is awarded to new and returning PCC students who have shown competency both academically and civically. Applicants are required to have a minimum 2.5 GPA and documented completion of community service/volunteer work.

Pima Book Scholarships

Pima Book Scholarships, funded by Follett Bookstores, are available to help qualified PCC students purchase textbooks at the campus bookstores. Applicants must have a minimum 2.5 GPA and demonstrate financial need.

Pima Merit Scholar Awards

The Pima Merit Scholar Awards are offered to recently graduated Pima County high school seniors or GED recipients who have demonstrated academic excellence.

Payment Plan

Payment Plans are available beginning the first day of registration for the fall, spring, and summer semesters. Payment Plans are not available to International Students.

For more information, go to www.pima.edu/costs/paymentplan.

Veterans Education Benefits

Pima Community College is approved by the Department of Veterans Affairs as a degree granting institution for VA Education Benefits. Students seeking to use their Veterans education benefits must apply for admission to PCC and contact the Military and Veterans Services Office to be assigned a Veteran Advisor. Veteran Advisors are located in the campus Student Service Centers and the Downtown Campus Veterans Center.

Veteran Benefit Recipients (VBRs) must select an approved program of study. Students must complete a MyDegreePlan planner and have it approved by their veteran advisor each semester. Students will only receive VA benefits for courses that are required for their program of study. VBRs must also submit a Veteran's Certification Worksheet to the Military and Veterans Services Office each semester to request certification of their courses.

Students are asked to promptly notify their Veteran Advisor of any changes made to their schedules once the request to be certified has been submitted. Changes to certifications can affect VA payments and may cause VA debt. For more information regarding VA education benefits, contact the Military and Veterans Services Office at 520-206-2266 or veterans@pima.edu.

Transfer of Previously Earned Credit

Department of Veterans Affairs (DVA) requires that all students receiving education benefits have their "prior military and/or college experience" evaluated for credit toward their program of study at Pima Community College. Students must have all official college and military transcripts sent to PCC for evaluation. Upon receipt of the transcripts, the College will evaluate them to determine what credit is eligible for acceptance at PCC.

Standards of Academic Progress for Veteran Benefit Recipients

Veteran Benefit Recipients Standards of Academic Progress may be found in the College Catalog under the Standards of Academic Progress for Credit Students section. Refer to page 27.

Additional VA Education Benefits

The VA Work Study Program and Tutorial Assistance are programs that are available as part of the VA benefit for students who are eligible for VA education benefits and have completed the enrollment certification process. For information, contact the Military and Veterans Services Office at 520-206-2266 or veterans@pima.edu.

Pima Community College Foundation

The Pima Community College Foundation was incorporated as a non-profit organization in 1977 by Pima County business leaders to assist Pima Community College in its efforts to expand educational opportunities and services in the community. Today, the Pima Community College Foundation provides a means for individuals and organizations to actively support the future growth and development of PCC.

The mission of the Pima Community College Foundation is to support PCC with the resources necessary to provide opportunities for success for our students and community. Areas of support include student scholarships, equipment and supplies, program development and special needs of the College.

Gifts to the Foundation are tax deductible, and the Foundation will assist prospective donors in making donations, bequests, and in the planning of trust and will arrangements. For more information or assistance, please contact the Foundation office at 520-206-4646, or visit www.pimafoundation.org or email info@pimafoundation.org.



Student Services and Student Life

Student Services

Student services are available at campus Student Services Centers. In-person student services for credit classes are not available at the Community Campus. The Community Campus offers student support services by email and phone. Students can call 520-206-6408 or email virtualsupport@pima.edu for assistance. Virtual services include general information, registration, advising, tutoring and other support.

Admissions/Registration

Admissions and registration services are available year-round at www.pima.edu and at campus Student Services Centers. For information on admission, registration, residency, transferring and graduation, see the Admissions, Registration, and Records section of this catalog, or visit www.pima.edu.

Advising/Counseling

Advisors and counselors are available year-round to help students choose courses and make decisions that best meet their educational needs. Both walk-in service and appointments are available. Students should meet with an advisor, counselor, or faculty member at least once each semester to discuss proper course selection. New students should read the **Before The First Semester** section of this catalog to review steps that are crucial to student success.

Counseling services can help students in a variety of ways. Counselors help students decide on college majors and careers that match their interests, abilities, and personalities, and develop strategies for college success. They also offer support with stress management and personal issues and help students identify appropriate community agencies for assistance.

Placement Tests

Evaluation of a student's skill level in English, mathematics, reading and writing is essential for proper placement in courses and programs at the College. Not all certificate programs require placement, but the majority of certificate programs, and all associate degree programs do require placement. The College utilizes two methods to determine placement, Multiple Measures and Accuplacer.

High school graduates or students that have completed their high school equivalency (GED) in the past three years are first placed in courses using their high school transcript data and/or tests results, the College's Multiple Measures placement process. If the placement level in each discipline is lower than expected, students may take the Accuplacer to challenge the placement level.

Students who are required to take the placement tests must start with the pre-placement tutorial in MyPima, under the New Students tab. Students are strongly encouraged to prepare for the tests. The College offers Placement Prep sessions in developmental mathematics, college mathematics, reading and writing. These sessions provide a stress-free learning environment to brush up on content in each discipline. Students may also use Web-based interactive programs provided free of charge. For more information, please refer to www.pima.edu/placement.

Placement tests are offered at campus Testing Centers. You must bring a current, valid photo ID from a state or educational institution. You do not need an appointment. It is best if you can

plan two days for testing, focusing on English, reading and writing one day and mathematics on a separate day. Each test, on average, takes 40 to 60 minutes, and in mathematics and English as a Second Language, you could potentially take two tests. There is no charge for the first two attempts of the Accuplacer.

Arrangements for qualified disabled students (such as extended time, large print, writing assistants and interpreters) are available through the Access and Disability Resources office. For more information, refer to the Access and Disability Resources section.

Bookstores

Similar classes held on different campuses may have different textbook requirements. Students should be sure they are purchasing the correct books for the location of their classes. The bookstore staff is available to assist students in selecting appropriate textbooks based on instructor and course reference number. For textbook information and ordering, visit the bookstore website at www.pima.bkstr.com.

Cafés

Food and beverage options are available at the Downtown, Northwest, West and Desert Vista campuses. All College locations offer snack and beverage vending.

Police Department

The PCC Police Department provides law enforcement, security and public service throughout the College District 24-hours a day, seven-days a week. Its mission is to provide a safe and secure environment for PCC students, staff, faculty and visitors. Each main campus has a police office that maintains lost and found and basic First Aid services. Escorts to and from a vehicle are available upon request.

DPS provides an annual crime statistics and Clery Crime Act Report that includes statistics for the previous three years concerning reported crimes that occurred on campus and in certain off-campus buildings owned or controlled by the Pima County Community College District, and on property within, or immediately adjacent to and accessible from the campus.

The report also includes institutional policies concerning campus security, such as policies concerning alcohol and drug use, crime prevention, the reporting of crimes, sexual assault, registered sex offenders, and other matters. You can obtain a copy of this report by contacting 520-206-2671. The report can also be found at www.pima.edu/dps/reports. Updates and important safety and security issues may be published in: the student newspaper Aztec Press, the weekly online employee newsletter @PimaNews, and through the College's internet home page, www.pima.edu. PCCAlert is a text/email message system that notifies subscribers of an immediate emergency occurring on or around PCC's campuses. Text the word alerts to 79516 from your cell phone to sign up. PCC email accounts are automatically subscribed to the system.

The College's Parking and Traffic Regulations also are available at www.pima.edu/administrative-services/college-police/parking-traffic-regulations.html.

For emergencies and to report crimes or suspicious activity call 911 or 520-206-2700. For non-emergencies or escort requests call 520-206-2700.

| Student Services | CC | DC | DVC | DMAFB | EC | NWC | WC | Virtual |
|-----------------------------------|----|----|-----|-------|----|-----|----|---------|
| Access and Disability Resources | • | • | • | • | • | • | • | • |
| Admissions and Registration | | • | • | • | • | • | • | • |
| Advising/Counseling | | • | • | • | • | • | • | • |
| Bookstore | | • | • | | • | • | • | • |
| Café | | • | • | | • | • | • | • |
| Career Services | • | • | • | | • | • | • | • |
| Campus Police | • | • | • | | • | • | • | • |
| Cashier | • | • | • | | • | • | • | • |
| Financial Aid | | • | • | | • | • | • | • |
| International Student Services | | | | | | | • | |
| Job Information | • | • | • | | • | • | • | • |
| Library | | • | • | | • | • | • | • |
| New Student Registration Sessions | | • | • | | • | • | • | • |
| Placement Testing | | • | • | • | • | • | • | • |
| Student ID Cards | | • | • | | • | • | • | • |
| Transcripts (official) | | • | • | | • | • | • | • |
| Tutoring | | • | • | | • | • | • | • |
| Veterans Services | | • | • | • | • | • | • | • |

Key:**CC** = Community Campus**DC** = Downtown Campus**DVC** = Desert Vista Campus**DMAFB** = Davis-Monthan AFB
Education Center**EC** = East Campus**NWC** = Northwest Campus**WC** = West Campus

Career Services

Career counseling is available at Student Services Centers and virtually. Counselors can assist students in deciding on a college major and on a career that matches their interests, skills, and personality. For a counseling appointment, contact a Student Services Center or virtualsupport@pima.edu. MyCareerLink, accessed through your MyPima account, allows students to search and apply for jobs and internships. A variety of career planning and personal development courses are also available. These resources and services cover career planning, résumé writing, career counseling and job search strategies and are available at a campus and virtually. For more information, visit www.pima.edu/careers.

Cashier

Students can pay their tuition online or at a campus cashier's office. Accepted forms of payments are cash, check, money order, or credit card. Tuition and fees must be paid in full by the published payment deadlines. Failure to pay by the deadlines may result in the loss of registration or late fees.

Please Note: If you are unable to pay your tuition, you may have financial options, such as a Payment Plan, available. For more information on payment options, visit the Costs and Payments section of this catalog.

Access and Disability Resources

Pima Community College endeavors to make all of its facilities and programming accessible to all students. The College complies with the Americans with Disabilities Act Amendments Act (ADAAA) and Section 504 of the Rehabilitation Act of 1973, as well as other applicable federal and state laws and regulations that prohibit discrimination on the basis of disability. No quali-

fied person will, solely by reason of disability, be denied access to, participation in, or the benefits of any program, activity or service offered by the College. This supports the success of students with disabilities, including but not limited to physical or emotional/intellectual disabilities. Campus buildings and facilities comply with ADA standards by providing access to assistive technologies in labs, libraries and classrooms. Students may also make requests for these technologies for classes held at off site College locations.

Services Provided

Access and Disability Resources (ADR) collaborates with PCC students, faculty, staff and the community to promote equal access to college programming for students with disabilities. Upon request, reasonable accommodations and academic adjustments will be made for individuals with disabilities determined to be eligible for services by ADR. Students may request services at any time, requesting services well in advance helps to ensure that resources are available when needed. Accommodation requests are processed through ADR offices located at each campus. ADR program specialists provide intake assistance and determine eligibility for services based on supporting documentation. Supporting documentation may include, but is not limited to, high school records (e.g., IEP or 504 plan), physician/other provider statements, and medical or psychological evaluations. Actual documentation needs are established by the program specialist. Students who do not have written documentation, but believe that an accommodation is needed, should contact ADR to discuss their situation. ADR program specialists, in collaboration with the student, faculty and other College personnel, monitor and adjust accommodations as needed. Students who want to request accommodations related to pregnancy, may also make requests through ADR.

When appropriate, services provided by ADR may include, but are not limited to, notetaking, reading and writing assistance, sign language interpreters, real-time transcribers, video-captioning,

alternative formats for textbooks and other references, assistive technology, alternative testing services, and community agency referrals.

Contacting ADR

Each semester, students must contact an ADR specialist at a campus to begin an accommodation request or to continue with ADR services. ADR also serves as a resource to College personnel and welcomes inquiries and requests for collaboration and technical assistance. For more information, contact an ADR specialist at a campus, ADRhelp@pima.edu or 520-206-6688.

Desert Vista Campus

5901 S. Calle Santa Cruz, Tucson, AZ, 85709
520-206-5151 (Voice)

Downtown Campus

1255 N. Stone Ave., Tucson, AZ, 85709
520-206-7286 (Voice)

East Campus

8181 E. Irvington Road, Tucson, AZ, 85709
520-206-7699 (Voice)

Northwest Campus

7600 N. Shannon Road, Tucson, AZ, 85709
520-206-2209 (Voice)

All other locations and programs, contact 520-206-6688.

West Campus (and services for Community Campus)

2202 W. Anklam Road, Tucson, AZ, 85709
520-206-6688 (All other locations and programs, contact 520-206-6688)

Financial Aid

Students may be able to pay for their education through various grant, loan and scholarship programs. Although the federal government provides the largest amount of aid, Pima Community College and private donors also provide funds. For more information, please see the Financial Aid/Scholarships section of this catalog, visit www.pima.edu/financialaid or call 520-206-4950.

Insurance

Students interested in purchasing health insurance under the Affordable Health Care Act can research their options at www.healthcare.gov.

International Student Services

The Center for International Education and Global Engagement, located at West Campus, was established to help international students reach their educational goals. For more information, call 520-206-6732 or visit www.pima.edu/international.

Jobs and Internship Information

Looking for a job? MyCareerLink is the College's online employment search portal. Visit www.pima.edu/careers for more information.

Library Services

Pima Community College provides library services without the limits of time, place or distance. Library resources include books and eBooks, journals and eJournals, DVDs, streaming media, online research databases and reference collections. All libraries have staff available to answer reference questions and assist students in using library and research resources. Instructors may request library instruction for their courses. Research databases can be accessed by students on or off campus. Library materials may be transferred between campuses. Campus libraries also lend laptop computers, calculators and other electronic devices. Ask library staff at each campus for device availability and lending policies. The libraries also provide lounge areas, as well as areas for learning and study. Visit www.pima.edu/current-students/library for more information.

New Student Registration Sessions

All new students attending college for the first time must attend a New Student Registration session to meet their advisor or counselor, learn about College resources and get registered for their first semester. Sessions are offered in-person and online. Before doing so, students must be admitted to the College and take the placement tests. Visit www.pima.edu/orientation or contact a Student Services Center for more information.

Parking and Bus Service

Free parking is provided at all Pima Community College campuses. However, students are responsible for reading and understanding the College's parking and traffic regulations. For complete information on parking and traffic regulations, see the Pima County Community College District Parking & Traffic Regulations for Motor Vehicles, Bicycles and Non-Pedestrian Devices, available at campus libraries and online at www.pima.edu/administrative-services/college-police/parking-traffic-regulations.html. For information regarding how to obtain disabled parking permits, contact an Access and Disability Resources (ADR) specialist.

To organize a car pool, call RideShare (520-884-7433) or visit www.sunrideshare.org for more information. For students interested in riding the public bus, SunTran provides bus service to all campuses. Please visit www.suntran.com for schedule information and trip planning tools. Current bus schedules also are available in the Student Life area of each campus or by calling SunTran at 520-792-9222.

In accordance with A.R.S. 15-4444D, all vehicles allowed to park in any Pima Community College parking lot must comply with the emissions standard as stated in A.R.S. 49-542.

Specialized Programs

Pima Community College has designed special programs to assist individuals who are reentering the workforce, international students, veterans and students with disabilities. These programs may help qualified students get financial aid or benefits, career information, counseling, advising, and tutoring. Some campuses offer specific activities for certain populations. Contact a Student Services Center for more information.

Student Identification Cards

A student identification card provides access to PCC libraries, bookstores, testing centers, athletics facilities, and computer labs. Students may add value to their ID card to pay for printing in College libraries and labs. Students may use their PCC ID to receive discounts on many events in Tucson. ID Cards can be obtained at a campus.

Transcripts

Official and unofficial transcripts may be obtained through MyPima and at campus Student Services Centers. For more information, visit www.pima.edu/transcripts.



Tutoring

Free tutoring is available in a variety of subjects for students who need help in their studies. Contact a campus Learning Center for additional information.

Student Life

Pima Community College offers a rewarding environment for its students. There are opportunities to get together to share common interests, celebrate diverse cultures, enjoy various cultural events, and much more. In addition, there are avenues available to develop and demonstrate leadership qualities and to be a voice within the College. Specific information on student activity boards, student clubs and organizations, and cultural events is available at campus Student Life offices.

Clubs and Organizations

For those students with similar interests, the College has a variety of clubs and organizations.

Student Advisory Boards (SABs)

Students have a voice in College functions through recognized

campus Student Advisory Boards (SABs). SABs are open to all students and include student governance representatives, activities and programming committees, and clubs and organizations.

Students are urged to volunteer for College task forces and committees.

Performing Arts

PCC provides experience in the performing arts at its comprehensive Center for the Arts, headquartered at the West Campus. It houses the 420-seat Proscenium Theater, a studio theater, a recital hall, stage shops, classroom space, an art gallery, and an outdoor amphitheater. In addition, PCC's Theater Department is known for its contemporary, multicultural focus. The department presents student performances and live arts events at the Center for the Arts throughout the year. Discounted rates to performances are available to students with a valid PCC Student ID. For more information, call the Center for the Arts, 520-206-6988 or visit www.pima.edu/cfa. For information on performance tickets, call the CFA box office at 520-206-6986.

Phi Theta Kappa

The College offers membership in Phi Theta Kappa (PTK), an international honors society. The members of this society have prestige of membership, leadership opportunities, availability of honor society scholarships, involvement in community projects, and acquaintance with other honor society members.

For additional information, contact campus Student Life offices.

Publications

Students interested in writing, editing, and reporting, can work for one of Pima's two student publications. Aztec Press, located at the West Campus, is a bi-monthly newspaper that provides students an opportunity to learn journalism. For more information about serving on the newspaper staff, please contact either the Communications Division office or Aztec Press at 520-206-6800. Pima also has a literary magazine. Students interested may enroll in WRT 162-Literary Magazine Workshop. The workshop annually publishes SandScript, which contains literary pieces, including those from students, faculty and staff. The magazine also sponsors an annual art contest for its cover and center pages.

Sports – Intercollegiate Athletics

Pima Community College is a member of the Arizona Community College Athletic Association, National Junior College Athletic Association (NJCAA), and the NJCAA Region 1. The NJCAA sets the rules for who can participate (eligibility requirements). The basic requirements are that the athletes be full-time enrolled students, be making progress in their studies (satisfactory academic progress), and that they have received medical clearance to participate. Pima competes in a variety of sports: baseball (men), basketball (men and women), cross-country (men and women), football (men), golf (men and women), soccer (men and women), softball (women), tennis (men and women), track and field (men and women), and volleyball (women).

Student Housing

Pima Community College does not own or operate student

housing, either on campus or in the community. However, students can receive information about community agencies and organizations that provide housing by contacting any Student Life office.



Drug Free Schools and Communities Act Information

Pima Community College is committed to the Drug Free Schools and Communities Act Amendments of 1989 (Public Law 101-226, 20 U.S.C. §1145g).

Standards of Conduct

The unlawful possession, use, or distribution of illicit drugs and alcohol by students and employees is prohibited. The following misconduct is subject to disciplinary action, including exclusion, suspension, or expulsion:

1. Violating or failing to comply with published rules and regulations of conduct of the College that prohibit the unlawful possession, use, or distribution of illicit drugs and alcohol by students and employees on College property or as part of any of its activities;

OR

2. Being under the influence of, using, selling, possessing, or distributing any illicit drugs or alcohol on College property or as part of any of its activities. This prohibition includes, but is not limited to, marijuana, any narcotic drug, hallucinogen, stimulant, depressant, amphetamine, barbiturate, abusable glue, aerosol paint, or other chemical substances. Over-the-counter drugs are excluded from consideration unless improperly used.

Legal Sanctions

Local, state, and federal laws prohibit the unlawful possession, use, or distribution of illicit drugs and alcohol. Conviction for violating these laws can lead to imprisonment, fine, probation, and/or assigned community service. Students convicted of a drug and/or alcohol-related offense may be ineligible to receive federally funded or subsidized grants, loans, scholarships, or employment.

Pima County Community College District will fully subscribe to and cooperate with local, state, and federal authorities in the enforcement of all laws regarding the unlawful possession, use or distribution of illicit drugs and alcohol.

Health Risks

There are definite health risks associated with the use of alcohol and illegal substances. Students who experiment with drugs, alcohol, and illegal substances, or use them recreationally, may develop a pattern of use that leads to abuse and addiction. Use of alcohol and illegal substances is a major factor in accidents and injuries, and among persons between the ages of 18 and 24, it is responsible for more deaths than all other causes combined.

Support Resources

College officials assist students with appropriate referrals and information concerning drug and alcohol education, counseling, treatment, or rehabilitation or re-entry programs that may be available in the community. Contact the Student Services Center on any campus for information.

Student Code of Conduct

- I. Introduction
- II. Code Violations
- III. Code Sanctions
- IV. Due Process Procedures
- V. Immediate Suspensions
- VI. Student Behavior Assessment Committee
- VII. Miscellaneous Provisions

I. Introduction

A. Purpose

Pima Community College (the "College") promotes the exchange of knowledge in an environment that encourages reasoned discourse, intellectual honesty, and respect for the rights of all persons. In support of this goal, the primary purpose of the following Student Code of Conduct ("Code of Conduct" or "Code") is to educate and guide students to understand their responsibilities in regard to appropriate behavior and respect for others in the College community.

B. Jurisdiction

This Code of Conduct governs all conduct of a College student that: (a) occurs on College property; (b) occurs at a College sponsored, sanctioned or supervised event or activity, regardless of the location of the event or activity and inclusive of travel, lodging and unscheduled time in between sessions of the event or activity; and/or (c) adversely affects the operation of the College, regardless of when or where the conduct occurs.

C. Definitions

"College IT Systems" means College owned or controlled telephones, computers, software, network devices, servers, printers and other College owned or controlled technology equipment, including both hardware and software. This includes the College's website "pima.edu," email with a pima.edu domain name, and/or email transmitted on College servers.

"Day" means normal College business day, not including Saturday, Sunday, any officially recognized College employee holiday, or any day the College is closed.

"VPSA" means the Vice President of Student Affairs who is responsible for all alleged Code of Conduct violations occurring on the College campus and off-campus course or activity.

"President" means the President at the College campus where an alleged Code of Conduct violation occurs, or a President from another College campus designated to be responsible for the matter. If an alleged Code of Conduct violation occurs in relation to an off-campus course or activity, "President" means the President at the College campus responsible for the off-campus course or activity, or a President from another College campus designated to be responsible for the matter.

"SPG" means a College Standard Practice Guide. "Student" means a person who (1) has been charged with a Code of Conduct violation and (2) is either (a) admitted to the College as a student or (b) registered or participating in College continuing education classes.

D. Questions Concerning Interpretation or Application of Code of Conduct

Any questions that arise concerning the interpretation or application of this Code of Conduct should be addressed to the Vice President of Student Affairs or his/her designee.

II. Code Violations

A. Academic Ethics Violations

A student shall not:

1. Copy from another student's test/quiz paper or knowingly allow one's own test/quiz paper to be copied.
2. Use materials during a test/quiz that were not clearly authorized by the person giving the test/quiz.
3. Collaborate with another student during a test/quiz without permission.
4. Knowingly use, buy, sell, offer, transport, or solicit any of the contents of a test/quiz.
5. Take a test/quiz for another student or permit another student to take a test/quiz in one's place.
6. Bribe or attempt to bribe another person to obtain a passing grade or a better grade on a test/quiz or for a course.
7. Intentionally misstate facts or events on a graded

exercise or assignment in a manner that affects the grade.

8. Engage in plagiarism, which includes representing the work of another person as one's own, including information downloaded from the Internet. The use of another person's words, ideas, or information without proper acknowledgement also constitutes plagiarism.
9. Obtain from or give to another student unauthorized assistance on any course work.
10. Compromise instructional and test/quiz materials by acquiring, using, or providing to others unauthorized instructional and/or testing/quizzing materials.

B. Violations Other Than Academic Ethics Violations

Disruption, Assault and Related Offenses

A student shall not:

1. Disrupt any educational activity or process including, but not limited to, interrupting, impeding, or causing the interruption or impediment of any class, lab, administrative activity, or other College activity or event.
2. Disturb the peace of the College by, among other things, fighting, causing excessive noise, or engaging in indecent or obscene behavior.
3. Initiate, cause or contribute to any false warning or false report of a fire, explosion, emergency or crime.
4. Endanger, threaten to cause physical harm to, or cause actual physical harm to (a) another person, (b) College property, or (c) the property of another person. This section is intended to include (a) a student who threatens to cause harm to himself/herself and (b) all conduct or communications that a reasonable person would interpret as a serious expression of intent to cause physical harm to a person or damage to a person's property.

Offenses Involving False Reports or Presentation of a False Document

A student shall not:

5. Obtain College goods or services by making a false statement or by using or presenting a false or unauthorized document or a false identification card or paper.

Tobacco, Alcohol and Drug Offenses

A student shall not:

6. Smoke or chew tobacco in College buildings or other areas where such conduct is prohibited by law or College SPG 2303-AA.
7. Smoke or chew tobacco at a College event or activity that does not occur on College property when such conduct is not permitted at the event or activity.
8. Consume, transfer, sell, possess or be under the influence of an alcoholic beverage while (a) on College

property or (b) at a College event or activity when such conduct is not permitted at the event or activity.

9. Consume, transfer, sell, possess or be under the influence of any controlled substance, illegal drug, or imitation controlled substance or possess legally prohibited drug paraphernalia. Notwithstanding the above, a student is not in violation of this Code provision if the student possesses or uses prescription medication that is prescribed to the student and is used only in conformance with the prescription.
10. Drive on College property or in connection with a College event or activity while under the influence of alcohol or drugs.

Offenses Involving College IT Systems (Computers, Networks and Telephones)

A student shall not:

11. Circumvent any College IT system security feature including hacking, probing, or attempting to break into other users' accounts.
12. In connection with a College IT system, obtain or use another person's account name, username or password unless specifically authorized to do so by a College administrator.
13. In connection with a College IT system, create, use or transmit a computer virus, worm, spyware or other type of malicious software.
14. In connection with a College IT system, allow another person to use one's account name, username or password unless specifically authorized to do so by a College administrator.
15. Alter, disrupt, or reconfigure any College IT system unless specifically authorized to do so by a College administrator. This prohibition includes
 - (a) the unauthorized introduction of any new hardware, software, network device or telephone on a College IT system;
 - (b) the unauthorized removal or reconfiguration of any College hardware, software, network device, or telephone from a College IT system; and
 - (c) the unauthorized running of an IT server, whether virtual or physical, on any College IT system network.
16. Use a College IT system to access, view, download, create, store, send, or forward sexually inappropriate materials of the type referenced in A.R.S. §38-448(A).
17. In connection with a College IT system, forge email or other electronic information or engage in any other conduct that is inappropriate or degrades the accuracy of student or other College data.
18. Engage in unauthorized access of any College IT system, any student data, or any other College data.
19. Access, view, download, create, store, send, or forward spam, pranks, pornographic or obscene images or words, or harassing, vulgar, threatening or intimidat-

ing messages on a College IT system.

20. Illegally download copyrighted material or violate any software license agreement or intellectual property rights in any College-related context.

Discrimination, Harassment, and Sexual Offenses

A student shall not:

21. Engage in discriminatory conduct against a member of the College community on the basis of age, ethnicity, gender, disability, color, national origin, race, religion, sexual orientation or veteran status.
22. Engage in sexual harassment against a member of the College community, including, but not limited to, engaging in unwelcome physical and/or sexual contact or other conduct of a sexual nature that a reasonable person would know is unwelcome. Such conduct could include (a) repeated sexual advances, or propositions; (b) verbal harassment of a sexual nature, including lewd comments and/or sexual jokes or references; and/or (c) demeaning, insulting, intimidating, or sexually suggestive comments about an individual's dress or body. (See Board Policy BP1503.)
23. Engage in harassing conduct that a reasonable person would understand to be unwelcome or offensive, including, but not limited to, stalking or bullying. Stalking means following another person or making repeated contacts with another person in a manner that would cause a reasonable person to fear for their safety or the safety of their immediate family members or acquaintances. Bullying means engaging in conduct that involves physical assaults or threats of physical assault, intimidation, and/or harassment where the purpose or effect of the conduct is to exert dominance over another person.
24. Engage in any illegal sexual offense, including, but not limited to, sexual assault, public sexual indecency, or indecent exposure.

Offenses Involving Weapons

A student shall not:

25. Use, possess, display, or store any weapon, dangerous instrument, explosive material or device, fireworks, bomb-making materials or dangerous chemical on College property, or at a College activity or event, unless specifically authorized by (a) an Arizona or federal statute governing law enforcement officers; (b) a written document signed by the campus President in situations where the weapon, dangerous instrument, or dangerous material is used for an academic, law enforcement, or other legitimate purpose and the presence of the item does not present an undue risk to the College community; or (c) A.R.S. §12-781, which provides that a person may store or transport a legally possessed firearm inside that person's locked and privately owned motor vehicle or inside a locked compartment on that person's privately owned motorcycle. Such firearm must not be visible from the outside of the motor vehicle or motorcycle.

Property and Related Offenses***A student shall not:***

26. Misuse, steal, misappropriate, or use or access without permission, property, data, records, equipment or services belonging to the College or to another person or entity.
27. Possess property one knows or has reason to believe is stolen or misappropriated.
28. Damage, destroy, or deface property, data, records or equipment belonging to the College or to another person or entity, including, but not limited to, taking down or defacing College authorized posters, handbills, or notices posted on College property, and damaging or defacing library materials.
29. Enter or occupy any College building, grounds, vehicle, or facility without proper authorization from a College employee to do so.
30. Block an entry to or exit from College property or a College event or activity without proper authorization from a College employee to do so.
31. Litter on College property or at a College activity or event.
32. Use, distribute, duplicate, modify, or possess any keys or pass cards issued for any building, facility, room, or other College property without authorization from the College to do so.

Offenses Involving the Violation of a Local, State or Federal Law***A student shall not:***

33. Violate any local, state or federal law.
34. Violate the copyright laws. (See SPG Guide2701/AA Copyright Practice and Compliance.)

Offenses Involving the Violation of a College or College-Related Policy, Regulation, Rule, SPG or Directive***A student shall not:***

35. Violate any College policy, regulation, or SPG.
36. Violate any College traffic or parking rule or regulation.
37. Fail to comply with the directions of College officials or agents, including law enforcement or security officers, acting in good faith in the performance of their duties. This includes failing to appear before a College administrator when directed to do so. This section is not intended to prohibit the lawful assertion of an individual's Fifth Amendment right against self-incrimination.
38. Violate any rule, regulation or standard of conduct that (a) is imposed by a College or College related club, team or organization of which the student is a member, or (b) applies to a College or College-related academic, athletic and/or other curricular or extracurricular activity or program if the student is participating in the activity or program.

Offenses Related to Disciplinary Sanctions and Proceedings***A student shall not:***

39. Violate the terms of any disciplinary sanction imposed on him/her as a result of a Code violation.
40. Interfere with any College student or employee disciplinary process, including, but not limited to, tampering with physical evidence, providing false testimony at a disciplinary meeting or hearing, or requesting or inducing another person to provide false information or withhold information at a meeting or hearing.

Miscellaneous Offenses***A student shall not:***

41. Fail to obtain approval from the Office of Student Life prior to
 - (a) posting or distributing information of any kind on College property or at a College event or activity;
 - (b) engaging in commercial solicitation on College property or at a College event or activity; or
 - (c) selling merchandise on College property or at a College event or activity unless specifically authorized by the College to do so.
42. Fail to reasonably supervise, and provide for the care of, a minor child in the custody or control of the student when the minor child is on College property or at a College event or activity.

Misconduct and Conspiracy Offenses***A student shall not:***

43. Attempt to engage in conduct prohibited by this Code of Conduct. A student who engages in attempted misconduct can be disciplined to the same extent as if the student completed the prohibited act.
44. Join with others in a conspiracy to engage in conduct prohibited by this Code of Conduct. A student engages in a conspiracy when the student (a) agrees with others to engage in a plan or scheme that violates the Code and (b) undertakes one or more actions in furtherance of the agreement. A student who conspires with others to engage in conduct prohibited by the Code can be disciplined to the same extent as if the student alone engaged in the prohibited conduct, regardless of whether or not the conspiracy was completed.

III. Code Sanctions**A. Definition of Sanctions**

Sanctions are disciplinary penalties that may be imposed on a student following a determination that the student has engaged in one or more Code violations described in section II. An exception to the above is an immediate suspension, which is a sanction that may be imposed prior to a determination that a Code violation has occurred.

B. Sanctions Determined on a Case-by-Case Basis

The determination of what sanctions may be warranted in a given situation will be based on the specifics of that situation and the student's prior disciplinary record.

C. Employees Authorized to Impose Sanctions

Employees authorized to impose sanctions include, and are limited to, the following:

1. An instructor may impose academic ethics sanctions for an academic ethics violation involving the instructor's course. (See subsection III (D).)
2. Vice President of Student Affairs (VPSA) may impose sanctions other than academic ethics sanctions. (See subsection III(E).) A President may impose sanctions in an appeal decision. (See subsection IV(C).)
3. A College Department of Public Safety Officer (DPS Officer) may impose an immediate suspension, provided, however, that nothing in this paragraph is intended to restrict the Officer's traditional authority to protect the peace and/or enforce applicable criminal and traffic laws. (See section V.)

D. Academic Ethics Sanctions

Academic ethics sanctions mean either or both of the following:

1. Warning: A warning admonishes a student for an academic ethics violation and warns the student not to commit further violations. A warning must be in writing but does not become part of the student's permanent record.
2. Loss of Credit or Grade Reduction on an Assignment: A student may be given a lowered or failing grade (including a grade of zero or no credit) on an assignment, test/quiz or project which was the subject of an academic ethics violation.

E. Sanctions Other Than Academic Ethics Sanctions

Sanctions other than academic sanctions mean any one or more of the sanctions set out below. Where appropriate, a student may be subject to more than one sanction. For example a student may be on probation, have an obligation to pay restitution, and be on a behavior contract at the same time:

1. Warning: A warning admonishes a student for a Code of Conduct violation and warns the student not to commit further violations. A warning must be in writing but does not become part of the student's permanent record.
2. Agreed-Upon Behavior Contract: In situations where a student and the VPSA can agree on the consequences that should result from the student's Code of Conduct violation, the agreed-upon consequences can be set out in a document titled "Behavior Contract."
3. Reprimand: A reprimand admonishes a student for a Code of Conduct violation and warns the student not to commit further violations. A reprimand must be in

writing and becomes part of the student's permanent record.

4. Probation: Probation is a written directive to comply strictly with the Code of Conduct for a specified period of time. A student on probation is permitted to continue with his or her coursework and attend College events and activities, but is warned that any further Code violation may result in the imposition of more severe sanctions, including possible suspension or expulsion.
5. Immediate Suspension: An immediate suspension is a suspension imposed by the VPSA or College DPS Officer on a student prior to the student's receipt of due process procedures. (See section V.)
6. Mandated Withdrawal: A mandated withdrawal is a sanction where the student is withdrawn from a class or classes or from a College program. Withdrawal of a student from a College program can be for a specified amount of time not to exceed eighteen (18) months or can be permanent.
7. Suspension: Suspension is a sanction that, for a specified period of time, (a) requires a student not to be on any College campus or property; (b) excludes the student from all College academic courses and activities; and (c) prohibits the student from attending or participating in any College event or activity, regardless of location. A suspension shall not exceed eighteen (18) months in length. In appropriate situations, a limited suspension may be imposed. A limited suspension is one that restricts a student from some, but not all, academic classes. A suspension is a limited suspension only if it is expressly referenced as such in the decision that imposes the suspension. A student's readmission following a suspension may be conditioned on compliance with specified conditions.
8. Expulsion: Expulsion is the permanent exclusion of a student from (a) all College campuses and property; (b) all academic courses and activities of the College; and (c) the right to attend or participate in any College function or activity, regardless of location.
9. Degree or Certificate Revocation: Degree or certificate revocation is a sanction where the College revokes a degree, certificate or other academic recognition previously awarded by the College to a student. Notice of any degree revocation appears on the student's transcript. If the College previously communicated the award of a degree, certificate or other academic recognition to another person or entity, the College may provide notice of the revocation to that person or entity.
10. Restitution: Restitution involves the payment of monies to the College or to one or more persons, groups, or organizations to compensate the person(s), group(s), or organization(s) for damage to property or costs incurred as a result of the student's Code violation. Before requiring restitution in a Code matter that also involves separate criminal charges, the VPSA shall consult with the Chief of Police.
11. Access Restrictions: Access Restrictions are restric-

tions on a student's ability to attend or access specific services, facilities, and/or extracurricular activities or events. An access restriction shall not include prohibiting a student from attending a class or classes in which the student is enrolled.

12. **Service and Related Activities:** A student may be required to complete an educational program at the student's expense, write a paper or letter of apology, or engage in community service appropriate to a specific Code violation.
13. **Administrative Hold:** An administrative hold is a sanction that precludes a student from registering, receiving transcripts, or graduating until clearance has been received from the campus President or VPSA based on the student's completion of specified conditions, such as the return of property, completion of community service obligations, payment of restitution, etc. An administrative hold may only be imposed on a student in two circumstances. The first circumstance is when the student has received one of the following disciplinary sanctions: (a) an immediate suspension, (b) a suspension other than an immediate suspension that is scheduled to continue for more than three (3) days, (c) withdrawal of the student from a class or classes, or from a College program, (d) an expulsion, or (e) a degree or certificate revocation. The second circumstance is when a campus President or VPSA determines, in the President or VPSA's discretion based on the circumstances of a particular situation, that an administrative hold is warranted.

IV. Due Process Procedures

A. Incident Reports

1. **Reporting Alleged Code of Conduct Violations and Preparation of Incident Reports:** In the case of an emergency involving violent or threatening student conduct, including a student's threat to injure himself/herself, College employees, students, and visitors are strongly encouraged to immediately contact the College's Department of Public Safety (DPS) by dialing 206-2700 or 911.

In cases that do not involve an emergency, College employees, students and visitors may report a possible Code of Conduct violation by completing a College incident report form and notifying the VPSA. An incident report form may be obtained in any VPSA's office. If allegations of misconduct are received by a VPSA in any written form other than on an incident report form, the VPSA shall transfer the relevant information to an incident report form. In addition, the VPSA may independently initiate an incident report based on his/her communications with others or on written documents such as media reports, police reports, emails, letters, or other written documents.

2. **Contents of Incident Report:** An incident report should, to the extent reasonably possible, set out specific facts, including specific names(s), date(s), location(s) and descriptions of the alleged act(s) of misconduct.

3. **Time Limit:** An incident report should be submitted as soon as reasonably possible after alleged student misconduct occurs. Although there is no strict time limit after which an incident report may not be filed, an incident report that is submitted more than five (5) days after the alleged student misconduct may or may not be reviewed or otherwise processed, at the discretion of the VPSA.
4. **Entry of an Incident Report and Resolution Thereof into the Code of Conduct Log:** Upon receipt or preparation of an incident report, the VPSA shall within twenty-four (24) hours enter the information into the Code of Conduct Log and check to see if there are any other disciplinary matters involving the student. Upon final resolution of the allegations referenced in the incident report, the VPSA shall enter into the Code of Conduct Log how the disciplinary matter was concluded.
5. **Consultation with the College's EEO Office Concerning Certain Incident Reports:** The VPSA shall consult with the College's EEO Office following the receipt or preparation of an incident report when: (a) the report includes allegations of discrimination, sexual harassment, or other type of harassment, or (b) the VPSA reasonably believes that the student's alleged misconduct may be the result of a disability.
6. **Notice to Student Behavior Assessment Committee of Certain Incident Reports:** The VPSA will provide a copy of an incident report to the Student Behavior Assessment Committee, with a copy to the President, in those matters identified in subsection VI (E) below.

B. The Review Process

1. Overview of Review Process

In the Review Process, the VPSA determines whether a student has violated the Code, and if so, determines the sanction(s) to be imposed as a result of the violation(s).

2. Review Process Procedures

The Review Process shall include the following:

- a. The VPSA shall, within five (5) days of preparing an incident report or receiving an incident report, notify the student of the alleged misconduct and set a meeting (Review Meeting) with the student to discuss the allegations. The notice shall specify a time, date, and place of the Review Meeting. The specified meeting date shall be not less than two (2) nor more than five (5) days following the date the notice is sent to the student. Additional requirements concerning the notice are provided in subsections VII (A)&(B) below.
- b. Either prior to or following the Review Meeting, the VPSA may conduct whatever additional review of the allegations of misconduct the VPSA deems necessary.
- c. The student may be accompanied at the Review Meeting by a person who is a nonlawyer provided such person's attendance will not unreasonably

delay the meeting.

- d. At the Review Meeting, the student shall be offered the opportunity to discuss with and/or present to the VPSA any information the student desires concerning his/her version of the events related to the alleged misconduct.

3. **Review Decision**

Within five (5) days following the conclusion of the Review Meeting, the VPSA shall prepare and distribute a written decision (Review Decision) as follows:

- a. If the VPSA is unable to conclude that the student violated the Code, the Review Decision shall so indicate and the Review Process shall be closed. Review Decision form attached.
- b. If the VPSA's determination is that the student engaged in misconduct, the Review Decision shall:
 - i. Specify the Code violation(s) and the sanction(s) being imposed.
 - ii. State that the student has the option of requesting an Appeal and describe how the student would file the appeal request in cases where an appeal is available to the student. Whether an appeal is available to the student is based on the type and severity of the sanctions being imposed. (See subsections IV (B)(4) & (5).)
 - iii. State that the Review Decision is final in cases where an appeal is not available to the student. If an appeal is not available, see Review Decision form.
 - iv. State that the VPSA reserves the option to modify his/her decision based on determinations or recommendations of the Student Behavior Assessment Committee in cases that have been referred to the Committee.
- c. A copy of the Review Decision shall be provided to the student, the President, the Executive Director of Financial Aid and Title IV Compliance, and the Vice President of Student Affairs.
- d. A copy of the Review Decision shall also be provided to the members of the Student Behavior Assessment Committee in cases that have been referred to the Committee.

4. **Appeal of Review Decisions in Limited Situations**

Following the Review Process, a student may request and is entitled to be provided an appeal only if one or more of the following sanctions were imposed as a result of the Review:

- (a) a suspension for more than fifteen percent (15%) of the class sessions for a course,
- (b) mandated withdrawal of the student from one or more courses or a College program,
- (c) an expulsion, or
- (d) revocation of a degree or certificate previously

awarded by the College. No additional appeal is available to a student if the Review Decision does not include any of the sanctions specified in this paragraph.

5. **Procedure for Student to Request an Appeal**

A student who is entitled to and desires to request an Appeal must file a written request in the President's office within five (5) days of the student's receipt of the Review Decision. The student's written request must include a copy of the Review Decision. Failure of the student to request an Appeal within five (5) days of the Student's receipt of the Review Decision results in the Review Decision being final. An appeal form for student to complete may be obtained in the VPSA's office.

6. **Process in Matters that have been referred to the Student Behavior Assessment Committee**

In cases where an Incident Report has been referred to the Student Behavior Assessment Committee, the VPSA (a) may commence and continue the Review Process or (b) if recommended by the Chair of the Student Behavior Assessment Committee, may impose brief delays in the Review Process to accommodate actions/meetings of the Committee. In addition, in his/her Review Decision, the VPSA may reserve the right to modify any sanction based on future determinations or recommendations of the Student Behavior Assessment Committee.

C. **The Appeal Process**

1. **Overview of Appeal Process**

The Appeal Process is available to a student when, and only when, a Review Decision imposes on the student one or more of the sanctions set forth in subsection IV(B)(4). In the Appeal Process, the President or his/her designee determines whether the student has violated the Code, and if so, determines the sanction(s) to be imposed as a result of the violation(s).

2. **Designation of Administrative Representative**

Within five (5) days of the President's receipt of a student's timely request for an Appeal, the President will designate an administrator (referred to as the "Administrative Representative") to assist in the processing of the Appeal Process. The Administrative Representative may or may not be the VPSA.

3. **Notice to Student of Appeal Meeting**

Within five (5) days of the President's receipt of a student's timely request for an Appeal, the President will send written notice to the student and the Administrative Representative specifying the time, date and place of an Appeal Meeting. The specified meeting date shall be not less two (2) or more than five (5) days following the date the notice is sent to the student. Additional requirements concerning the notice are provided in subsections VII(A)&(B).

4. **Persons who May be Present at Appeal Meeting**

The student may be accompanied at the Appeal

Meeting by a non-lawyer representative if the student so desires. (See subsection VII (F).) The following persons may be present during the entire Appeal Meeting: (i) the President, (ii) the student and, if applicable, the student's representative, and (iii) the Administrative Representative. Any other person may be in the Appeal Meeting only during the time that he/she is presenting information to President.

5. ***Presentation of Information to the President at the Appeal Meeting***

The President shall preside at the Appeal Meeting. At this meeting, both the Administrative Representative and the student shall be provided a reasonable opportunity to present information to the President with respect to (1) whether the student violated the Code, and (2) if a Code violation has occurred, what sanction(s) are warranted. The presentation of information to the President will occur in the following manner:

- a. The President shall inform all persons present at the Appeal Meeting that they are expected and required to be truthful, cooperative and respectful.
- b. The Administrative Representative will present information to the President first. The information may include (1) statements made by the Administrative Representative himself/herself; (2) statements of persons that the Administrative Representative chooses to bring to the meeting; and/or (3) the presentation of written documents (which may include written statements of persons who may or may not be present at the meeting). A copy of any written document provided to the President shall also be provided to the student. The student and President shall be permitted to ask clarifying questions of any person who presents information to the President during this portion of the Appeal Meeting.
- c. At the conclusion of the Administrative Representative's presentation of information, the student will then have the opportunity to present information to the President. The information may include (1) statements made by the student himself/herself; (2) statements of persons that the student chooses to bring to the meeting; and/or (3) the presentation of written documents (which may include written statements of persons who may or may not be present at the meeting). A copy of any written document provided to the President shall also be provided to the Administrative Representative. The Administrative Representative and President shall be permitted to ask clarifying questions of any person who presents information to the President during this portion of the Appeal Meeting.
- d. At the conclusion of the student's presentation of information, the Administrative Representative shall be given a brief opportunity to present additional information to respond to information provided by the student. The student and President shall be permitted to ask clarifying questions of

any person who presents information to the President during this portion of the Appeal Meeting.

- e. Following the presentation of information described above, the Administrative Representative and student will each be allowed to present a brief concluding statement that summarizes the information presented and contains that person's recommendations concerning possible sanctions.

6. ***Appeal Decision***

Within five (5) days following the conclusion of the Appeal Meeting, the President shall prepare and distribute a written decision (Appeal Decision) as follows:

- a. If the President is unable to determine that the student violated the Code, the Review Decision shall be rescinded and the Appeal Process shall be closed.
- b. If the President determines that the student violated the Code, the Appeal Decision shall:
 - i. Specify the Code violation(s) and the disciplinary sanction(s) being imposed. Any sanction(s) being imposed may be the same as, or may be more or less severe than, the sanction(s) contained in the Review Decision.
 - ii. Indicate, if applicable, that the Appeal Decision is final. An Appeal Decision is final unless one of the sanctions being imposed is expulsion or the permanent withdrawal of the student from a College program.
 - iii. Indicate, if applicable, that the Appeal Decision will be reviewed by the Provost in the manner specified in subsection IV(C)(7). An Appeal Decision will be reviewed by the Provost if one of the sanctions being imposed is expulsion or the permanent withdrawal of the student from a College program. A copy of the Appeal Decision shall be provided to the student, the Administrative Representative, the VPSA, the Executive Director of Financial Aid and Title IV Compliance, and the Director of Student Affairs. If the discipline imposed includes expulsion or the permanent withdrawal of the student from a College program, a copy of the Appeal Decision shall also be provided to the Provost. A copy of the Appeal Decision shall also be provided to the members of the Student Behavior Assessment Committee in cases that have been referred to the Committee.

7. ***Provost Review of Decisions that Include Expulsion or Permanent Withdrawal from a College Program***

Unless the discipline imposed in an Appeal Decision includes expulsion of the student or the permanent withdrawal of the student from a College program, the President's Appeal Decision is final. An Appeal Decision that includes expulsion or the permanent withdrawal of the student from a College program shall be reviewed by the Provost. The Provost's review shall include a discussion with the President

and, in the discretion of the Provost, a discussion with the student and Administrative Representative (either separately or at the same time). The Provost shall, within ten (10) days of his/her receipt of the President's decision, issue a written decision either confirming or declining to confirm the portion of the Appeal Decision that involves expulsion or permanent withdrawal of the student from a College program. If the Provost declines to confirm the portion of the Appeal Decision that involves expulsion or permanent withdrawal of the student from a College program, the Provost shall refer the matter back to the President that issued the decision and indicate that the President should issue a revised Appeal Decision that does not include expulsion or permanent withdrawal of the student from a College program. A copy of the Provost's decision shall be provided to each person who received a copy of the Appeal Decision.

D. Procedures Related to Imposition of Academic Ethics Sanctions by an Instructor

1. *Sanctions available to an Instructor for Academic Ethics Violations*

An instructor may impose academic ethics sanctions against a student who has committed an academic ethics violation in relation to the instructor's course. Academic ethics sanctions include (a) a written warning and/or (b) a lowered or failing grade (including a grade of zero or no credit) on the assignment, test/quiz or project which was the subject of the academic ethics violation. If the instructor believes that additional or different sanctions should be imposed against the student (such as suspension, withdrawal of the student from the instructor's course, expulsion, etc.), the instructor may file an incident report pursuant to subsection IV (A).

2. *Requirement for Instructor to Meet with the Student*

Prior to making a final decision whether to impose academic sanctions against a student suspected of committing an academic ethics violation, an instructor shall meet with the student. The meeting should occur in a private setting. (If more than one student is involved in the alleged academic ethics violation, separate meetings will be held with each student.) During the meeting, the instructor shall inform the student of the specifics of the alleged academic ethics violation and allow the student an opportunity to present his/her side of the story.

3. *Instructor's Decision*

Within two (2) days following the conclusion of the meeting with the student, the instructor shall prepare and distribute a written decision (Instructor's Decision) as follows:

- a. If the instructor is unable to conclude that the student committed an academic ethics violation, the Instructor's Decision shall so indicate and the matter shall be deemed concluded.
- b. If the instructor's determination is that the stu-

dent committed an academic ethics violation, the Instructor's Decision shall (i) describe the academic ethics violation and the academic ethics sanction(s) being imposed, and (ii) inform the student that the student may seek a review of the Instructor's Decision by means of the College's Grade Complaints from Students process.

The instructor shall provide a copy of his/her Instructor's Decision to the student and the Dean of the division.

4. *Review of Instructor's Decision*

A student may request a review of an Instructor's Decision to impose academic ethics sanctions by means of the College's Grade Complaints from Students process found at the College's website at www.pima.edu/current-students/complaint-processes/grade-related-complaints.html.

V. Immediate Suspension

A. Requirements for Imposing an Immediate Suspension

A VPSA or College DPS Officer may, without prior notice to the student, impose upon the student an immediate suspension if there are reasonable indications that: (1) the student may present an unreasonable risk of danger to himself/herself or others, or (2) the student's presence on College property poses a significant risk of disruption of educational activities. If an immediate suspension is imposed, the employee imposing the suspension shall promptly file an incident report. The VPSAE shall promptly proceed with the Review Process (see subsection IV (B)) and shall review whether the matter should be referred to the Student Behavior Assessment Committee. (See section VI.)

B. Notice to Student of Immediate Suspension

A VPSA or DPS Officer who imposes an immediate suspension shall give the student oral or written notice of the immediate suspension and the reasons therefore as soon as reasonably possible. If the initial notice is oral, written notice of the immediate suspension and the reasons therefore will be given to the student within two (2) days.

C. Discretion to Allow Continuation of Course Work

In cases involving an immediate suspension, the VPSA may, in the VPSA's discretion, allow the suspended student to continue his/her course work by means of email communications and/or independent study.

D. Duration of an Immediate Suspension

An immediate suspension will remain in effect until (1) a final decision has been made concerning the alleged Code violation(s), or (2) the VPSA determines that the reasons for imposing the immediate suspension no longer exist.

E. No Review of an Immediate Suspension

A VPSA or DPS Officer's decision to impose an immediate suspension is not subject to review. Once an immediate suspension is imposed, however, the Review Process, and, if applicable, the Appeal Process, shall proceed promptly and no extensions of time in either such process shall occur unless the student makes a written request to the VPSA or President for an extension or extraordinary circumstances exist justifying an extension.

2. Situations involving allegations that the student has repeatedly engaged in disruptive conduct.
3. Situations where it reasonably appears that a student may present a danger to himself/herself or others.
4. Situations where it reasonably appears that a student's behavior may be impacted by a mental health condition and the student's behavior is either (1) disruptive, (2) clearly distressed, or (3) seriously at variance from social norms.

VI. Student Behavior Assessment Committee**A. Purpose**

The College seeks to promote a safe environment where students and employees may participate in the educational process without compromising their health, safety or welfare.

B. Formation and Members of Student Behavior Assessment Committee

A Student Behavior Assessment Committee shall be formed and shall be comprised of the following members:

1. Vice President of Student Affairs;
2. A licensed clinical psychologist or psychiatrist (who may or may not be a College employee);
3. A representative from the College's Department of Public Safety;

The Chancellor shall designate generally who shall serve as the Chair of the Committee, and may modify such designation in a particular case.

If at any particular point in time one or more members of the Student Behavior Assessment Committee are not reasonably available, the Committee may operate with the remaining members that are available.

C. Referring a Matter to the Behavior Assessment Committee

Subject to section D below, the VPSA, Campus President, the Director of Student Affairs, the Chief of Police, the Provost and/or the Chancellor may refer a matter involving a student to the Student Behavior Assessment Committee. Such referral may be made at any time, including but not limited at any stage of a Review or Appeal Process involving the student.

D. Matters to be Referred to the Student Behavior Assessment Committee

The following matters shall be referred to the Student Behavior Assessment Committee:

1. Situations involving allegations of serious physical violence, threats of serious physical violence, or other threatening behaviors of a serious nature.

E. Student Behavior Assessment Committee may Consult with Others

The Student Behavior Assessment Committee may gather information about a given case and may consult and meet with such other persons as it deems appropriate. Such persons may include, but are not limited to, the College's legal counsel and/or a representative of the College's EEO Office.

F. Authority of Student Behavior Assessment Committee

The Student Behavior Assessment Committee is authorized to make the following recommendations and determinations and take the following actions:

1. Require a student to provide a mental health clearance to the Committee. The Committee may also restrict a student from being on campus and/or attending College events or activities pending the receipt of a mental health clearance. If a Review Process has not been initiated and the student has not received a notice of an alleged Code of Conduct violation, the Committee must consult with legal counsel and obtain the authorization of the Chancellor or the Chancellor's designee prior to requiring the student to provide a mental health clearance to the Committee or restricting the student from campus and/or attending College events.

A mental health clearance is an opinion issued by a mental health professional indicating whether, in the opinion of the mental health professional, the student's presence on a College campus presents a danger to the student himself/herself or others.

2. Recommend to the VPSA or President involved in a Review or Appeal Process: (a) what sanctions may be appropriate to impose if a student is found to have engaged in a Code violation; (b) whether to allow a student to withdraw and provide a mental health clearance to the Committee as a condition of returning to the College, and/or (c) whether to require a student to comply with other conditions recommended by the Committee.
3. Make such other recommendations and determinations as authorized by the Chancellor or the Chancellor's designee.

VII. Miscellaneous Provisions

A. Delivery of Notices and Decisions

Except for initial notice of an immediate suspension as described in subsection V (B), any notice or decision to be given to a student pursuant to these procedures shall be in writing and may either be (a) delivered personally to the student or (b) emailed to the student's Pima.edu email account. Failure of the student to collect his/her email from his/her Pima.edu email account does not render the notice ineffective.

If it is not reasonably possible to deliver notice to the student by one of the two methods set forth above, notice will be mailed by regular mail to the student's home or local address as referenced in the College's records. In such cases, unless the student agrees otherwise, the meeting will be scheduled not less than four (4) nor more than ten (10) days after the date of mailing of the notice of the meeting. Notices intended to be hand delivered by a student to a College office or a College administrator must be delivered during the College's normal working hours.

B. Contents of Notices of Review and Appeal Meetings

Notice to a student of an upcoming Review or Appeal Meeting shall include:

1. A reference to the Code provision(s) alleged to have been violated by the student.
2. A description of the alleged conduct in violation of the Code, including a summary of the specific facts, and the names(s), date(s), and location(s) that are reasonably necessary to describe the alleged conduct.
3. The time, date and place of the meeting.
4. The name and email address of the VPSA or President that will conduct the meeting.
5. A statement that a final decision will not be made concerning whether the student engaged in the alleged misconduct until the student has had an opportunity at the meeting to (a) tell his/her side of the story and (b) comment on the issue of sanctions that would be appropriate to impose if it is determined that the student violated the Code.
6. A reminder to the student that if the student is receiving financial aid, the imposition of a disciplinary sanction might adversely affect financial aid the student has already received or the student's ability to continue to receive financial aid.
7. In cases where an immediate suspension has been imposed, a statement as to whether the VPSA has, in his/her discretion, decided to allow the student to continue his/her coursework by means of email communications and/or independent study.
8. A reference to the College website address for the Student Code of Conduct.

C. Assistance Available to Students with Disabilities

If a student believes he/she needs an ADA accommodation to participate in a Code of Conduct process, the student should contact the College's ADA Coordinator.

D. Student Who Cannot be Contacted to Schedule a Meeting, Who Fails to Cooperate in the Scheduling of a Meeting, or Who Fails to Appear at a Scheduled Meeting

If a student (1) cannot be contacted in the manner described by subsection VII (A) to schedule a Review Meeting, (2) fails to cooperate in the scheduling of a Review Meeting, or (3) fails to appear at a scheduled Review Meeting, the VPSA can proceed with the Review Meeting and issue a Review Decision. A student who (1) cannot reasonably be contacted to schedule an Appeal Meeting (2) fails to cooperate in the scheduling of an Appeal Meeting, or (3) fails to appear at a scheduled Appeal Meeting, will be deemed to have abandoned his/her appeal and the Review Decision shall be enforced.

E. Authority of Chancellor to Assign an Alternate Decision Maker—Situations Where a Decision Maker has an Actual or Potential Conflict of Interest

The Chancellor may, for good cause, assign a different administrator to serve: (1) as the VPSA in a Review Process, or (2) as the President in an Appeal Process. Good cause is determined in the discretion of the Chancellor and includes situations where the VPSA or President may have an actual or potential conflict of interest in his/her role as a decision maker in a Review or Appeal Process. The VPSA or President who may have an actual or potential conflict of interest in a student discipline matter shall inform the Chancellor of the conflict as soon as possible after the conflict arises.

F. Right of Student to be Accompanied by Someone Other than an Attorney at a Disciplinary Proceeding

In any Review or Appeal Meeting, the student may be accompanied by a non-lawyer. Such person may provide advice to the student during the proceeding but may not actively participate in the proceeding. Notwithstanding the above, if the student is less than 18 years of age, the student may be accompanied by a custodial parent or legal guardian at a Review or Appeal Meeting and the parent or guardian may assist the student by actively participating in the meeting. The fact that a parent or guardian actively participates in and assists a minor student at a Review or Appeal Meeting does not negate or limit the requirement of the student to answer questions posed to him/her at such a meeting.

G. Burden of Proof Concerning Alleged Student Misconduct

In any Review or Appeal Process, the standard to be applied is the “preponderance of the evidence” standard. Under this standard, the VPSA or President is authorized to impose discipline if the information available to the decision maker indicates that the student more likely than not committed the alleged Code violation.

applicable, but such information shall not be considered relevant on the issue of whether the student engaged in the alleged misconduct. The student’s prior disciplinary record may be considered by the VPSA or President only with respect to the issue of determining appropriate sanctions to impose if the student is found to have committed a Code violation.

H. Conduct of Review and Appeal Proceedings

The formal rules of evidence do not apply to Review and Appeal Meetings. At any such meeting, however, the VPSA or President, as applicable, may exclude irrelevant, immaterial, privileged or unduly repetitious information. In addition, the VPSA or President may impose reasonable time limits with respect to the presentation of information.

I. Recording of Review and Appeal Proceedings

Review Meetings shall not be recorded. Recording of an Appeal Meeting will only occur if (1) the President, in his/her discretion, requests that the meeting be recorded, (2) recording is determined to be an appropriate accommodation for a disabled student, or (3) the student arranges for such recording to occur at the student’s own cost. If at the President’s direction an Appeal Meeting is recorded, the student may request that the recording be transcribed, or that the recording be copied, but a transcript or copy of the recording shall not be prepared or provided to the student unless the student pays, in advance, the estimated cost of such transcript or copy. A student will not be required to pay for the transcription or copy of a recording that is made as a disability accommodation.

J. Minor Errors

Minor errors made in the application of this Code of Conduct, including minor procedural or timeline errors, shall not invalidate an ongoing disciplinary process or invalidate any discipline that has been imposed unless such errors are determined to be prejudicial to the legal interests of the student.

K. Modification of Timeline for Good Cause

A VPSA in any Review Process, or the President in any Appeal Process, may for good cause modify a timeline set forth in these procedures. In situations where an immediate suspension has been imposed, a delay of any timeline shall occur only if the student submits a written request to the VPSA or President, as applicable, for an extension or extraordinary circumstances exist justifying the extension.

L. Limited Consideration of a Student’s Prior Disciplinary Record

In a Review or Appeal Process, information regarding a student’s prior disciplinary record may be presented to and/or reviewed by the VPSAE or President, as



Educational Options

Introduction

To meet the diverse needs of students, Pima Community College offers a variety of ways for students to reach their educational goals. Students can choose from traditional, alternative-style, or accelerated classes. These classes cover many subject areas and fulfill degree and certificate requirements. Students can take classes to transfer to a four-year institution, prepare for job training, or continue their education in an area of special interest.

These classes are provided days, evenings, and weekends. Evening classes begin at 4:30 p.m. or later. Classes are offered at all PCC campuses and learning centers, as well as more than 100 off-campus sites, including Davis-Monthan Air Force Base, public schools, and neighborhood centers in Pima County.

Traditional-Style Classes

PCC offers traditional-style classes in which students are required to attend lecture and/or lab on specified days and times. Regular classes run for 16 weeks during fall and spring semesters. Some classes include in-class computer usage.

Alternative-Style Classes

PCC also offers alternative-style classes that provide students with different teaching methods or within different time frames. These classes are designed to fit students' learning styles and scheduling needs and include:

- Express Format – Students attend class one night a week for five or six weeks; completing appropriate Express classes year-round for two years can lead to an associate degree.
- Honors Content – This course may be taken for Honors credit, with additional work expected of the student beyond regular course requirements.
- Online – Classes taught via the Internet.
- Open Entry/Open Exit – Students enroll at any time during the semester and complete required work at their own pace within the semester or by arrangement with the instructor. Full academic credit classes only.
- Self-Paced Independent – Students work off-campus at their own pace, with study materials prepared by College faculty. Students must meet with faculty for the initial class at the time and room defined in the class schedule.
- Self-Paced on Campus – Students work on-campus each week at their own pace, in the room defined in the class schedule, with faculty guidance. Students must meet with faculty in the room defined during the first week of classes.
- Classroom and Online – Students receive instruction in the classroom and via the Internet with reduced time in the classroom.
- Web Self-Paced – Students work via the Internet at their own pace with materials provided by College faculty via the Internet.

Note: All Self-Paced courses must be completed by the end of the semester in which they are taken.

Workplace Learning Classes

A workplace learning course is one in which the student applies concepts and practices learned previously or concurrently to facilitated observation and/or practical work situations, on- or off-campus, within a field related to the discipline. These experiences may also be referred to as cooperative education, practicum, clinicals, field experience, internship, or externship. All workplace learning courses are supervised by the College, and have an assigned instructor, and class attendance is tracked on a weekly basis.

Honors Program

The Honors Program provides students enriched learning opportunities and programming activities to foster academic and social development. It features an enhanced curriculum where students can expand their intellectual capabilities, develop creativity, and practice leadership skills. The primary goals of the Honors Program are to encourage leadership and community service opportunities and to facilitate entry into Honors Programs at four-year colleges. The Honors Program features small class sizes, assistance for students seeking scholarships and awards, and a strong support network among students, faculty, and staff.

To graduate from Pima Community College with an Honors designation, students must complete a minimum of 15 credit hours of honors courses and maintain a cumulative GPA of 3.5. The Honors 101 Colloquium (3 credits) is a required course in this 15-credit minimum. HON 101 must be completed with an A or B grade.

Admission Criteria

Details about the criteria to join the Honors Program, as well as program requirements and Honors contacts, are at pima.edu/programs-courses/honors/. For information about other honors societies, see Phi Theta Kappa.

Distance Learning – PimaOnline – Online Education

With an ever-increasing number of PCC courses in many subject areas available online, you can receive an excellent education no matter where you live or work.

Is Online Education for Me?

But is online education for you? Here are some things to consider before you register.

Online courses:

- require self-discipline. Time and space management are keys to your success in an online education environment.
- often may require more time than site-based courses.
- require you to be highly interactive.
- require you to log in the first day of class and participate frequently.
- require moderate computer and Internet skills.

Find an Online Class

Complete online schedules for PCC classes (online, traditional, self-paced and more) by semester and subject are available at pima.edu/schedules.

Log in to MyPima

You will access your online classes by logging into MyPima. A convenient MyPima icon is located on the PCC homepage.

Find your course homepage

To find the homepages for all of your classes

- log into MyPima
- select the Academics tab
- select My Courses
- select your course title

Note: Online class homepages are usually not available until the first day of class.

Hardware and Software Checklist

You will need to have access to and be familiar with certain hardware and software in order to successfully complete an online class. Specific information about operating systems, software, browsers and mobile device support is available on the PimaOnline webpage, www.pima.edu/pima-online.

Internet Proficiency

- You should have some experience with browsing the Internet and sending and receiving email with attachments.
- If you do not already have some Internet and email experience, you may want to consider completing an Internet introductory course prior to enrolling in an online class.

Places to Access the Internet

If you do not have Internet access at home,

- the open-access computer labs on all of PCC's campuses and centers have computers with Internet access
- many local libraries also have computers with similar access.
- ask your friends and neighbors if you may borrow a computer or do your work from their home.

Registering for an Online Class

You may register for an online class just as you would a traditional class. Go to MyPima, or visit any Pima campus or center.

- Before you can register for a class you must enroll as a PCC student.
- After you are enrolled you may register for classes.

Accessing Your Class

You will access your online classes by logging into MyPima located on the College homepage. Learn more about accessing your course homepage through MyPima.

Setting Up an Email Program

- Your MyPima student email account is already set up for you.

Other Course Materials You May Need

- Most online classes require you to purchase textbooks. Textbooks can be purchased through PCC bookstores. You can learn what textbooks are required for classes through the

online class schedules or, after you have registered for the class, you can check your Book List channel in MyPima.

- Some of your classes may require specific software, lab kits, study aides or audio tapes.
- The cost of supplemental materials is an additional cost beyond the cost of the class.
- The online syllabus provided by your instructor will explain any materials you will need for your class and where to find them.

Course Content

- Course curriculum is identical to face-to-face classes. Only the mode of delivery and activities will vary.

Submitting Class Assignments

- Submission of assignments varies by class.
- Most assignments will be submitted by Internet using the Desire2Learn platform, or by email attachments.
- Some assignments may need to be mailed or faxed.
- The course syllabus will provide specific directions about how to submit assignments.

Deadlines and Timelines

- Yes, there will be deadlines just as in traditional classes.
- Timelines will vary according to each class.
- Review your class assignment schedule for specific due dates.

Exams

Some instructors give quizzes and exams, while others will use other modes of assessment. Review your class syllabus for specific information.

- For classes that require quizzes and exams, some may be done online while a few may have to be done in-person. Review your class syllabus for details.
- If you find it impossible to come to campus for an exam, inform your instructor. Your instructor will work with you to make other arrangements for similar security.

Costs for Online Classes

- Tuition for online classes is the same as for face-to-face classes.
- You will need to pay for an Internet Service Provider, if you are accessing the class from a home computer.
- Additional supplemental materials and fees vary by class. Check the College Catalog, semester schedule or class syllabus.

Library Services

- Pima's Library Services offer online library resources. Log in to MyPima and click on the Library tab to access online reference resources and databases.

Counseling/Advising Services

- The College provides online advising to assist online learners.
- You can quickly contact an advisor to find the additional information you may need to be successful.

Need technical help accessing your course?

For technical questions about logging in to MyPima or accessing your D2L course homepage, contact the MyPima HelpDesk 24

hours-a-day, 7 days-a-week. Please note that D2L course homepages "go live" on the first day of the class.

- Call 520-206-4800
- Email: mypimahelpdesk@pima.edu

Username and Passwords

You will access your online classes by logging into MyPima. Learn more about setting up your MyPima account and finding your course homepage.

If you cannot access your online course homepage on the first day of class, contact us at pimaonline@pima.edu or call 520-206-6310.

Pop-up Windows

Many personal firewall programs have features that prevent pop-up windows.

- Pop-up windows are used in Desire2Learn.
- When using Desire2Learn you will have to enable the pop-up window feature of your program.
- For information about enabling the pop-up window feature, consult the user manual or Internet site for the firewall program you are using.

Browser plug-in error messages

Desire2Learn class materials may use various multimedia formats such as sound and videos. These require additional sub-programs called browser plug-ins. Instructions for installing the most common plug-ins are provided in the Browser Tune-up section on the Desire2Learn commercial site.



Earning a Degree or Certificate

Degree, Certificate, and Graduation Requirements

Pima Community College offers certificates and degrees in a variety of areas. Each certificate and degree has specified program requirements for graduation. See certificate and degree displays for specific program requirements. The certificates and degrees are displayed alphabetically beginning with Accounting.

Each program display lists the required coursework and credits. A degree may be awarded with fewer than the number of credits shown in the program display as long as the student has completed the required coursework and a minimum of 60 credit hours numbered 100 or higher. A certificate may be awarded with fewer than the number of credits shown in the program display as long as the student has completed the required coursework.

Note to Title IV Financial Aid Recipients: Some degrees and certificates display a range of credits needed to complete the program. Once a student completes the specific course requirements and has met the minimum number of credits in the range, the student will no longer be eligible for Title IV funds for that program.

Earning a Degree or Certificate

Earning a certificate or degree requires fulfilling all requirements defined below.

Students are responsible for determining the presence or absence of any barriers to professional licensure or certification outside of College awarded completion documents. If students have concerns about any non-educational barriers to professional licensure or certification, they are advised to seek academic advising to explore that possibility before beginning their course of study.

Programs with Special or Selective Admissions

Certain programs of study may have additional admissions requirements that must be met in order to be admitted into the particular program. These additional programs may include: taking assessments and/or completing prerequisite courses, attending a program orientation, completing an application, meeting a specified grade point average, and/or meeting non-academic requirements. See Educational Programs, Degree and Certificates to determine which programs are Selective Admissions and may have additional requirements for admission.

Preparatory Coursework

Preparatory coursework may be required before beginning some programs. This coursework is in place to ensure that students have the skills and knowledge needed to be successful in the program. These courses may add a semester or more to the time needed to complete the certificate or degree. If a program has preparatory coursework it will be found in the program display.

Program Requirements

General Education Courses

General Education courses enhance the student's education and are required for graduation for all degrees and for certificates of 30 or more credits.

Core/Major Courses

Core/major courses provide in-depth knowledge and/or skills in the student's chosen field of study. Core/major courses are required and are listed by program in the certificates and degrees section of the catalog.

Support/Elective Courses

Support/elective courses expand the knowledge and skills beyond the core/major requirements and are usually in subject areas different than the core/major courses.

Graduation Requirements

In order to graduate from Pima Community College, a student must:

1. Students who believe they are eligible to graduate should apply for graduation by completing a Graduation Application by the dates specified in this Catalog's academic calendar. If the student has met the necessary requirements he/she will be awarded a certificate or degree. If the student has not met requirements, he/she may reapply for graduation when the additional course requirements are met. Students applying for graduation more than three semesters after completion of program requirements must meet the catalog requirement under the term of graduation to comply with continuous enrollment rules. See the Student's Catalog of Record section for more information.
2. Apply for graduation within one year of completion of degree requirements. Students failing to do so must apply for an exception through the Office of the Registrar at the District Office and must complete a graduation application by the dates specified in this Catalog's academic calendar. Failure to complete the application by that date will result in a delay in processing until the following semester.
3. Complete the preparatory coursework if needed
4. Complete the General Education requirements appropriate to the certificate or degree.
5. Complete the program core and, if needed, the support course requirements for the certificate or degree.
6. Complete a minimum of 60 credit hours of course work at the 100 level or higher for an associate degree.
7. Complete the minimum number of credits in residency
 - a. At least 15 credit hours of degree requirements must be earned at PCC.
 - b. At least 6 credits of certificate requirements, including all the AGECE certificates, must be earned at PCC.
8. Have a minimum cumulative 2.0 grade point average (GPA) on a 4.0 grade point scale.
9. Complete courses given the following rules regarding grades:
 - a. A "C" grade or higher is required for general education and core courses, and for all courses in the Associate of General Studies degrees, transfer degrees (Associate of Arts, Associate of Business Administration, Associate of Fine Arts, and Associate of Science) and all AGECEs, unless a higher grade is specified.
 - b. "D" or "F" grades do not fulfill graduation requirements for any transfer degree (Associate of Arts, Associate of Business Administration, Associate of Fine Arts, Associate of Science and Associate of General Studies (AGS) or AGECE.

- c. A grade of "P" cannot be used for Arizona General Education Curriculum (AGEC) or any transfer degree (Associate of Arts, Associate of Business Administration, Associate of Fine Arts, and Associate of Science). The exception to this rule is for transfer courses for which a "P" grade is the only option available for students.
- d. A "D" grade may fulfill support course requirements only in certificates, the Associate of Applied Arts, and the Associate of Applied Science degrees, and only if those courses do not also meet general education requirements, or the program does not specify that a higher grade is required. See your program display.

Graduation with Honors

Students who are graduating with a degree and who have completed 30 credit hours at Pima Community College may be granted honors designation if they meet certain grade point averages:

- 3.500 to 3.749 grade point average = Graduation with Honors
- 3.750 to 3.899 grade point average = Graduation with High Honors
- 3.900 to 4.000 grade point average = Graduation with Highest Honors

These designations will be shown on diplomas and listed on the student's official transcripts.

Student's Catalog of Record

(Catalog Under Which a Student Graduates)

Students maintaining continuous enrollment at any public Arizona community college or university may graduate according to the requirements of the catalog in effect at the time of initial enrollment or according to the requirements of any catalog in effect during subsequent terms of continuous enrollment. Students may maintain continuous enrollment whether attending a public community college and/or public university in the state of Arizona.

The rules for maintaining continuous enrollment are:

- A semester in which a student earns course credit will be counted toward continuous enrollment.
- Noncredit courses, audited courses, failed courses, or courses from which the student withdraws do not count toward continuous enrollment.
- Failure to enroll in three consecutive regular (fall or spring) semesters breaks continuous enrollment for a student. Enrollment in the intervening summer terms may be used to maintain continuous enrollment status.
- If continuous enrollment is not maintained, the student must meet the requirements for graduation of the catalog in effect at the time they re-enroll or any subsequent catalog of continuous enrollment. Students enrolling or re-enrolled during a summer term must follow the following annual catalog or any subsequent catalog of continuous enrollment.

Time Limit for Coursework

In areas of study in which the subject matter changes rapidly, material in courses taken long before graduation may become obsolete or irrelevant. Coursework that is more than eight years old is applicable to completion of certificate and degree requirements at the discretion of the student's major department. Departments

may accept such coursework, reject it, or request that the student revalidate its substance. The eight-year limit on coursework applies except when program accreditation agencies limit the life of coursework to less than eight years. Departments may also require students to satisfy current major requirements rather than major requirements in earlier catalogs, when completing earlier requirements is no longer possible or educationally sound. There is no time limit for General Education Courses.

General Education Information

The Value of General Education

The Pima Community College general education philosophy is based on the belief that all students of higher learning will attain a common core of knowledge that transforms them from college applicants to college-educated citizens, who adapt personally, professionally, and societally to a fluid global culture and who value lifelong learning and civic responsibility.

The general education program provides a foundation in the following, upon which further studies can be undertaken successfully:

- Communication – Effectively communicate information, ideas and/or arguments appropriate to the audience and purpose.
- Critical and Creative Thinking – Identify and investigate problems and develop creative, practical, and ethical solutions by evaluating information and using appropriate methods of reasoning.
- Quantitative and Scientific Literacy and Analysis – Use mathematical and scientific processes, procedures, data, or evidence to solve problems.
- Information Literacy – Locate, evaluate, and use information from diverse sources in an effective and ethical manner.
- Diverse Cultural, Historical, and Global Perspectives – Demonstrate understanding of the values and influence of diverse cultural, historical, and global perspectives.

Preparation for General Education

To succeed in general education courses, students will need to attain college-level preparedness in reading, writing and mathematics.

General Education Requirements by Degree

The following list shows the minimum General Education credits needed for each type of degree program offered at Pima Community College. When considering which type of program is best for you, please note that if you intend to transfer to a university to complete a Bachelor of Arts (BA), Bachelor of Fine Arts (BFA), or Bachelor of Science (BS), the Associate of Arts (AA), Associate of Business Administration (ABUS), Associate of Fine Arts (AFA), and the Associate of Science (AS) are the degrees designed for that purpose. The Associate of General Studies (AGS), Associate of Applied Arts (AAA), and the Associate of Applied Science (AAS) degrees require different General Education courses.

A student who provides transcripts documenting an earned bachelor's degree from a regionally accredited institution will have the

general education requirements waived for a certificate or for an associate's degree as long as the student has a minimum of 60 credits applicable toward the degree, and has met all other graduation requirements. Any degree requirements which would apply toward both the prerequisite, major or support course requirements as well as general education requirements would still need to be met. If the student is pursuing a transfer degree, the degree would be awarded and the general education requirements would be waived, but the Arizona General Education Requirement (AGEC) certification would not be awarded.

Transfer Degrees

Minimum General Education Credits Needed

| | |
|--|----|
| Associate of Arts (AA) | 35 |
| Associate of Fine Arts (AFA) | 35 |
| Associate of Business Administration (ABUS)..... | 35 |
| Associate of Science (AS)..... | 35 |

Not Intended for Transfer

General Education Credits Needed

Career and Technical Education Degrees:

| | |
|--|-------|
| Associate of Applied Science (AAS) | 15-18 |
| Associate of General Studies (AGS) | 15-18 |

General Education Requirements for Career and Technical Education Programs and the Associate of General Studies

This section covers the General Education requirements for the following degrees:

- Associate of Applied Science Degree (AAS)
- Associate of General Studies Degree (AGS)

General Education Requirements for AAS and AGS Degrees:

Courses may not be used to complete more than one category. Some programs require specific courses for general education. See program displays.

| Requirements | Credit Hours |
|---|--------------|
| Communication Requirement..... | 3 |
| Arts & Humanities Requirement..... | 3-4 |
| Social & Behavioral Sciences Requirement..... | 3 |
| Mathematics or Laboratory Science Requirement | 3-4 |
| The Mathematics Competency Requirement must be met | |
| Other Requirement | 3-4 |
| Total General Education Credits Required | 15-18 |

Note: Some programs require specific courses for general education. See program displays.

Special Requirement

One course from the above categories must meet either Cultural Diversity or Global Awareness criteria (C or G designation from the

Arizona General Education Curriculum (AGEC) lists. The AGEC lists are found in the General Education Requirements for Transfer Programs following this section.

Communication Requirement (3 credits)

WRT 101†, 154, or GTW 101

Arts and Humanities Requirement (3-4 credits)

Any course from the AGEC Art list†

Any course from the AGEC Humanities list†

Any course from the AGEC Other Requirements Options: (c) Second Language list†

Social and Behavioral Sciences Requirement (3 credits)

Any course from the AGEC Social and Behavioral Sciences list†

Any course from the AGEC Other Requirement Options: (d) International and Multicultural Studies list†

Mathematics or Laboratory Science Requirement (3-4 credits)

Note: The Mathematics Competency must be met

Mathematics Category

Any course from the AGEC Mathematics List†

Any 3 credit or greater mathematics (MAT) course at the 100 level or higher

BUS 151 (if taken after Spring 2008)

GTM 105

Science Category

Any course from the AGEC Biological/Physical Science List†

Math Competency

The math competency can be met by any one of the following:

1. Completing one of the courses from the Mathematics Category listed above with a "C" or better
2. Any of the following cut scores on a Mathematics placement test
 - 85 or higher on the Accuplacer Elementary Math
 - 41 or higher on the Accuplacer College Level Math
 - 41 or higher on the Asset Elementary Algebra
 - 32 or higher on the Asset Intermediate Algebra
 - 32 or higher on the Asset College Algebra
 - 41 or higher on the Compass Math Algebra
 - 31 or higher on the Compass College Algebra
3. Completing MAT 092, 095 or 097 with a "C" or better **
4. Completing Module 26 in MAT 089A or MAT 089B**

† Suggested for students who may transfer.

** Credits earned in MAT 092, MAT 095, MAT 097, or Module 26-35 in MAT 089A/089B WILL NOT apply to general education, but completing one of these courses meets the math competency.

Other Requirement (See Program Display to determine which course is required for your program of study) (3-4 credits)

Additional Communication: CMN 102†, CMN 120†, JRN 101, or Communication courses from the above category.

Additional Arts, Humanities, Social Behavioral Sciences, Science, or Mathematics from the above categories

Computer Literacy: CIS/CSA 104 or CIS 120

General Education Requirements for Transfer Programs

This section covers the General Education requirements for the following degrees:

- Associate of Arts Degree (AA)
- Associate of Fine Arts (AFA)
- Associate of Business Administration Degree (ABUS)
- Associate of Science Degree (AS)

Arizona General Education Curriculum (AGEC)

The AGEC is a block of 35 or more credits and 11 or more courses that, when completed, can be transferred to meet all lower-division General Education requirements for bachelor's degrees at Arizona's public universities (Arizona State University, Northern Arizona University, and the University of Arizona). The AGEC may also meet other universities' General Education program requirements. At least six credits of AGEC coursework must be completed at Pima Community College to earn an AGEC at Pima. See an advisor or counselor for more information.

There are three AGECs available: the AGEC-A for Associate or Bachelor of Arts or Fine Arts degrees, the AGEC-B for the Associate or Bachelor of Business Administration degrees, and the AGEC-S for the Associate or Bachelor of Science degrees.

AGEC-A:

The AGEC-A may be applied to universities' Bachelor of Arts or Fine Arts degree programs. Follow the Guided Pathway for your Program of study or see an advisor or counselor to establish a degree plan using a university transfer guide. See the Liberal Arts Associate of Arts Degree for Transfer in this catalog for more information on choice of major.

AGEC-B:

The AGEC-B may be applied to universities' business administration degree programs. See the Associate Degree in Business Administration (ABUS) for more information on this major and see an advisor or counselor to establish a degree plan and to be sure of the AGEC pathway. Also, an AGEC-B fulfills the requirements for an AGEC-A.

AGEC-S:

The AGEC-S may be applied to universities' Bachelor of science degree programs. See the Associate of Science Degree for Transfer in this catalog and see an advisor to establish a degree plan and to be sure of the AGEC pathway. Also, an AGEC-S fulfills the requirements for an AGEC-A.

If the AGEC is not completed before a student transfers to another community college or university:

- The student cannot complete an AA, AFA, ABUS, or AS degree.
- The student may be required to take additional general education courses at the college or university.
- The credits will be evaluated individually by the college or university using the Course Equivalency Guide and accepted depending on the degree requirements



AGEC Categorical Requirements

The same course may not be used to complete more than one category, but it may meet both a category requirement and a Special Requirement. Request an AGECE check sheet from an advisor for more detailed information. Per Arizona statewide policies, no course substitutions are allowed in the AGECE.

| AGEC-A Categorical Requirements | Minimum Credit Hours |
|--|----------------------|
| English Composition (2 courses) The combination of WRT 101 or 101HC and 102 or 102HC (or WRT 107 and 108). | 6 |
| Humanities and Fine Arts (2 courses) One course from the Art list and one course from the Humanities list. | 6 |
| Biological & Physical Sciences (2 courses) Any two lab science courses from the Biological & Physical Sciences list. | 8 |
| Mathematics (1 course) MAT 141, 142, MAT 151, or any MAT course above 151. | 3 |
| Social & Behavioral Sciences (2 courses) Any two courses from two different prefixes in this category. | 6 |
| Other Requirements (2 courses) Courses from the Other Requirement Options, and/or one additional Humanities and Fine Arts, and/or one additional Social & Behavioral Science course. | 6 |
| Total AGECE-A General Education Credits Required: | 35 |

| AGEC-B Categorical Requirements | Minimum Credit Hours |
|---|----------------------|
| See the Associate Degree in Business Administration (ABUS) for more information. | |
| English Composition (2 courses) The combination of WRT 101 or 101HC and 102 or 102HC (or WRT 107 and 108). | 6 |
| Humanities and Fine Arts (2 courses) One course from the Art list and one course from the Humanities list. | 6 |
| Biological & Physical Sciences (2 courses) Any two lab science courses from the Biological & Physical Sciences list. | 8 |
| Mathematics (1 course) MAT 212 or MAT 220. | 3-5 |
| Social & Behavioral Sciences (2 courses) ECN 201 and a non-ECN course. | 6 |
| Other Requirements (2 courses) CIS 120 and ECN 202. | 8 |
| Total AGECE-B General Education Credits Required: | 37-39 |

| AGEC-S Categorical Requirements | Minimum Credit Hours |
|--|----------------------|
| English Composition (2 courses) The combination of WRT 101 or 101HC and 102 or 102HC (or WRT 107 and 108). | 6 |
| Humanities and Fine Arts (2 courses) One course from the Art list and one course from the Humanities list. | 6 |
| Biological & Physical Sciences (2 courses) The combination of BIO 181IN & 182IN or CHM 151IN & 152IN, or PHY 210IN & 216IN. | 8 |
| Mathematics (1 course) MAT 220 or above. | 3-5 |
| Social & Behavioral Sciences (2 courses) Two courses from two different prefixes in this category. | 6 |
| Other Requirements (2 courses) MAT courses above 220 and/or Science courses from the Biological and Physical Sciences list. | 6-8 |
| Total AGECE-S General Education Credits Required: | 35-41 |

AGECE Special Requirements

Students are required to take courses that meet each of the following:

- Intensive Writing and Critical Inquiry
- 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. Please see the College catalog for courses which satisfy the Intensive Writing/Critical Inquiry (I) requirement.
- Cultural Diversity highlighting ethnic, race, and/or gender awareness (C)
- One course emphasizing ethnic/race/gender awareness is required.
Please see the College catalog for courses which satisfy the (C) requirement.

- Global Awareness (G)
- One course emphasizing contemporary global/international awareness is required.
Please see the College catalog for courses which satisfy the (G) requirement.

AGEC special requirements can be completed in one, two or three courses. Look for the AGEC special requirement code (I, C, and G) in the course lists below. To avoid exceeding the 35 - 39 credits required for the AGEC; the student should choose some courses that satisfy both the AGEC special requirements and the category requirements. For example, HUM 253 fulfills a category requirement of Humanities and Fine Arts and the three AGEC special requirements: Intensive Writing and Critical Inquiry (I), Cultural Diversity (C), and Global Awareness (G). See an advisor or counselor for help in selecting courses.

AGEC Special Requirement Legend

- I** Satisfies Intensive Writing and Critical Inquiry Special Requirement
- C** Satisfies Cultural Diversity Special Requirement
- G** Satisfies Global Awareness Special Requirement

AGEC Categorical Requirement: English Composition (6 credits)

Complete two courses, either the combination of WRT 101 and 102 or WRT 107 and 108.

| Course Number | Course Title | Credit Hours | AGEC Special Requirement |
|---------------------------------------|---|--------------|--------------------------|
| WRT 101 or WRT 101HC or WRT 107 | English Composition I SUN# ENG 1101 English Composition I: Honors English Composition I for Non-Native Speakers of English | 3 | |
| WRT 102 or WRT 102HC or WRT 108 | English Composition II SUN# ENG 1102 English Composition II: Honors English Composition II for Non-Native Speakers of English | 3 | |

AGEC Categorical Requirement: Humanities and Fine Arts (6 credits)

Complete one course from the Art list and one course from the Humanities list.

Art List:

| Course Number | Course Title | Credit Hours | AGEC Special Requirement |
|---------------|---|--------------|--------------------------|
| ART 100 | Basic Design | 3 | |
| ART 105 | Exploring Art and Visual Culture | 3 | G |
| ART 106 | Survey of Painting Materials and Techniques | 3 | |
| ART 110 | Drawing I SUN# ART 1111 | 3 | |
| ART 115 | Color and Composition | 3 | |
| ART 120 | Sculptural Design SUN# ART 1115 | 3 | |
| DAR 250 | Computer 2D Animation: Adobe After Effects | 4 | |
| DAR 251 | Computer 3D Animation: Maya | 4 | |
| DAR 252 | Interactive Design I | 4 | |
| MUS 102 | Music Fundamentals | 3 | |
| MUS 108 | Pima Jazz Band I | 1* | |
| MUS 109 | Pima Jazz Band II | 1* | |
| MUS 111 | Exploring Music Through Piano | 3 | |
| MUS 116 | Pima CC Orchestra | 1* | |
| MUS 117 | Pima CC Orchestra II | 1* | |
| MUS 120 | Concert Band I | 1* | |
| MUS 121 | Concert Band II | 1* | |
| MUS 125† | Structure of Music I | 3 | |
| MUS 127† | Aural Perception I | 1* | |
| MUS 130 | Chorale (SATB) | 1* | |
| MUS 131 | College Singers (SATB) | 1* | |
| MUS 151 | Exploring Music | 3 | |
| MUS 160 | Popular Music in America | 3 | |
| THE 105 | Theater Appreciation | 3 | C |
| WRT 205 | Introduction to Poetry Writing | 3 | |
| WRT 206 | Short Story Writing | 3 | |
| ZTR** FA | AGEC Art Equivalent | 3 | |
| ZTR FAI | AGEC Art Equivalent | 3 | I |

| | | | |
|-----------|---------------------|---|-------|
| ZTR FAC | AGEC Art Equivalent | 3 | C |
| ZTR FAG | AGEC Art Equivalent | 3 | G |
| ZTR FAIC | AGEC Art Equivalent | 3 | I,C |
| ZTR FAIG | AGEC Art Equivalent | 3 | I,G |
| ZTR FACG | AGEC Art Equivalent | 3 | C,G |
| ZTR FAICG | AGEC Art Equivalent | 3 | I,C,G |

† MUS 125 and MUS 127 together are equivalent to MUS 120A at the University of Arizona.

* Three credits are required in this category. To meet the three credit requirement with this course it would need to either be repeated or combined with other courses in this category.

** ZTR - Courses transferred from another higher learning institution for which PCC does not have direct equivalent courses. These courses are evaluated by the Admissions and Records. FA refers to Fine Arts.

Humanities List:

| Course Number | Course Title | Credit Hours | AGEC Special Requirement |
|---------------|--|--------------|--------------------------|
| AIS 122 †† | Tohono O'odham History and Culture | 3 | C,G |
| AIS 124 †† | History and Culture of the Yaqui People | 3 | C,G |
| AIS 148 †† | History of Indians of North America | 3 | C,G |
| AIS 205 †† | Introduction to Southwestern Prehistory | 3 | C |
| AIS 206 †† | Contemporary Native Americans of the Southwest | 3 | C |
| ANT 112 | Exploring Non-Western Cultures | 3 | I,C,G |
| ANT 148 †† | History of Indians of North America | 3 | C,G |
| ANT 205 †† | Introduction to Southwestern Prehistory | 3 | C |
| ANT 206 †† | Contemporary Native Americans of the Southwest | 3 | C |
| ARC 205 †† | Introduction to Southwestern Prehistory | 3 | C |
| ART 130 | Art and Culture: Prehistory through Gothic SUN# ART 1101 | 3 | I,G |
| ART 131 | Art and Culture: Gothic through Modern Periods SUN# ART 1102 | 3 | I,G |
| HIS 101/101HC | Introduction to Western Civilization I | 3 | G |
| HIS 102/102HC | Introduction to Western Civilization II | 3 | G |
| HIS 113 | Chinese Civilization | 3 | G |
| HIS 114 | Japanese Civilization | 3 | G |
| HIS 122 †† | Tohono O'odham History and Culture | 3 | C,G |
| HIS 124 †† | History and Culture of the Yaqui People | 3 | C,G |
| HIS 141/141HC | History of the United States I | 3 | C,G |
| HIS 142/142HC | History of the United States II | 3 | C,G |
| HIS 148 †† | History of Indians of North America | 3 | C,G |
| HIS 160 | Latin America Before Independence | 3 | I,C,G |
| HIS 161 | Modern Latin America | 3 | I,C,G |
| HIS 274 | The Holocaust | 3 | G |
| HUM 251 | Western Humanities I | 3 | I,G |
| HUM 252 | Western Humanities II | 3 | I,G |
| HUM 253 | Western Humanities III | 3 | I,C,G |
| HUM 260 | Intercultural Perspectives | 3 | I,C |
| LIT 224 | Southwestern Literature | 3 | I,C |
| LIT 225 | Science Fiction Literature | 3 | I |
| LIT 231 | Introduction to Shakespeare | 3 | I |
| LIT 261/261HC | Modern Literature | 3 | I,C,G |
| LIT 262 | American Poets | 3 | I |
| LIT 265 | Major American Authors | 3 | I |
| LIT 280 | Introduction to Literature | 3 | I,C,G |
| LIT 289/289HC | Literature and Film | 3 | I |
| MUS 151 | Exploring Music | 3 | |
| MUS 160 | Popular Music in America | 3 | |
| MUS 201 | History and Literature of Music I | 3 | |
| MUS 202 | History and Literature of Music II | 3 | |
| PHI 101 | Introduction to Philosophy SUN# PHI 1101 | 3 | |
| PHI 122 | God, Mind, and Matter | 3 | |
| PHI 123 | Philosophical Foundations of Science | 3 | |
| PHI 130 | Intro Studies in Ethics & Social Philosophy SUN# PHI 1105 | 3 | |
| PHI 140 †† | Philosophy of Religion | 3 | |

| | | | |
|-----------|--|---|-------|
| REL 130 | Asian Religions | 3 | G |
| REL 140†† | Philosophy of Religion | 3 | |
| REL 200 | Religion in Popular Culture | 3 | C |
| REL 220 | Old Testament | 3 | |
| REL 221 | New Testament | 3 | |
| THE 140 | History of Theater to the 18th Century | 3 | |
| ZTR** HU | AGEC Humanities Equivalent | 3 | |
| ZTR HUI | AGEC Humanities Equivalent | 3 | I |
| ZTR HUC | AGEC Humanities Equivalent | 3 | C |
| ZTR HUG | AGEC Humanities Equivalent | 3 | G |
| ZTR HUIC | AGEC Humanities Equivalent | 3 | I,C |
| ZTR HUIG | AGEC Humanities Equivalent | 3 | I,G |
| ZTR HUCG | AGEC Humanities Equivalent | 3 | C,G |
| ZTR HUICG | AGEC Humanities Equivalent | 3 | I,C,G |

†† This course is cross-listed with (the same as) another course – only one will apply to meet AGEC, degree or certificate requirements. The course description will indicate the cross-listed course.

** ZTR - Courses transferred from another higher learning institution for which PCC does not have direct equivalent courses. These courses are evaluated by the Admissions and Records. HU refers to Humanities.

AGEC Categorical Requirement: Biological and Physical Sciences (8 credits)

Complete two courses with their labs. See your degree display for selection of the courses.

| Course Number | Course Title | Credit Hours | AGEC Special Requirement |
|-------------------|--|--------------|--------------------------|
| AST 101IN | Solar System | 4 | |
| AST 102IN | Stars, Galaxies, Universe | 4 | |
| AST 105IN | Life in the Universe | 4 | |
| BIO 100IN/100HC | Biology Concepts | 4 | |
| BIO 104IN | Animal Sexual Behavior | 4 | |
| BIO 105IN/105HC | Environmental Biology | 4 | |
| BIO 108IN | Plants, People, and Society | 4 | G |
| BIO 109IN | Natural History of the Southwest | 4 | |
| BIO 115IN | Wildlife of North America | 4 | |
| BIO 121IN | Current Issues in Human Biology | 4 | |
| BIO 127IN††/127HC | Human Nutrition and Biology | 4 | |
| BIO 135IN | Genetics, Biotechnology and Human Affairs | 4 | |
| BIO 156IN | Introductory Biology for Allied Health | 4 | |
| BIO 160IN | Introduction to Human Anatomy and Physiology | 4 | |
| BIO 181IN/181HC | General Biology (Majors) I SUN# BIO 1181 | 4 | |
| BIO 182IN/182HC | General Biology (Majors) II SUN# BIO 1182 | 4 | |
| BIO 183IN | Marine Biology | 4 | |
| BIO 184IN | Plant Biology | 4 | |
| BIO 201IH | Human Anatomy, Physiology and Histology | 4 | |
| BIO 201IN/201HC | Human Anatomy/Physiology I SUN# BIO 2201 | 4 | |
| BIO 202IN | Human Anatomy/Physiology II SUN# BIO 2202 | 4 | |
| BIO 205IN | Microbiology SUN# BIO 2205 | 4 | |
| CHM 121IN | Chemistry and Society | 4 | |
| CHM 130IN | Fundamental Chemistry SUN# CHM 1130 | 4 | |
| CHM 140IN | Fundamental Organic and Biochemistry SUN# CHM 2230 | 4 | |
| CHM 151IN | General Chemistry I SUN# CHM 1151 | 4 | |
| CHM 152IN | General Chemistry II SUN# CHM 1152 | 4 | |
| CHM 235IN | General Organic Chemistry I SUN# CHM 2235 | 4 | |
| CHM 236IN | General Organic Chemistry II SUN# CHM 2236 | 4 | |
| FSN 127IN††/127HC | Human Nutrition and Biology | 4 | |
| GEO 101IN | Physical Geography: Weather and Climate | 4 | |
| GEO 102IN | Physical Geography: Land Forms and Oceans | 4 | |
| GLG 101IN | Physical Geology SUN# GLG 1101 | 4 | |
| GLG 102IN | Historical Geology | 4 | |
| GLG 110IN | Geological Disasters and Environmental Geology | 4 | |
| PHY 121IN | Introductory Physics I SUN# PHY 1111 | 4 | |
| PHY 122IN | Introductory Physics II SUN# PHY 1112 | 4 | |

| | | | |
|-----------|--|---|-------|
| PHY 210IN | Introductory Mechanics SUN# PHY 1121 | 4 | |
| PHY 216IN | Introductory Electricity and Magnetism SUN# PHY 1131 | 4 | |
| PHY 221IN | Introduction to Waves and Heat | 3 | |
| ZTR** BP | AGEC Science Equivalent | 4 | |
| ZTR BPI | AGEC Science Equivalent | 4 | I |
| ZTR BPC | AGEC Science Equivalent | 4 | C |
| ZTR BPG | AGEC Science Equivalent | 4 | G |
| ZTR BPIC | AGEC Science Equivalent | 4 | I,C |
| ZTR BPIG | AGEC Science Equivalent | 4 | I,G |
| ZTR BPCG | AGEC Science Equivalent | 4 | C,G |
| ZTR BPICG | AGEC Science Equivalent | 4 | I,C,G |

†† This course is cross-listed with (the same as) another course – only one will apply to meet AGEC, degree or certificate requirements. The course description will indicate the cross-listed course.

** ZTR - Courses transferred from another higher learning institution for which PCC does not have direct equivalent courses. These courses are evaluated by the Admissions and Records. BP refers to Biological and Physical Sciences.

NOTE: The University of Arizona Natural Science General Education courses (NATS or science courses numbered 170A, B or C) do NOT fulfill Biological and Physical Science requirements.

AGEC Categorical Requirement: Mathematics (3 credits)

Complete three credits. The AGEC-A requires MAT 142, 144, 151 or above. The AGEC-B requires MAT 212 or 220. The AGEC-S requires MAT 220 or above. See the degree display for the selection of the appropriate course.

| Course Number | Course Title | Credit Hours | AGEC Special Requirement |
|---------------|---|--------------|--------------------------|
| BUS 205 | Statistical Methods in Economics & Business SUN# BUS 2201 | 3 | |
| MAT 141 | Topics in College Mathematics | 3 | |
| MAT 142 | Topics in College Mathematics | 3 | |
| MAT 151 | College Algebra SUN# MAT 1151 | 4 | |
| MAT 167 | Introductory Statistics SUN# MAT 1160 | 3 | |
| MAT 172 | Finite Mathematics | 3 | |
| MAT 188 | Precalculus I | 4 | |
| MAT 189 | Precalculus II | 3 | |
| MAT 212 | Topics in Calculus SUN# MAT 2212 | 3 | |
| MAT 220/220HC | Calculus I SUN# MAT 2220 | 5 | |
| MAT 227 | Discrete Mathematics in Computer Science SUN# MAT 2227 | 4 | |
| MAT 231/231HC | Calculus II SUN# MAT 2230 | 4 | |
| MAT 241 | Calculus III SUN# MAT 2241 | 4 | |
| MAT 252 | Introduction to Linear Algebra | 3 | |
| MAT 262 | Differential Equations SUN# MAT 2262 | 3 | |

AGEC Categorical Requirement: Social and Behavioral Sciences (6 credits)

Complete courses in two subject areas (at least two course prefixes).

| Course Number | Course Title | Credit Hours | AGEC Special Requirement |
|---------------|--|--------------|--------------------------|
| AIS 101 | Introduction to American Indian Studies | 3 | |
| AIS 122†† | Tohono O'odham History and Culture | 3 | C,G |
| AIS 124†† | History and Culture of the Yaqui People | 3 | C,G |
| AIS 148†† | History of Indians of North America | 3 | C,G |
| AIS 205†† | Introduction to Southwestern Prehistory | 3 | C |
| AIS 206†† | Contemporary Native Americans of the Southwest | 3 | C |
| ANT 206†† | Contemporary Native Americans of the Southwest | 3 | C |
| AJS 225 | Criminology | 3 | |
| ANT 101†† | Human Origins and Prehistory | 3 | |
| ANT 102 | Introduction to Cultural Anthropology and Linguistics | 3 | G |
| ANT 110†† | Buried Cities and Lost Tribes | 3 | |
| ANT 112 | Exploring Non-Western Cultures | 3 | I,C,G |
| ANT 127†† | History & Culture of the Mexican-American in the Southwest | 3 | I,C,G |
| ANT 148†† | History of Indians of North America | 3 | C,G |
| ANT 202 | Sexuality, Gender, and Culture | 3 | C |

| | | | |
|---------------|---|---|-------|
| ANT 205†† | Introduction to Southwestern Prehistory | 3 | C |
| ANT 206†† | Contemporary Native Americans of the Southwest | 3 | C |
| ANT 210 | Cultural Anthropology | 3 | I,G |
| ARC 101†† | Human Origins and Prehistory | 3 | |
| ARC 110†† | Buried Cities and Lost Tribes | 3 | |
| ARC 205†† | Introduction to Southwestern Prehistory | 3 | C |
| ECE 107 | Human Development and Relations | 3 | |
| ECE 117 | Child Growth and Development | 3 | |
| ECN 150/150HC | An Economics Perspective | 3 | G |
| ECN 201/201HC | Microeconomic Principles SUN# ECN 2202 | 3 | |
| ECN 202/202HC | Macroeconomic Principles SUN# ECN 2201 | 3 | |
| GEO 103 | Cultural Geography | 3 | G |
| GEO 104 | World Regional Geography | 3 | G |
| GLS 110 | Intro to Cities and Global Society | 3 | G |
| GWS 202 | Sexuality, Gender and Culture | 3 | C |
| HIS 101/101HC | Introduction to Western Civilization I | 3 | G |
| HIS 102/102HC | Introduction to Western Civilization II | 3 | G |
| HIS 105†† | Introduction to Chicano Studies | 3 | C,G |
| HIS 113 | Chinese Civilization | 3 | G |
| HIS 114 | Japanese Civilization | 3 | G |
| HIS 122†† | Tohono O'odham History and Culre | 3 | C,G |
| HIS 124†† | History & Culture of the Yaqui People | 3 | C,G |
| HIS 127†† | History & Culture of the Mexican-American in the Southwest | 3 | I,C,G |
| HIS 141/141HC | History of the United States I SUN# HIS 1131 | 3 | C,G |
| HIS 142/142HC | History of the United States II SUN# HIS 1132 | 3 | C,G |
| HIS 147 | History of Arizona | 3 | C |
| HIS 148†† | History of Indians of North America | 3 | C,G |
| HIS 160 | Latin America Before Independence | 3 | I,C,G |
| HIS 161 | Modern Latin America | 3 | I,C,G |
| HIS 180 | Women in Western History | 3 | C |
| HIS 254 | History of Women in the United States: The 20th Century | 3 | C |
| HIS 274 | The Holocaust | 3 | G |
| HUM 260 | Intercultural Perspectives | 3 | I,C |
| JRN 102 | Survey of Media Communications | 3 | G |
| LIS 150 | Social Media and Ourselves | 3 | |
| MAS 105†† | Introduction to Chicano Studies | 3 | C,G |
| MAS 127†† | History & Culture of the Mexican-American in the Southwest | 3 | I,C,G |
| PHI 101 | Introduction to Philosophy SUN# PHI 1101 | 3 | |
| PHI 130 | Introductory Studies in Ethics & Social Philosophy SUN# PHI 1105 | 3 | |
| PHI 140†† | Philosophy of Religion | 3 | |
| POS 100 | Introduction to Politics | 3 | |
| POS 201 | American National Government and Politics SUN# POS 1110 | 3 | C |
| POS 202 | Introduction to International Relations SUN# POS 1120 | 3 | G |
| POS 203 | Introduction to Political Ideas | 3 | I |
| POS 204 | Intro to Comparative Politics SUN# POS 2204 | 3 | C,G |
| POS 210 | National and State Constitutions | 3 | |
| POS 231 | American State & Local Governments & Politics | 3 | C |
| POS 240 | Understanding Terrorism | 3 | |
| PSY 101/101HC | Introduction to Psychology SUN# PSY 1101 | 3 | |
| PSY 132 | Psychology and Culture | 3 | G |
| PSY 215†† | Human Sexuality | 3 | C,G |
| PSY 216 | Psychology of Gender | 3 | C |
| PSY 218 | Health Psychology | 3 | |
| PSY 230 | Psychological Measurements and Statistics | 3 | |
| PSY 240 | Developmental Psychology | 3 | |
| REL 140†† | Philosophy of Religion | 3 | |
| REL 200 | Religion in Popular Culture | 3 | C |
| REL 220 | Old Testament | 3 | |
| REL 221 | New Testament | 3 | |
| SOC 101 | Introduction to Sociology SUN# SOC 1101 | 3 | C |
| SOC 110 | Intro to Cities and Global Society | 3 | G |

| | | | |
|-----------|---|---|-------|
| SOC 120 | Current Social Problems SUN# SOC 2250 | 3 | C,G |
| SOC 201 | Race, Ethnicity, Minority Groups & Social Justice SUN# SOC 2215 | 3 | C |
| SOC 204 | Gender Identities, Interactions, and Relations | 3 | C |
| SOC 215†† | Human Sexuality | 3 | C,G |
| SSE 110 | Introduction to Social Welfare | 3 | |
| ZTR** SB | AGEC Social and Behavioral Sciences Equivalent | 3 | |
| ZTR SBI | AGEC Social and Behavioral Sciences Equivalent | 3 | I |
| ZTR SBC | AGEC Social and Behavioral Sciences Equivalent | 3 | C |
| ZTR SBG | AGEC Social and Behavioral Sciences Equivalent | 3 | G |
| ZTR SBIC | AGEC Social and Behavioral Sciences Equivalent | 3 | I,C |
| ZTR SBIG | AGEC Social and Behavioral Sciences Equivalent | 3 | I,G |
| ZTR SBCG | AGEC Social and Behavioral Sciences Equivalent | 3 | C,G |
| ZTR SBICG | AGEC Social and Behavioral Sciences Equivalent | 3 | I,C,G |

†† This course is cross-listed with (the same as) another course – only one will apply to meet AGEC, degree or certificate requirements. The course description will indicate the cross-listed course.

** ZTR - Courses transferred from another higher learning institution for which PCC does not have direct equivalent courses. These courses are evaluated by the Admissions and Records. SB refers to Social and Behavioral Sciences.

AGEC Categorical Requirement: Other Requirement Options (6 credits)

Complete all six credits from the courses listed below, or include up to 3 credits from Humanities and Fine Arts and/or 3 credits from Social and Behavioral Sciences.

a) Oral Communication

| Course Number | Course Title | Credit Hours | AGEC Special Requirement |
|---------------|--|--------------|--------------------------|
| CMN 102 | Introduction to Speech Communication SUN# COM 1100 | 3 | C |
| CMN 110 | Public Speaking | 3 | C |
| CMN 120 | Business/Professional Comm. | 3 | C,G |
| CMN 130 | Small Group Discussion SUN# COM 2271 | 3 | |
| ZTR SP | AGEC Speech Equivalent | 3 | |
| ZTR SPI | AGEC Speech Equivalent | 3 | I |
| ZTR SPC | AGEC Speech Equivalent | 3 | C |
| ZTR SPG | AGEC Speech Equivalent | 3 | G |
| ZTR SPIC | AGEC Speech Equivalent | 3 | I,C |
| ZTR SPIG | AGEC Speech Equivalent | 3 | I,G |
| ZTR SPCG | AGEC Speech Equivalent | 3 | C,G |
| ZTR SPICG | AGEC Speech Equivalent | 3 | I,C,G |

b) Computer Science, Critical Thinking, Logic, Mathematics or Science:

| Course Number | Course Title | Credit Hours | AGEC Special Requirement |
|---------------|--|--------------|--------------------------|
| ANT 102 | Introduction to Cultural Anthropology and Linguistics | 3 | G |
| BUS 148 | Ethics in the Workplace | 3 | |
| CIS 120 | Computer Applications for Business SUN# CIS 1120 | 3 | |
| FSN 154 | Nutrition | 3 | |
| Math | Any Mathematics course numbered 141, 142, or 151 and above | 3 | |
| PHI 120 | Introduction to Logic SUN# PHI 1103 | 3 | |
| PHI 123 | Philosophical Foundations of Science | 3 | |
| POS 100 | Introduction to Politics | 3 | |
| Science | Any Science course listed under Biological and Physical Sciences | | |
| ZTR CS | AGEC Computer Science Equivalent | 3 | |
| ZTR CSI | AGEC Computer Science Equivalent | 3 | I |
| ZTR CSC | AGEC Computer Science Equivalent | 3 | C |
| ZTR CSG | AGEC Computer Science Equivalent | 3 | G |
| ZTR CSIC | AGEC Computer Science Equivalent | 3 | I,C |
| ZTR CSIG | AGEC Computer Science Equivalent | 3 | I,G |
| ZTR CSCG | AGEC Computer Science Equivalent | 3 | C,G |
| ZTR CSICG | AGEC Computer Science Equivalent | 3 | I,C,G |
| ZTR LO | AGEC Logic Equivalent | 3 | |
| ZTR LOI | AGEC Logic Equivalent | 3 | I |

| | | | |
|-----------|-----------------------|---|-------|
| ZTR LOC | AGEC Logic Equivalent | 3 | C |
| ZTR LOG | AGEC Logic Equivalent | 3 | G |
| ZTR LOIC | AGEC Logic Equivalent | 3 | I,C |
| ZTR LOIG | AGEC Logic Equivalent | 3 | I,G |
| ZTR LOCG | AGEC Logic Equivalent | 3 | C,G |
| ZTR LOICG | AGEC Logic Equivalent | 3 | I,C,G |

c) Second Language:

| Course Number | Course Title | Credit Hours | AGEC Special Requirement |
|---------------|--|--------------|--------------------------|
| ARB 101 | Elementary Modern Standard Arabic I | 4 | |
| ARB 102 | Elementary Modern Standard Arabic II | 4 | |
| ASL 101 | American Sign Language I | 4 | C |
| ASL 102 | American Sign Language II | 4 | C |
| ASL 201 | American Sign Language III | 4 | C |
| ASL 202 | American Sign Language IV | 4 | C |
| CHI 101 | Elementary Chinese (Mandarin) I SUN# CHI 1101 | 5 | |
| CHI 102 | Elementary Chinese (Mandarin) II SUN# CHI 1102 | 5 | |
| CHI 201 | Intermediate Chinese (Mandarin) I SUN# CHI2201 | 5 | G |
| FRE 101 | Elementary French I SUN# FRE 1101 | 4 | |
| FRE 102 | Elementary French II SUN# FRE 1102 | 4 | |
| FRE 201 | Intermediate French I SUN# FRE 2201 | 4 | G |
| FRE 202 | Intermediate French II SUN # FRE 2202 | 4 | G |
| GER 101 | Elementary German I SUN# GER 1101 | 4 | |
| GER 102 | Elementary German II SUN# GER 1102 | 4 | |
| GER 201 | Intermediate German I SUN# GER 2201 | 4 | G |
| GER 202 | Intermediate German II SUN# GER 2202 | 4 | G |
| JPN 101 | Elementary Japanese SUN# JPN 1101 | 5 | |
| JPN 102 | Elementary Japanese II SUN# JPN 1102 | 5 | |
| JPN 201 | Intermediate Japanese I SUN# JPN 2201 | 5 | G |
| JPN 202 | Intermediate Japanese II SUN# JPN 2202 | 5 | G |
| KOR 101 | Elementary Korean I | 4 | |
| KOR 102 | Elementary Korean II | 4 | |
| SPA 101/101HN | Elementary Spanish I SUN# SPA 1101 | 4 | |
| SPA 102/102HN | Elementary Spanish II SUN# SPA 1102 | 4 | |
| SPA 103 | Beginning Spanish for Heritage and Bilingual Learners | 4 | G |
| SPA 201/201HN | Intermediate Spanish I SUN# SPA 2201 | 4 | G |
| SPA 202/202HN | Intermediate Spanish II SUN# SPA 2202 | 4 | G |
| SPA 203 | Writing and Oral Skills for Heritage and Bilingual Learners | 4 | G |
| SPA 253 | Intermediate Spanish for Heritage and Bilingual Learners | 4 | G |
| SPA 254 | Intermediate Grammar/ Writing for Heritage and Bilingual Learners | 4 | G |
| ZTR LA | AGEC Language Equivalent | 3 | |
| ZTR LAI | AGEC Language Equivalent | 3 | I |
| ZTR LAC | AGEC Language Equivalent | 3 | C |
| ZTR LAG | AGEC Language Equivalent | 3 | G |
| ZTR LAIC | AGEC Language Equivalent | 3 | I,C |
| ZTR LAIG | AGEC Language Equivalent | 3 | I,G |
| ZTR LACG | AGEC Language Equivalent | 3 | C,G |
| ZTR LAICG | AGEC Language Equivalent | 3 | I,C,G |

d) International and Multi-Cultural Studies:

| Course Number | Course Title | Credit Hours | AGEC Special Requirement |
|---------------|--|--------------|--------------------------|
| AIS 122++ | Tohono O'odham History & Culture | 3 | C,G |
| AIS 124++ | History and Culture of the Yaqui People | 3 | C,G |
| AIS 148++ | History of Indians of North America | 3 | C,G |
| AIS 205++ | Introduction to Southwestern Prehistory | 3 | C |
| AIS 206++ | Contemporary Native Americans of the Southwest | 3 | C |
| ANT 102 | Introduction to Cultural Anthropology and Linguistics | 3 | G |
| ANT 112 | Exploring Non-Western Cultures | 3 | I,C,G |
| ANT 127++ | History & Culture of the Mexican-American in the Southwest | 3 | I,C,G |
| ANT 148++ | History of Indians of North America | 3 | C,G |
| ANT 202 | Sexuality, Gender, and Culture | 3 | C |

| | | | |
|---------------|---|---|-------|
| ANT 205†† | Introduction to Southwestern Prehistory | 3 | C |
| ANT 206†† | Contemporary Native Americans of the Southwest | 3 | C |
| ANT 210 | Cultural Anthropology | 3 | I,G |
| ARC 205†† | Introduction to Southwestern Prehistory | 3 | C |
| ART 105 | Exploring Art and Visual Culture | 3 | G |
| ART 130 | Art & Culture: Prehistory to Gothic SUN# ART 1101 | 3 | I,G |
| ART 131 | Art & Culture: Late Gothic to Modern Periods SUN# ART 1102 | 3 | I,G |
| BIO 108IN | Plants, People and Society | 4 | G |
| BIO 250 | Biomedical Ethics | 3 | G |
| BUS 210 | International Business | 3 | G |
| GEO 103 | Cultural Geography | 3 | G |
| GEO 104 | World Regional Geography | 3 | G |
| GLS 110†† | Introduction to Cities and Global Society | 3 | G |
| GWS 202 | Sexuality, Gender and Culture | 3 | C |
| HIS 101/101HC | Introduction to Western Civilization I | 3 | G |
| HIS 102/102HC | Introduction to Western Civilization II | 3 | G |
| HIS 105†† | Introduction to Chicano Studies I | 3 | C,G |
| HIS 113 | Chinese Civilization | 3 | G |
| HIS 114 | Japanese Civilization | 3 | G |
| HIS 122†† | Tohono O'odham History and Culture | 3 | C,G |
| HIS 124†† | History & Culture of the Yaqui People | 3 | C,G |
| HIS 127†† | History & Culture of the Mexican-American in the Southwest | 3 | I,C,G |
| HIS 141/141HC | History of the United States I SUN# HIS 1131 | 3 | C,G |
| HIS 142/142HC | History of the United States II SUN# HIS 1132 | 3 | C,G |
| HIS 147 | History of Arizona | 3 | C |
| HIS 148†† | History of Indians of North America | 3 | C,G |
| HIS 160 | Latin America Before Independence | 3 | I,C,G |
| HIS 161 | Modern Latin America | 3 | I,C,G |
| HIS 180 | Women in Western History | 3 | C |
| HIS 254 | History of Women in the United States: The 20th Century | 3 | C |
| HIS 274 | The Holocaust | 3 | G |
| HUM 251 | Western Humanities I | 3 | I,G |
| HUM 252 | Western Humanities II | 3 | I,G |
| HUM 253 | Western Humanities III | 3 | I,C,G |
| HUM 260 | Intercultural Perspectives | 3 | I,C |
| JRN 102 | Survey of Media Communications | 3 | G |
| LIT 224 | Southwestern Literature | 3 | I,C |
| LIT 261/261HC | Modern Literature | 3 | I,C,G |
| MAS 105†† | Introduction to Chicano Studies I | 3 | C,G |
| MAS 127†† | History & Culture of the Mexican-American in the Southwest | 3 | I,C,G |
| POS 201 | American National Government and Politics SUN# POS 1110 | 3 | C |
| POS 202 | Introduction to International Relations SUN# POS 1120 | 3 | G |
| POS 204 | Introduction to Comparative Politics SUN# POS 2204 | 3 | C,G |
| POS 231 | American State & Local Governments & Politics | 3 | C |
| PSY 132 | Psychology and Culture | 3 | G |
| PSY 215†† | Human Sexuality | 3 | C,G |
| PSY 216 | Psychology of Gender | 3 | C |
| REL 119 | Judaism, Christianity and Islam | 3 | G |
| REL 130 | Asian Religions | 3 | G |
| REL 200 | Religion in Popular Culture | 3 | C |
| SOC 101 | Introduction to Sociology SUN# SOC 1101 | 3 | C |
| SOC 110†† | Introduction to Cities and Global Society | 3 | G |
| SOC 120 | Current Social Problems SUN# SOC2250 | 3 | C,G |
| SOC 201 | Race, Ethnicity, Minority Groups & Social Justice SUN# SOC 2215 | 3 | C |
| SOC 204 | Identities, Interaction, and Relations | 3 | C |
| SOC 215†† | Human Sexuality | 3 | C,G |
| THE 105 | Theater Appreciation | 3 | C |
| ZTR MC | AGEC Multicultural Equivalent | 3 | |

†† This course is cross-listed with (the same as) another course – only one will apply to meet AGEC, degree or certificate requirements. The course description will indicate the cross-listed course.



Educational Programs, Degrees and Certificates

Degrees and Certificates Definitions

The current educational programs are listed below with the name of the degree or certificate, the award type, the program code, the major code, and any concentration codes associated with the program. These codes identify the student's program of study in their student record and in MyDegreePlan. If a student is uncertain about which codes to use or for information on programs without program codes, please see an advisor or counselor.

There is an additional column entitled Lead Campus in the Occupational Program list. The lead campus is the only campus to offer all courses required for the certificate or degree. Other campuses may offer introductory course(s) for the certificate or degree. Check the class schedule for the courses offered on each campus or see an advisor or counselor.

Although the Transfer Programs do not have a lead campus, transfer program's core/major courses and some general education courses may not be offered on every campus. Check the class schedule or see an advisor or counselor.

The definitions of the abbreviations in the Award column are:

AA Associate of Arts for Transfer

An Associate of Arts is a credit degree of 60-64 credits for transfer to a college or university into majors related to arts, humanities, social and behavioral science, and education. The AA includes an Arizona General Education Curriculum (AGEC)-A. See General Education Requirements for Transfer Program section for more information on AGECE.

ABUS Associate of Business for Transfer

An Associate of Business Administration is a credit degree of 60-64 credits for transfer to a college or university into a business or business-related major. The ABUS includes an Arizona General Education Curriculum (AGEC)-B. See the General Education Requirements for Transfer Programs section for more information on AGECE.

AFA Associate of Fine Arts for Transfer

An Associate of Fine Arts is a credit degree of 60-64 credits for transfer to a college or university into majors related to fine arts. The AFA includes an Arizona General Education Curriculum (AGEC)-A. See General Education Requirements for Transfer Program section for more information on AGECE.

AS Associate of Science for Transfer

An Associate of Science is a credit degree of 60-64 credits for transfer to a college or university into a science or science-related major. The AS includes an Arizona General Education Curriculum (AGEC)-S. See the General Education Requirements for Transfer Programs section for more information on AGECE.

AGS Associate of General Studies

An Associate of General Studies is a credit degree of 60 credits designed by the student. If planning to seek employment or to transfer, the student should develop a plan of study with an advisor or counselor.

AAS Associate of Applied Science for Direct Employment

An Associate of Applied Science is a credit degree of at least 60 credits for direct employment into jobs requiring skills and competencies in the technologies, business, government and public service, and health-related professions.

CERT Credit Certificate

A credit certificate is offered in a specific field of study of less than 60 credits for direct employment into a job or for transfer to a college or university.

CTD Clock Hour Certificate

A Clock Hour Certificate is offered in a specific field of study for direct employment into a job. The program is non-credit clock hour rather than credit.

CERA Post-Degree Certificate

A Post-Degree Certificate is a credit certificate in a specific field of study of less than 60 credits for direct employment into a job. An Associate's Degree or a Bachelor's Degree (depending on the program) is required before beginning a Post-Degree Certificate. See program display for specific requirements.

Lists of Credit Degrees and Certificates

There are three lists of credit certificates and degrees:

- Career and Technical Education (CTE) Programs (WFD, CTD, CERT, CERA, and AAS)
- General Studies Programs (AGS)
- Transfer Programs (CERT, AA, AB, AFA and AS)

Campus legend:

| | | |
|----|---|---------------------|
| CC | = | Community Campus |
| DV | = | Desert Vista Campus |
| DC | = | Downtown Campus |
| EC | = | East Campus |
| NW | = | Northwest Campus |
| WC | = | West Campus |

Career and Technical Education Programs

| Program | Award | Program Code | Major Code | Concentration Code | Lead Campus* |
|---|-------|-----------------------------|------------|--------------------|--------------|
| Accounting | | | | | |
| Accounting-Enrolled Agent | CERT | CRTACE | ACE | | WC |
| Accounting-Bookkeeping | CERT | CRTACT | ACT1 | | WC |
| Accounting | AAS | AASACCOUNTIN | ACC | | WC |
| Archaeology | | | | | |
| Field Archaeology | CERT | CRTARF | ARF1 | | WC |
| Automotive Technology | | | | | |
| Automotive Mechanics | CERT | CRTAUTOMECHS | AUM | | DC |
| Automotive Technology | AAS | AASAUTOTECHN | AUT | | DC |
| Aviation Technology | | | | | |
| Aviation Technology | AAS | Special Admissions** | | | DV |
| Concentrations: | | | | | |
| Aircraft Airframe Mechanics | | | | | |
| Aircraft Powerplant Mechanics | | | | | |
| Aircraft Structural Repair | | | | | |
| Aircraft General Mechanics | CERT | Special Admissions** | | | DV |
| Aircraft Airframe Mechanics | CERT | Special Admissions** | | | DV |
| Aircraft Powerplant Mechanics | CERT | Special Admissions** | | | DV |
| Aircraft Structural Repair | CERT | Special Admissions** | | | DV |
| Avionics Technician | CERT | Special Admissions** | | | DV |
| Behavioral Health Services | | | | | |
| Behavioral Health Services | CERT | CRTBHS | BHS1 | | DV |
| Bioscience Laboratory Technician | | | | | |
| Biosciences Laboratory Technician | CERT | CRTBLT | BLT | | NW |

* The lead campus is the only campus to offer all courses required for the certificate or degree. Other campuses may offer only introductory course(s) for the certificate or degree. Check the class schedule for the courses offered on each campus.

** Special Admissions Requirements—See an advisor

Career and Technical Education Programs *(continued)*

| Program | Award | Program Code | Major Code | Concentration Code | Lead Campus* |
|---|-------|-------------------------------|------------|--------------------|--------------|
| Building and Construction Technologies | | | | | |
| Building & Construction Technologies | AAS | AASBCT | BCT1 | | DC |
| Cabinetmaker | CERT | CRTCMK | CMK1 | | DC |
| Carpenter | CERT | CRTCPT | CPT1 | | DC |
| Electrician | CERT | CRTELE | ELE1 | | DC |
| HVAC-R Technician | CERT | CRTHVA | HVA1 | | DC |
| Plumber | CERT | CRTPLM | PLM1 | | DC |
| Business | | | | | |
| Basic Business | CERT | CRTBUSINES-B | BUB1 | | EC |
| Advanced Business | CERT | CRTBUSINES-A | BUA1 | | EC |
| Business | AAS | AASBUS | BUS1 | | EC |
| Clinical Research Trial Coordinator | | | | | |
| Clinical Research Coordinator | AAS | Special Admissions** | | | NW |
| Computer-Aided Design Technology | | | | | |
| Computer-Aided Design | AAS | AASELECMECHN | CAD1 | | DC |
| Concentrations: | | | | | |
| Construction | | | | DFTC | |
| Mechanical/Electro-Mechanical | | | | DFTA | |
| CAD Technician | CERT | CRTCDT | CDT1 | | DC |
| Civil Engineering CAD Technician | CERT | CRTCIV | CIV1 | | DC |
| Revit Technician | CERT | CRTREV | REV1 | | DC |
| SolidWorks Designer | CERT | CRTSWD | SWD1 | | DC |
| Architectural Technician | CERT | CRTACH | ACH1 | | DC |
| Mechanical Designer/CNC Programmer | CERT | CRTMDC | MDC1 | | DC |
| Mechanical/Electro-Mechanical Designer | CERT | CRTMEM | MEM1 | | DC |
| Computer Information Systems | | | | | |
| Computer Programmer/Analyst | AAS | AASCPM | CPM | | EC/WC |
| Concentrations: | | | | | |
| Applied Programming | | | | CPMA | |
| Cyber Operations Programming | | | | CPMC | |
| Systems Administration/Networking | AAS | AASCOMPSYSAD | CSN1 | | EC/WC |
| Culinary Arts | | | | | |
| Culinary Fundamentals | CERT | Special Admissions** | | | DV |
| Advanced Culinary Arts | CERT | Special Admissions** | | | DV |
| Culinary Arts | AAS | Special Admissions** | | | DV |
| Dental Studies | | | | | |
| Dental Assisting Education | CERT | Selective Admissions** | | | WC |
| Dental Hygiene | AAS | Selective Admissions** | | | WC |
| Dental Laboratory Technology | AAS | Selective Admissions** | | | WC |
| Digital Arts | | | | | |
| Digital Arts | AAS | AASCOMMGRAPH | DAR1 | | WC |
| Concentrations: | | | | | |
| Design | | | | DARD | |
| Web Design | | | | DARW | |
| Digital Film Arts and Animation | AAS | AASDAA | DAA | | WC |

* The lead campus is the only campus to offer all courses required for the certificate or degree. Other campuses may offer only introductory course(s) for the certificate or degree. Check the class schedule for the courses offered on each campus.

** Special Admissions Requirements—See an advisor

Career and Technical Education Programs *(continued)*

| Program | Award | Program Code | Major Code | Concentration Code | Lead Campus* |
|--|-------|-----------------------------|------------|--------------------|--------------|
| Concentrations: | | | | | |
| Digital and Film Arts Digital Animation | | | | DAAF DAAA | |
| Digital Game & Simulation | AAS | AASDAG | DAG1 | | WC |
| Concentrations: | | | | | |
| Digital Animation and Production Digital Programming | | | | DAGA DAGP | |
| Education | | | | | |
| Early Childhood Education and Child Development Associate | | | | | |
| Early Childhood Studies - Child Development Associate (CDA) Preparation | CERT | Special Admissions** | | | DV |
| Early Childhood Assistant Educator | CERT | Special Admissions** | | | DV |
| Early Childhood Studies | AAS | Special Admissions** | | | DV |
| Teacher Education | | | | | |
| Elementary Certification | CERA | Special Admissions** | | | DV |
| Secondary Certification | CERA | Special Admissions** | | | DV |
| Special Education Mild-Moderate Disability Certification | CERA | Special Admissions** | | | DV |
| Special Education Mild-Moderate Disability Certification for Certified Teachers | CERA | Special Admissions** | | | DV |
| Emergency Medical Technology | | | | | |
| Emergency Medical Technology | CERT | Special Admissions** | | | EC |
| EMT Paramedic | AAS | Special Admissions** | | | EC |
| Fashion Design | | | | | |
| Fashion Design | CERT | CRTFDC | FDC | | WC |
| Fire Science | | | | | |
| Fire Science Academy Track | CERT | Special Admissions** | | | CC |
| Fire & Emergency Services Higher Education (FESHE) | AAS | Special Admissions** | | | CC |
| Fitness and Sport Sciences | | | | | |
| Fitness Professional | CERT | CRTFITNESS | FSP1 | | WC |
| Fitness and Wellness Specialist | CERT | CRTFWS | FWS | | WC |
| Health Information Management | | | | | |
| Health Information Technology | AAS | AASOAH | OAH1 | | DC |
| Medical Billing and Coding | CERT | CRTMBC | MBC | | DC |
| Hotel and Restaurant Management | | | | | |
| Hotel and Restaurant Management | CERT | CRTHRM | HRC | | NW |
| Human Resources | | | | | |
| Human Resources | CERT | CRTHUMANRES | HRS1 | | CC |
| Justice Professions | | | | | |
| Law Enforcement Academy | CERT | Special Admissions** | | | CC |
| Justice Professions | AAS | AASJUS | JUS | | EC |
| Concentrations: | | | | | |
| Administration of Justice Law Enforcement | | Special Admissions** | | JUSD | |

* The lead campus is the only campus to offer all courses required for the certificate or degree. Other campuses may offer only introductory course(s) for the certificate or degree. Check the class schedule for the courses offered on each campus.

** Special Admissions Requirements—See an advisor

Career and Technical Education Programs *(continued)*

| Program | Award | Program Code | Major Code | Concentration Code | Lead Campus* |
|---|-------|-----------------------------|------------|--------------------|--------------|
| Logistics and Supply Chain Management | | | | | |
| Logistics and Supply Chain Management (Basic) | CERT | CRTLGC | LGC1 | | EC |
| Logistics and Supply Chain Management | AAS | AASLGM | LGM1 | | EC |
| Legal Assistant | | | | | |
| See Paralegal | | | | | |
| Machine Tool Technology | | | | | |
| Machine Tool Technology | AAS | AASMAC | MAC1 | | DC |
| Machining Inspection and Quality Assurance | CERT | CRTMIN | MIN | | DC |
| Computer Numerical Control (CNC) Operator | CERT | CRTCNO | CNO | | DC |
| Massage | | | | | |
| See Therapeutic Massage | | | | | |
| Medical Assistant | | | | | |
| Medical Assistant | CERT | Special Admissions** | | | DV |
| Medical Laboratory Technician | | | | | |
| Medical Laboratory Technician | AAS | Special Admissions** | | | WC |
| Nursing | | | | | |
| Associate Degree Nursing | AAS | Special Admissions** | | | WC |
| Paralegal | | | | | |
| Paralegal | AAS | AASLEGALASST | LAS1 | | DC |
| Paralegal | CERA | Special Admissions** | | | DC |
| Pharmacy Technology | | | | | |
| Pharmacy Technology | CERT | Special Admissions** | | | NW |
| Phlebotomy | | | | | |
| Phlebotomy | CERT | Special Admissions** | | | DV |
| Radiologic Technology | | | | | |
| Radiologic Technology | AAS | Special Admissions** | | | WC |
| Respiratory Care | | | | | |
| Respiratory Care | AAS | Special Admissions** | | | WC |
| Social Services | | | | | |
| Social Services | AAS | AASSOCIALSRV | SSE1 | | WC |
| Substance Use Disorder Specialty | AAS | AASSUBSTABUS | SSS | | WC |
| Basic Social Services | CERT | CRTSOCIALSRV | SSC | | WC |
| Substance Use Disorder | CERT | CRTSUBSTABUS | SSA | | WC |
| Community Health Advisor | CERT | CRTHEALTHADV | CHA | | WC |
| Therapeutic Massage | | | | | |
| Therapeutic Massage | CERT | Special Admissions** | | | NW |
| Translation and Interpretation Studies | | | | | |
| Translation & Interpretation Studies | CERT | Special Admissions** | | | DC |

* The lead campus is the only campus to offer all courses required for the certificate or degree. Other campuses may offer only introductory course(s) for the certificate or degree. Check the class schedule for the courses offered on each campus.

** Special Admissions Requirements—See an advisor

Career and Technical Education Programs *(continued)*

| Program | Award | Program Code | Major Code | Concentration Code | Lead Campus* |
|-------------------------------|-------|-----------------------------|------------|--------------------|--------------|
| Truck Driver Training | | | | | |
| Class A Vehicle Driver | CERT | Special Admissions** | | | CC |
| Coach/Transit Bus Driver | CERT | Special Admissions** | | | CC |
| Veterinary Technology | | | | | |
| Veterinary Practice Assistant | CERT | CRTVEP | VEP | | EC |
| Veterinary Technician | AAS | Special Admissions** | | | EC |
| Welding | | | | | |
| Welding and Fabrication | AAS | AASWELDING | WLD1 | | DC |

General Studies

| Program | Award | Program Code | Major Code | Concentration Code |
|-----------------|-------|--------------|------------|--------------------|
| General Studies | AGS | AGSGENRSTUDY | AGS | |

Transfer Programs

| Program | Award | Program Code | Major Code | Concentration Code |
|--|-------|--------------|------------|-----------------------------|
| Arizona General Education Curriculum (AGEC) CERT | | | | |
| AGEC-A (Liberal Arts) | | CRTLIBRALART | ACA | |
| AGEC-B (Business Administration) | | CRTBUSNADMIN | ACB | |
| AGEC-S (Science/Technology) | | CRTSCIENCE | ACS | |
| Arts, Fine | | | | |
| Associate of Fine Arts Degree, Visual and Performing Arts | AFA | AFAFINEARTS | AFA1 | |
| Concentrations: | | | | Special Admissions** |
| Music | | | | AFAT |
| Theater | | | | AFAT |
| Visual Arts | | | | AFAV |

* The lead campus is the only campus to offer all courses required for the certificate or degree. Other campuses may offer only introductory course(s) for the certificate or degree. Check the class schedule for the courses offered on each campus.

** Special Admissions Requirements—See an advisor

Business

| | | | |
|-------------------------|------|--------------|------|
| Business Administration | ABUS | AOBBUSIADMIN | BUD1 |
|-------------------------|------|--------------|------|

Honors Program

| | | | |
|----------------|------|-----------------------------|--|
| Honors Program | CERT | Special Admissions** | |
|----------------|------|-----------------------------|--|

Liberal Arts

| | | | |
|-------------------|----|--------|------|
| Associate of Arts | AA | AOAALA | ALA1 |
|-------------------|----|--------|------|

Concentrations:

| | | | |
|---|--|--|-----------------------------|
| General | | | ALAG |
| Administration of Justice | | | ALAJ |
| American Sign Language and Interpretation Studies | | | ASLI |
| Anthropology | | | ALAA |
| Communication | | | ALAC |
| Early Childhood Education | | | ALAE |
| Elementary Education | | | ALAD |
| English | | | ALAN |
| Ethnic, Gender and Transborder Studies | | | EGTS |
| Fashion Design | | | ALAF |
| History | | | ALAH |
| Hotel and Restaurant Management | | | ALAR |
| Political Science | | | ALAO |
| Psychology | | | ALAP |
| Social Services | | | ALAV |
| Sociology | | | ALAS |
| Translation and Interpretation Studies | | | Special Admissions** |

Science

| | | | |
|----------------------|----|--------|------|
| Associate of Science | AS | AOSASI | ASI1 |
|----------------------|----|--------|------|

Concentrations:

| | | | |
|-----------------|--|--|------|
| General | | | ASIG |
| Biology | | | ASIB |
| Chemistry | | | ASIC |
| Pre-Engineering | | | ENGR |

* The lead campus is the only campus to offer all courses required for the certificate or degree. Other campuses may offer only introductory course(s) for the certificate or degree. Check the class schedule for the courses offered on each campus.

** Special Admissions Requirements—See an advisor

Accounting

Learn the skills and knowledge needed for bookkeeping, tax, and accounting careers. Students interested in becoming a certified public accountant should refer to the Business Administration transfer program.

Accounting — Enrolled Agent Certificate

Enrolled Agents are licensed by the Federal Government (IRS) and have demonstrated special competence in tax matters, professional ethics, and can practice before the IRS anywhere in the United States. This accounting certificate allows students to gain the practical skills needed to take the IRS Special Enrollment Examination (SEE). The SEE is a three part exam administered by Prometrics on behalf of IRS; a student must successfully pass this to receive IRS Enrolled Agent certification.

What can I do with this certificate?

Career Options: Enrolled Agents are needed in small and large public accounting firms, law firms, corporate accounting departments, state departments of revenue, investment firms, banks, and in private practice.

Academic Options: Continue your studies by taking classes toward an Accounting Associate of Applied Science degree or explore business transfer options.

Gainful Employment Information: www.pima.edu/ge-crtace-ace

Location: Northwest Campus

Department/Contact Information:

Dean: 520-206-7694

Department Head: 520-206-2298

Program/Major Codes: **CRTACE/ACE**

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation | | |
| ACC 204 | Individual Tax Accounting | 3 |
| ACC 205 | Corporate and Partnership Tax Accounting | 4 |
| ACC 206 | Topics in Tax Accounting | 3 |
| ACC 207 | IRS Enrolled Agent Exam..... | 3 |
| ACC 292 | Volunteer Income Tax Preparation Field Experience..... | 3 |
| Total credits as displayed | | 16 |

Accounting — Bookkeeping Certificate

Understand business practices and learn specific accounting skills.

What can I do with this certificate?

Career Options: Entry-level bookkeeping and accounting positions

Academic Options: Continue your studies by taking classes toward an Accounting Associate of Applied Science degree or explore business transfer options.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-7264

Program/Major Codes: **CRTACT/ACT1**

| Course Number | Course Title | Credit Hours |
|--|--------------------------------------|--------------|
| Required Core Courses - A grade of C or better is required for graduation | | |
| ACC 100 | Practical Accounting Procedures..... | 3 |

| | | |
|---|--|-----------|
| ACC 150* | Payroll Accounting | 3 |
| ACC 200* | Computerized Accounting I. | 3 |
| ACC 204* | Individual Tax Accounting | 3 |
| ACC 211* | Financial Accounting SUN# ACC 2201 | 3 |
| ACC 281* | QuickBooks Computer Accounting..... | 3 |
| BUS 148 | Ethics in the Workplace | 3 |
| BUS 151* | Business Math..... | 3 |
| CSA 110* | Spreadsheets: Microsoft Excel..... | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| WRT 154* | Career Communications | 3 |
| Total credits as displayed | | 31 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Accounting — Associate of Applied Science Degree for Direct Employment

Learn the theory, systems and basic problems of business accounting.

What can I do with this degree?

Career Options: Entry-level positions in private, public and government accounting.

Academic Options: Continue your studies by taking other business programs or work to complete a Bachelor of Applied Science program.

Location: Northwest and Downtown Campus

Department/Contact Information:

Dean: 520-206-7694

Department Head: 520-206-2298

Program/Major Codes: **AASACCOUNTIN/ACC**

General Education Requirements - A grade of C or better is required for graduation

| | |
|--|-----------|
| Communication Requirement | † |
| WRT 154 fulfills this requirement | |
| Arts and Humanities Requirement | 3 |
| Recommend: ART 105, HIST 142, or PHI 101 | |
| Social and Behavioral Sciences Requirement | † |
| ECN 150 fulfills this requirement. | |
| Mathematics and Science Requirement | † |
| BUS 151 fulfills this requirement | |
| Other Requirement | † |
| CMN 120 fulfills this requirement | |
| Special Requirements | |
| CMN 120 fulfills this requirement | |
| Subtotal. | 33 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|---------|---------------------------------------|---|
| ACC 100 | Practical Accounting Procedures | 3 |
|---------|---------------------------------------|---|

| | | |
|----------|---|---|
| ACC 150* | Payroll Accounting | 3 |
| ACC 200* | Computerized Accounting I | 3 |
| ACC 204* | Individual Tax Accounting | 3 |
| ACC 205* | Corporate and Partnership Tax Accounting | 4 |
| ACC 211* | Financial Accounting (was ACC 101) SUN# ACC 2201..... | 3 |
| ACC 212* | Managerial Accounting (was ACC 102) SUN# ACC 2202 | 3 |
| ACC 221* | Intermediate Accounting I | 3 |
| ACC 233* | Cost Accounting | 3 |
| ACC 281* | QuickBooks Computer Accounting (was ACC 215) | 3 |
| ACC 296 | Independent Study in Accounting | 1 |

Choose from one of the following focuses:

Tax Focus (complete all 3 courses)

| | | |
|---------|---|---|
| ACC 206 | Topics in Tax Accounting..... | 3 |
| ACC 207 | IRS Enrolled Agent Exam..... | 3 |
| ACC 292 | Volunteer Income Tax Preparation Field Experience | 3 |

Bookkeeping Focus (choose 2 courses from the following list)

| | | |
|----------|-----------------------------------|---|
| ACC 273* | Governmental Accounting..... | 3 |
| ACC 250* | Certified Bookkeeper Review | 3 |
| ACC 290 | Internship in Accounting | 3 |

Subtotal. 38-41

Required Support Courses

| | | |
|----------|---|---|
| BUS 148 | Ethics in the Workplace | 3 |
| BUS 151 | Mathematics of Business..... | 3 |
| CMN 120 | Business and Professional Communication | 3 |
| CSA 110* | Spreadsheets: Microsoft Excel | 3 |
| ECN 150 | An Economic Perspective..... | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| WRT 154 | Career Communication | 3 |

Subtotal. 19

Total credits as displayed 60-63

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

¥ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

Archaeology

Field Archaeology Certificate for Direct Employment

Dig into the past by studying archaeological fieldwork. Courses are designed for those seeking professional skills, those working toward an Anthropology degree with an archaeology emphasis, as well as for those with a general interest in archaeology. This program emphasizes the preservation and conservation of resources and applied skills in archaeology, particularly related to the pre-history of southern Arizona.

What can I do with this certificate?

Career Options: Seek employment in entry-level archaeology positions.

Academic Options: Students planning to transfer to a four-year archaeology degree program should pursue an Anthropology AA degree simultaneously with this certificate.

Gainful Employment Information: www.pima.edu/ge-crtarf-arf1

Location: West Campus

Department/Contact Information:

Dean: 520-206-6996

Lead Faculty: 520-206-6905

Program/Major/Concentration Codes: **CRTARF/ARF1**

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| ANT/ARC 101 | Human Origins and Prehistory | 3 |
| ANT/ARC/GIS 181 | Global Positioning Systems Basics | 1 |
| ANT/ARC/GEO/ GIS 265 | Mapping Concepts | 1 |
| ANT/ARC 275 | Archaeological Excavation I | 3 |
| ANT/ARC 276 | Archaeological Surveying I | 3 |
| Subtotal. | | 11 |
| Focus Areas - A grade of C or better is required for graduation. | | |
| Complete one of the following focus areas. | | 10-15 |
| Department faculty approval is recommended in the selection of the focus area. | | |
| Southwestern Prehistory | | |
| ANT 102 or ANT 112 | Introduction to Cultural Anthropology and Linguistics | 3 |
| | Exploring Non-Western Cultures | |
| ANT/ARC 180 | Artifact Identification: Tucson Basin | 1 |
| AIS/ANT/ARC 205 | Introduction to Southwestern Prehistory | 3 |
| ANT/ARC 225 | Principles of Archaeology | 3 |
| Subtotal. | | 10 |
| Field Methods | | |
| ANT/ARC 225 | Principles of Archaeology | 3 |
| ANT/ARC 250* | Archaeology Laboratory | 4 |
| ANT/ARC 277* or ANT/ARC 278* | Archaeological Excavation II | 3 |
| | Archaeological Surveying II | |
| ANT/ARC/GIS 281 | Global Positioning Systems | 1 |
| ARC Elective | Elective in consultation with ARC faculty advisor | 3 |
| Subtotal. | | 14 |

Geospatial Information Studies and Technology

| | | |
|------------------------------------|--|--------------|
| ANT/ARC/ GEO/GIS 267* | Introduction to Geographic Information Systems | 3 |
| ANT/ARC/ GIS 281 | Global Positioning Systems | 1 |
| ANT/ARC/GEO/ GIS 284* | Computer Cartography and CAD | 3 |
| ANT/ARC/ GIS 286* or DAR 120 | Electronic and Digital Field Mapping | 3-4 |
| | Applied Computer Graphics | |
| ARC, CIS, DAR, Elective | Elective in consultation with Archeology faculty advisor | 3-4 |
| Subtotal. | | 13-15 |
| Total credits as displayed | | 21-26 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Fine Arts

Gain knowledge and experience working in a variety of media.

- Music Concentration
- Theater Concentration
- Visual Arts Concentration

Program/Major/Concentration Codes: **AFAFINEARTS/AFA1/******

Visual and Performing Arts — Associate of Fine Arts for Transfer — Music Concentration

Study music theory and performance while preparing to transfer to a four-year university.

What can I do with this concentration?

Academic Options: Transfer to a university to complete a bachelor's degree.

Location: West Campus

Department/Contact Information:

Dean: 520-206-6690

Lead Faculty: Music 206-6826

Special Admissions Program: You are not fully admitted to this program until you have auditioned and have been officially admitted to the program. See the website or an advisor for details.

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|-----------|
| English Composition | 6 |
| Humanities and Fine Arts | † |
| MUS 125 and 201 fulfill this requirement. | |
| Biological and Physical Sciences | 8 |
| Recommend: BIO 100IN and 105IN | |
| Mathematics | 3 |
| Recommend: MAT 142 | |
| Social and Behavioral Sciences | 6 |
| Recommend: ANT 112 and either HIS 101 or 141 | |
| Other Requirements | 3 |
| MUS 202 fulfills 3 credits of this requirement. Complete a non-Humanities and Fine Arts course from this category. | |
| Recommend: CMN 102 or HUM 251 or PHI 120 | |
| Special Requirements | |
| The I, C, and G requirement should be fulfilled by courses in the above categories. | |
| Subtotal | 26 |

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|--------------|--|---|
| MUP 161-167* | Studio Instruction: I (Major) | 2 |
| MUP 171-177* | Studio Instruction: II (Major) | 2 |
| MUP 261-267* | Studio Instruction: III (Major) | 2 |
| MUP 271-277* | Studio Instruction: IV (Major) | 2 |
| MUS 125* | Structure of Music I | 3 |
| MUS 126* | Structure of Music II | 3 |
| MUS 127* | Aural Perception I | 1 |
| MUS 129* | Aural Perception II | 1 |
| MUS 141 | Piano Class I (Majors) | 1 |
| MUS 142* | Piano Class II (Majors) | 1 |
| MUS 143* | Piano Class III (Majors) | 1 |
| MUS 144* | Piano Class IV (Majors) | 1 |
| MUS 201* | History and Literature of Music I | 3 |
| MUS 202* | History and Literature of Music II | 3 |
| MUS 223* | Structure of Music III SUN# MUS 2222** | 3 |

| | | |
|--|--|-----------|
| MUS 224* | Aural Perception III SUN# MUS 2222** | 1 |
| MUS 226* | Structure of Music IV SUN# MUS 2223*** | 3 |
| MUS 228* | Aural Perception IV SUN# MUS 2223*** | 1 |
| Music Ensemble | | 4 |
| Complete 4 credits from the following. A course may be taken more than once to fulfill this requirement: | | |
| MUS 116* | Pima Community College Orchestra I | |
| MUS 117* | Pima Community College Orchestra II | |
| MUS 120* | Concert Band I | |
| MUS 121* | Concert Band II | |
| MUS 130* | Chorale (SATB) | |
| MUS 131* | College Singers (SATB) | |
| Subtotal. | | 38 |

Required Support Courses

| | | |
|-----------------------------------|---|-----------|
| STU 100 | College Success and Career Planning | 1 |
| or STU 107 | University Transfer Preparation and Student Success | |
| Subtotal. | | 1 |
| Total credits as displayed | | 65 |

† Core or support course(s) fulfill this requirement.

‡ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** Both MUS 223 and 224 must be completed in order to get the MUS 2222 SUN designation.

*** Both MUS 226 and 228 must be completed in order to get the MUS 2223 SUN designation.

Visual and Performing Arts — Associate of Fine Arts for Transfer — Theater Concentration

Study acting and theater production while preparing to transfer to a 4-year university.

What can I do with this concentration?

Academic Options: Transfer to a university to complete a bachelor's degree.

Location: West Campus

Department/Contact Information:

Dean: 520-206-6690

Lead Faculty: Theater 206-6720

Concentration Code: **AFAT**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|------------|
| English Composition | 6 |
| Humanities and Fine Arts | † |
| THE 105 and 140 fulfill this requirement. | |
| Biological and Physical Sciences | 8 |
| Mathematics | 3 |
| Social and Behavioral Sciences | 6 |
| Other Requirements | 6 |
| Special Requirements | |
| THE 105 fulfills the C requirement. The I and G requirements should be fulfilled by completing appropriate courses in the above categories. | |
| Subtotal. | 29‡ |

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| THE 104 | Voice and Movement for the Actor | 3 |
| THE 105* | Theater Appreciation | 3 |
| THE 111 | Stagecraft | 3 |
| THE 113 | Stagecraft Crew | 1 |
| THE 125* | Theater Production | 2 |
| THE 140 | History of Theater to the 18th Century | 3 |
| THE 149 | Introduction to Acting I | 3 |
| THE 151* | Introduction to Acting II | 3 |
| THE 220 | Stage Lighting | 3 |
| THE 245 | Principles of Dramatic Structure SUN# THE 2220 | 3 |
| THE ELEC | Any transferable THE course | 3 |
| Subtotal. | | .30 |

Core Options: - A grade of C or better is required for graduation.

Complete one of the following options after consulting with a theatre department faculty advisor or counselor:

Option 1

| | | |
|---------|------------------------------|---|
| THE 118 | Basic Theater Graphics | 3 |
| THE 223 | Scene Design | 3 |

Option 2

| | | |
|----------|--|---|
| THE 250* | Acting: Auditioning for Theater | 3 |
| THE 251* | Acting: Shakespeare and Classical Literature | 3 |

Subtotal. **.6**

Total credits as displayed **.65**

† Core or support course(s) fulfill this requirement.

¥ AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Visual and Performing Arts — Associate of Fine Arts for Transfer — Visual Arts Concentration

Study a variety of art forms or learn art history while preparing to transfer to a 4-year university.

What can I do with this concentration?

Academic Options: Transfer to a university to complete a bachelor's degree.

Location: West Campus

Department/Contact Information:

Dean: 520-206-6690

Lead Faculty: 520-206-6882

Concentration Codes: **AFAV**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|---|
| English Composition | 6 |
| Humanities and Fine Arts..... | † |
| ART 100 and 130 fulfill this requirement. | |
| Biological and Physical Sciences | 8 |
| Mathematics..... | 3 |
| Social and Behavioral Sciences | 6 |

| | |
|--|-----------|
| Other Requirements | † |
| ART 110 and 131 fulfill requirement. | |
| Special Requirements | |
| ART 130 fulfills the I and G requirements. The C requirement should be fulfilled by a course in the Social and Behavioral Sciences category. | |
| Subtotal. | 23 |

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| ART 100 | Basic Design | 3 |
| ART 110* | Drawing I SUN# ART 1111..... | 3 |
| ART 115* | Color and Composition | 3 |
| ART 120* | Sculptural Design SUN# ART 1115..... | 3 |
| ART 130 | Art and Culture: Prehistoric Through Gothic SUN# ART 1101 | 3 |
| ART 131 | Art and Culture: Late Gothic Through Modern Periods SUN# ART 1102 | 3 |
| ART 210* | Drawing II | 3 |
| or ART 213* | Life Drawing I | |
| ART 289 | Art Portfolio Capstone..... | 1 |
| Subtotal. | | 22 |

| | | |
|---|---|---|
| Required Support Courses- A grade of C or better is required for graduation. | | |
| STU 100 | College Success and Career Planning..... | 1 |
| or STU 107 | University Transfer Preparation and Student Success | |

Art Electives

Complete five courses from any of the following categories:..... 15-17
(These courses cannot double-dip with Required Core Courses)

Art in the Craft Media

| | | |
|------------|--|---|
| ART 160* | Ceramics I | 3 |
| ART 170* | Metalwork I: Jewelry | 3 |
| ART 180* | Weaving I: Four-Harness Loom | 3 |
| ART 181* | Mixed Media Fibers | 3 |
| ART 260* | Ceramics II | 3 |
| ART 261* | Ceramics III | 3 |
| ART 262* | Ceramics IV | 3 |
| ART 270* | Metalwork II: Jewelry | 3 |
| ART 280* | Weaving II | 3 |
| ART 296I2* | Independent Study in ART: Ceramics | 3 |
| ART 296I8* | Independent Study in ART: Fibers | 3 |

Photography

| | | |
|--------------|---|---|
| ART/DAR 128* | Digital Photography I | 4 |
| ART 140* | Photography I | 3 |
| ART 141* | Photography II | 3 |
| ART 147* | Alternative Processes in Photography | 3 |
| ART 248* | Individual Projects in Photography..... | 3 |
| ART 296I5* | Independent Study in ART: Photography | 3 |

Art History

| | | |
|------------|---|---|
| ART 136 | Body and Art | 3 |
| ART 296I1* | Independent Study in ART: Art History | 3 |

Drawing, Painting, and Sculpture

| | | |
|----------|---|---|
| ART 106 | Survey of Painting Materials and Techniques | 3 |
| ART 109 | Watercolor Painting | 3 |
| ART 121* | Figure Sculpture | 3 |
| ART 210* | Drawing II (If not taken as a Required Core Course)..... | 3 |
| ART 213* | Life Drawing I (If not taken as a Required Core Course) | 3 |
| ART 215* | Painting I | 3 |

| | | |
|------------|---|---|
| ART 217* | Painting II | 3 |
| ART 220* | Sculpture | 3 |
| ART 29614* | Independent Study in ART: Painting, Drawing, and Design | 3 |
| ART 29617* | Independent Study in ART: Sculpture | 3 |

Printmaking

| | | |
|----------|-------------------|---|
| ART 212* | Printmaking I | 3 |
| ART 214* | Printmaking II | 3 |
| ART 216* | Screenprinting I | 3 |
| ART 218* | Screenprinting II | 3 |
| ART 219* | Printmaking III | 3 |
| ART 249* | Artists' Books | 3 |

Second Language

| | |
|------------------------------|---|
| Language course numbered 101 | 4 |
| Language course numbered 102 | 4 |

| | |
|-----------------------------------|--------------|
| Subtotal. | 16-18 |
| Total credits as displayed | 61-64 |

† Core or support course(s) fulfill this requirement.

¥ AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Automotive Technology

Begin a career as an auto mechanic, or expand your skills and attain higher-level positions. Classes are hands-on and self-paced. The program is accredited by the National Automotive Technician Education Foundation (NATEF).

Automotive Mechanics — Certificate for Direct Employment

From engine diagnosis and repair to electrical fundamentals, steering and alignment, and brakes, cover the basics of auto mechanics.

What can I do with this certificate?

Career Options: Entry-level auto mechanic or technician.

Academic Options: Continue your studies with the AAS in Automotive Technology.

Gainful Employment Information: www.pima.edu/ge-crtautomechs

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Auto Lab: 520-206-7190

Program/Major Codes: **CRTAUTOMECHS/AUM**

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| AUT 100 | Small Engine Troubleshooting & Repair | 3 |
| AUT 101 | Automotive Maintenance | 3 |
| AUT 105 | Light Line Maintenance | 3 |
| AUT 120 | Engine Diagnosis and Repair | 3 |
| AUT 128 | Automotive Electrical Fundamentals and Applications | 3 |
| AUT 139 | Automotive Steering and Alignment Systems | 3 |
| AUT 140 | Automotive Brakes Diagnosis and Repair | 3 |
| Total credits as displayed | | 21 |

Automotive Technology — Associate of Applied Science Degree for Direct Employment

From steering and suspension to engines and electrical systems, understand car repair inside and out. Master the basics and prepare for entry-level positions or choose additional advanced courses.

What can I do with this degree?

Career options: Auto mechanic or technician, service writer, parts specialist or auto sales positions.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Auto Lab: 520-206-7190

Program/Major Codes: **AASAUTOTECHN/AUT**

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| General Education Requirements - A grade of C or better is required for graduation. | | |
| Course lists for each General Education category listed below can be found starting on page 74. | | |
| | Communication Requirement | † |
| | GTW 101* fulfills this requirement. | |
| | Arts and Humanities Requirement | 3 |
| | Recommend: PHI 101 | |
| | Social and Behavioral Sciences Requirement | 3 |
| | Recommend: HIS 101 | |
| | Mathematics or Science Requirement | |
| | GTM 105* fulfills this requirement. | |
| | Other Requirement | † |
| | CMN 120 fulfills this requirement. | |
| | Special Requirement | |
| | CMN 120 fulfills this requirement. | |
| | Subtotal. | .6‡ |

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| AUT 100 | Small Engine Troubleshooting and Repair | 3 |
| AUT 101 | Automotive Maintenance | 3 |
| AUT 105 | Light Line Maintenance | 3 |
| AUT 120 | Engine Diagnosis and Repair | 3 |
| AUT 122 | Engine Remove and Install | 3 |
| AUT 124 | Automotive Diesel Engine Tune-Up | 3 |
| AUT 126 | Engine Performance and Drivability Troubleshooting | 3 |
| AUT 128 | Automotive Electrical Fundamentals and Applications | 3 |
| AUT 129 | Automotive Electrical Accessories | 3 |
| AUT 132 | Automotive Drivetrain Removal and Replacement | 3 |
| AUT 133 | Automatic Transmission/Transaxle Service and Rebuilding | 3 |
| AUT 136 | Automotive Manual Transmission and Driveline Service | 3 |
| AUT 138 | Automotive Suspension Systems | 3 |
| AUT 139 | Automotive Steering and Alignment Systems | 3 |
| AUT 140 | Automotive Brakes Diagnosis and Repair | 3 |
| AUT 142 | Automotive Heating, Ventilation, and Air Conditioning | 3 |
| | Subtotal. | .48 |

| | | |
|---------------------------------|--|---------------|
| Required Support Courses | | |
| CMN 120 | Business and Professional Communications | 3 |
| GTM 105* | Applied Technical Mathematics | 3 |
| GTW 101* | Writing for Trades and Technical Occupations | 3 |
| STU 100 | College Success and Career Planning. | 1 |
| Electives | | 3-5 |
| | Complete 3-5 credits at the 100 level or higher from the following: BUS 151, CIS, CSA, MAC 275, MGT, WLD | |
| | Subtotal. | .13-15 |

Total credits as displayed67-69

† Core or support course(s) fulfill this requirement.
‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.
* This course has a prerequisite, co-requisite, or recommendation. See course description.

Aviation Technology

Aviation Technology — Associate of Applied Science for Direct Employment

Gain skills and knowledge of Airframe and Powerplant, or Structural Repair.

The Airframe and Powerplant courses are taught per Federal Aviation Regulations Part 147 for FAA Aviation Maintenance Technician training to allow a student to be qualified for Airframe and Powerplant certification. Aviation Structural Repair has been offered as specialty training and does not fall under FAA Part 147 guidelines. Instead it is an industry directed curriculum preparing students to perform heavy structural repairs that exceed the requirements of Part 147 Airframe and Powerplant training.

Before enrolling in this program, students must attend an Aviation Technology orientation and submit the following:

- Negative alcohol and drug screening test.

What can I do with this degree?

Career Options: Work in the aircraft industry as an Aviation Maintenance Technician.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima’s Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Aviation Technology Center

Department/Contact Information:

Dean: 520-206-7134
 Lead Faculty: 520-206-5910

Special Admissions Program: You are not fully admitted to this program until you have auditioned and have been officially admitted to the program. See the website or an advisor for details.

Program Prerequisites

Students must complete the following program prerequisites (with grades posted) before they may begin the application process.

| | |
|---|------------|
| REA 091 with a grade of C or better or Reading assessment at REA 112 or higher | 0-4 |
| With a grade of C or better: ICS 081, or MAT 086, or completion of MAT 089A through module 15, or Math assessment at MAT 092 or higher | 0-3 |
| Subtotal. | 0-7 |

Students pursuing the Airframe Mechanics and/or Powerplant concentrations must complete the General Mechanics certificate courses before enrolling in the Airframe Mechanics or Powerplant courses.

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|-------------|
| Communication Requirement | 3 |
| Recommend: GTW 101 | |
| Arts and Humanities Requirement | 3 |
| Recommend: PHI 101 | |
| Social and Behavioral Science Requirement | 3 |
| Recommend: HIS 101 | |
| Mathematics and Science Requirement | † |
| GTM 105V fulfills this requirement | |
| Other Requirements | 3 |
| Recommend: CIS/CSA 104 | |
| Special Requirement: HIS 101 fulfills this requirement. If another course is selected the C or G requirement must be fulfilled by completing an appropriate course in the above categories. | |
| Subtotal. | 12 ‡ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------|----------------------------------|-----|
| AVM 110S | Aircraft Blueprint Reading | 3 |
| AVM 114S | Regulatory Requirements..... | 3 |
| AVM 205S | Motion Dynamics | 2.5 |

| | | |
|------------------|-------------------------------|-----------|
| AVM 206§ | Materials and Processes | 2.5 |
| Subtotal. | ..... | 11 |

Required Support Courses

| | | |
|-----------------|--|----------|
| GTM 105V* | Applied Technical Mathematics for Aviation | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| Subtotal | ..... | 4 |

Core Concentrations - A grade of C or better is required for graduation.

Complete one of the following concentrations..... 35-37.5

Airframe Mechanics

| | | |
|-----------------|---|-------------|
| AVM 105 | Aircraft Sheet Metal Repair I | 4 |
| AVM 130* | Aircraft Composite Repair I | 4 |
| AVM 202§ | Aircraft Safety | 2.5 |
| AVM 207§ | Weight and Balance | 2.5 |
| AVM 208§ | Basic Electricity..... | 4 |
| AVM 209* | Intermediate Electricity | 4 |
| AVM 211 | Alternate Structures | 4 |
| AVM 218 | Airframe Rigging and Landing Gear Systems | 2.5 |
| AVM 219* | Airframe Inspections | 2.5 |
| AVM 223 | Hydraulic and Pneumatic Power | 2.5 |
| AVM 224 | Atmospheric Controls | 2.5 |
| AVM 225 | Fire, Ice, Rain and Fuel Systems | 2.5 |
| Subtotal | ..... | 37.5 |

Powerplant

| | | |
|------------------|---|-------------|
| AVM 202§ | Aircraft Safety | 2.5 |
| AVM 207§ | Weight and Balance | 2.5 |
| AVM 208§ | Basic Electricity..... | 4 |
| AVM 226* | Engine Electrical Systems | 4 |
| AVM 227 | Engine Air Flow Systems | 2.5 |
| AVM 228 | Aircraft Propellers | 2.5 |
| AVM 229 | Engine Support Systems | 2.5 |
| AVM 231 | Engine Principles, Monitoring, and Inspection | 4 |
| AVM 232 | Reciprocating Engine Overhaul | 4 |
| AVM 233 | Turbine Engines | 4 |
| AVM 234 | Engine Fuel Metering and Operation | 4 |
| Subtotal. | ..... | 36.5 |

Structural Repair

| | | |
|-----------------|---------------------------------------|-----------|
| AVM 105 | Aircraft Sheet Metal Repair I | 4 |
| AVM 106* | Aircraft Sheet Metal Repair II | 4 |
| AVM 130* | Aircraft Composite Repair I | 4 |
| AVM 150* | Aircraft Sheet Metal Repair III | 4 |
| AVM 151* | Aircraft Sheet Metal Repair IV | 4 |
| AVM 165 | Aircraft Hardware and Fasteners | 3 |
| AVM 203* | Aircraft Sheet Metal Repair V | 4 |
| AVM 204* | Aircraft Sheet Metal Repair VI | 4 |
| AVM 260*/260LB* | Aircraft Composite Repair II | 4 |
| Subtotal | ..... | 35 |

Total credits as displayed (not including program prerequisites) 62-64.5

Total credits as displayed (including program prerequisites) 62-71.5

† Core or support course(s) fulfill this requirement.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

¥ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

§ These courses are requirements for the Aircraft General Mechanics Certificate and must be completed prior to the other courses in the Airframe and the Powerplant concentrations.

Aircraft General Mechanics — Certificate for Direct Employment

Gain basic skills in General Mechanics.

What can I do with this certificate?

Career Options: Entry-level positions in aircraft maintenance and repair.

Academic Options: Take additional courses toward the Aviation Technology AAS degree.

Gainful Employment Information: www.pima.edu/ge-crtaviationa-ava1-avmg

Location: Desert Vista Campus

Department/Contact Information:

Dean: 520-206-5250

Lead Faculty: 520-206-5910

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and below and have been officially admitted to the program. See the website or an advisor for details.

Program Prerequisites

Students must have completed the following prerequisites (with grades posted) before they may begin the application process.

| | |
|--|------------|
| REA 091 with a grade of C or better or Reading assessment at REA 112 or higher | 0-4 |
| MAT 086 with a grade of C or better or Math assessment at MAT 092 or higher..... | 0-3 |
| Subtotal. | 0-7 |

Students must complete the General Mechanics courses before enrolling in the Powerplant courses.

| Course Number | Course Title | Credit Hours |
|---|--|---------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| AVM 110 | Aircraft Blueprint Reading | 3 |
| AVM 114 | Regulatory Requirements | 3 |
| AVM 202 | Aviation Safety | 2.5 |
| AVM 205 | Motion Dynamics | 2.5 |
| AVM 206 | Materials and Processes | 2.5 |
| AVM 207* | Weight and Balance | 2.5 |
| AVM 208* | Basic Electricity | 4 |
| GTM 105V** | Applied Technical Mathematics for Aviation | 3 |
| Total credits as displayed (not including program prerequisites) | | .23 |
| Total credits as displayed (including program prerequisites) | | .23-30 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** GTM 105V fulfills 3 credits in the Mathematics category in the AAS Aviation Technology degree.

Aircraft Powerplant Mechanics — Certificate for Direct Employment

Gain basic skills in Powerplant Mechanics.

What can I do with this certificate?

Career Options: Entry-level positions in aircraft maintenance and repair.

Academic Options: Take additional courses toward the Aviation Technology AAS degree.

Gainful Employment Information: www.pima.edu/ge-crtaviationa-ava1-avmp

Location: Desert Vista Campus

Department/Contact Information:

Dean: 520-206-5250

Lead Faculty: 520-206-5910

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and below and have been officially admitted to the program. See the website or an advisor for details.

Program Prerequisites

Students must have completed the following prerequisites (with grades posted) before they may begin the application process.

| | |
|--|---------------|
| REA 091 with a grade of C or better or Reading assessment at REA 112 or higher | 0-4 |
| MAT 086 with a grade of C or better or Math assessment at MAT 092 or higher..... | 0-3 |
| Aircraft General Mechanics Certificate | 23 |
| Subtotal. | .23-30 |

Students must complete the General Mechanics courses before enrolling in the Powerplant courses.

| Course Number | Course Title | Credit Hours |
|---|--|------------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| AVM 226* | Engine Electrical Systems | 4 |
| AVM 227 | Engine Airflow Systems..... | 2.5 |
| AVM 228* | Aircraft Propellers | 2.5 |
| AVM 229* | Engine Support Systems | 2.5 |
| AVM 231 | Engine Principles, Monitoring and Inspection | 4 |
| AVM 232 | Reciprocating Engine Overhaul | 4 |
| AVM 233 | Turbine Engines | 4 |
| AVM 234* | Engine Fuel Metering and Operation | 4 |
| Total credits as displayed (not including program prerequisites) | | .27.5 |
| Total credits as displayed (including program prerequisites) | | 50.5-57.5 |

Aircraft Airframe Mechanics — Certificate for Direct Employment

Gain basic skills in Airframe Mechanics.

Before enrolling in this program, students must attend an Aviation Technology orientation and submit the following:

- Negative alcohol and drug screening test.

What can I do with this certificate?

Career Options: Combine with the General Mechanics (and Powerplant) certificates for an entry-level position in aircraft building, maintenance and repair.

Academic Options: Take additional courses toward the Aviation Technology AAS degree.

Location: Aviation Technology Center

Department/Contact Information:

Dean: 520-206-7134

Lead Faculty: 520-206-5910

Special Admissions Program: You are not fully admitted to this program until you have auditioned and have been officially admitted to the program. See the website or an advisor for details.

Program Prerequisites

Students must complete the following program prerequisites (with grades posted) before they may begin the application process.

| | |
|---|---------------|
| REA 091 with a grade of C or better or Reading assessment at REA 112 or higher | 0-4 |
| With a grade of C or better: ICS 081, or MAT 086, or completion of MAT 089A through module 15, or Math assessment at MAT 092 or higher..... | 0-3 |
| Aircraft General Mechanics Certificate. | .23 |
| Subtotal. | .23-30 |

| Course Number | Course Title | Credit Hours |
|---|-------------------------------------|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| AVM 105 | Aircraft Sheet Metal Repair I | 4 |

| | | |
|---|---|------------------|
| AVM 130* | Aircraft Composite Repair I | 4 |
| AVM 209* | Intermediate Electricity | 4 |
| AVM 211 | Alternate Structures | 4 |
| AVM 218 | Airframe Rigging and Landing Gear Systems | 2.5 |
| AVM 219* | Airframe Inspections | 2.5 |
| AVM 223 | Hydraulic and Pneumatic Power | 2.5 |
| AVM 224 | Atmospheric Controls | 2.5 |
| AVM 225 | Fire, Ice, Rain, and Fuel Systems | 2.5 |
| Total credits as displayed (not including program prerequisites) | | 28.5 |
| Total credits as displayed (including program prerequisites) | | 51.5-58.5 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Aircraft Structural Repair — Certificate for Direct Employment

Gain basic skills in Structural Repair.

Before enrolling in this program, students must attend an Aviation Technology orientation and submit the following:

- Negative alcohol and drug screening test.

What can I do with this certificate?

Career Options: An entry-level position in aircraft building, maintenance and repair.

Academic Options: Take additional courses toward the Aviation Technology AAS degree.

Location: Aviation Technology Center

Department/Contact Information:

Dean: 206-7134

Lead Faculty: 206-5910

Special Admissions Program: You are not fully admitted to this program until you have auditioned and have been officially admitted to the program. See the website or an advisor for details.

Program Prerequisites

Students must complete the following program prerequisites (with grades posted) before they may begin the application process.

| | |
|--|------------|
| REA 091 with a grade of C or better or Reading assessment at REA 112 or higher | 0-4 |
| With a grade of C or better: ICS 081, or MAT 086, or completion of MAT 089A through module 15, or Math assessment at MAT 092 or higher | 0-3 |
| Subtotal. | 0-7 |

| Course Number | Course Title | Credit Hours |
|---|-------------------------------------|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| AVM 105 | Aircraft Sheet Metal Repair I | 4 |
| AVM 106* | Aircraft Sheet Metal Repair II | 4 |
| AVM 110 | Aircraft Blueprint Reading | 3 |
| AVM 130 | Aircraft Composite Repair I | 4 |
| AVM 150* | Aircraft Sheet Metal Repair III | 4 |
| AVM 151* | Aircraft Sheet Metal Repair IV | 4 |
| AVM 165 | Aircraft Hardeners and Fasteners | 3 |
| AVM 203* | Aircraft Sheet Metal Repair V | 4 |
| AVM 204* | Aircraft Sheet Metal Repair VI | 4 |
| AVM 205 | Motion Dynamics | 2.5 |
| AVM 206 | Materials and Processes | 2.5 |
| AVM 260*/260LB* | Aircraft Composite Repair II | 4 |
| GTM 105V* | Applied Technical Math for Aviation | 3 |
| Total credits as displayed (not including program prerequisites) | | 46 |
| Total credits as displayed (including program prerequisites) | | 46-53 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Avionics Technician — Certificate for Direct Employment

Master the broad range of skills needed to work with aircraft electronics including GPS systems, autopilot, communication systems, and weather radar. Learn avionics installation, operating systems, troubleshooting and system integration.

Before enrolling in this program, students must attend an Aviation Technology orientation and submit the following:

- Negative alcohol and drug screening test.

What can I do with this certificate?

Career Options: Seek entry-level positions in aircraft avionics, diagnostics, maintenance and repair.

Academic Options: Continue your studies by taking additional courses toward the Aviation Technology AAS degree.

Gainful Employment Information: www.pima.edu/ge-crtavn.html

Location: Aviation Technology Center

Department/Contact Information:

Dean: 520-206-7134

Lead Faculty: 520-206-5910

Special Admissions Program: You are not fully admitted to this program until you have auditioned and have been officially admitted to the program. See the website or an advisor for details.

Program Prerequisites

Students must complete the following program prerequisites (with grades posted) before they may begin the application process.

| | |
|--|------------|
| REA 091 with a grade of C or better or Reading assessment at REA 112 or higher | 0-4 |
| With a grade of C or better: ICS 081, or MAT 086, or completion of MAT 089A through module 15, or Math assessment at MAT 092 or higher | 0-3 |
| Subtotal. | 0-7 |

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| ATT 100* | Basic Electricity for Avionics | 3 |
| ATT 101* | Avionics Familiarization | 3 |
| ATT 102* | Aircraft Electrical Systems | 3 |
| ATT 103* | Basics of Avionics Installation | 3 |
| ATT 104* | Operating Systems I, Communication and Navigation | 4 |
| ATT 201* | Operating Systems II, GPS Navigation and Autopilot | 3 |
| ATT 202* | GPS Navigation and Autopilot Installation | 5 |
| ATT 203* | Avionics Test Equipment | 4 |
| ATT 204* | Glass Cockpit Installer | 5 |
| ATT 205* | Operating Systems III, Infrared and Weather Radar | 3 |
| ATT 206* | Infrared and Weather Radar Installation | 5 |
| GTM 105V* | Applied Technical Math for Aviation | 3 |
| Total credits as displayed (not including program prerequisites) | | 44 |
| Total credits as displayed (including program prerequisites) | | 44-51 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Behavioral Health Services

Learn to work in a clinical behavioral health care setting and deliver basic behavioral health services. This program includes training within laboratory and clinical settings.

Before enrolling in this program, students must submit the following:

- Health Declaration
- Signed acknowledgement of receipt of drug screening policy
- Proof of health insurance (highly recommended)
- Residency affidavit
- Obtain an Arizona DPS Fingerprint Clearance Card.
- CPR/first aid certification (healthcare provider level)
- Proof of immunizations: Hepatitis B, MMR, Varicella, TDAP
- TB Test (negative result or a negative chest X-ray)

Behavioral Health Services — Certificate for Direct Employment

What can I do with this certificate?

Career Options: Seek an entry-level position or career advancement as a behavioral health specialist, human services technician, family advocate, or paraprofessional analyst in hospitals, behavioral health clinics, nursing care facilities, or nonprofit agencies.

Academic Options: Complete the additional courses needed to pursue a Social Services certificate or a Social Services degree.

Gainful Employment Information: www.pima.edu/ge-crtbhs

Location: Desert Vista Campus

Department/Contact Information:
Dean: 520-206-5142

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Course - A grade of C or better is required for graduation. | | |
| BHS 132 | Communication Skills in Behavioral Health Services | 3 |
| BHS 154* | Behavioral Health Lab and Safety Protocol | 3 |
| BHS 172 | Clinical Behaviors | 3 |
| BHS 189LC* | Behavioral Health Clinic - Basic | 1 |
| BHS 250* | Case Documentation | 2 |
| SSE 128 | Introduction to Behavioral Health | 3 |
| SSE 204* | Counseling in a Multicultural Setting | 3 |
| Total credits as displayed | | 18 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Bioscience Laboratory Technology

Learn the science fundamentals to work in a bioscience laboratory for immediate employment. Bioscience Laboratory Technicians set up, maintain, and clean laboratory instruments and equipment; as well as help prepare and conduct tests and experiments while documenting results and summarizing findings. Gain internship experience in both research and development in a science laboratory. Students can complete this program in one semester.

Bioscience Laboratory Technician — Certificate for Direct Employment

Take courses to gain entry level work in a biological or medical science laboratory. Certificate includes courses to cover biology concepts while learning techniques and various processes to work in a laboratory setting.

What can I do with this degree?

Career Options: Assist biological and medical scientists in laboratories and private practice to conduct laboratory tests and experiments.

Location: Northwest Campus

Department/Contact Information:

Dean: 206-2180

Lead Faculty: 206-2180

Program/Major Codes: **CRTBLT/BLT**

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses: A grade of C or better is required for graduation. | | |
| BIO 156IN** | Introduction to Biology Allied Health..... | 4 |
| or BIO 181IN* | General Biology I SUN# BIO1181 | |
| BIO 112IN* | Bioscience Laboratory Fundamentals | 4 |
| Subtotal. | | .8 |
| Required Support Courses: A grade of C or better is required for graduation. | | |
| WRT 101* | English Composition I SUN# ENG1101..... | 3 |
| or WRT 107* | English Composition I for Non-Native Speakers of English | |
| BIO 135IN | Genetics, Biotechnology, and Human Affairs | 4 |
| Subtotal. | | .7 |
| Total credits as displayed | | .15 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Building and Construction Technologies

Learn how to construct and maintain buildings with courses in the specialized fields of the building and construction industry including electrical, plumbing, carpentry, and HVAC-R. Classes are hands-on and self-paced.

Building and Construction Technologies — Associate of Applied Science Degree for Direct Employment

Learn advanced construction skills, or prepare to transfer to NAU's Construction Management degree. Choose from one of the focuses listed below.

What can I do with this degree?

Career Options: Apply technical level positions in the building and construction trades.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Downtown Campus

Department/Contact Information:

Dean: 206-7134

Lead Faculty: 206-7137

Program/Major/Concentration Codes: **AASBCT/BCT1**

General Education Courses - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|------------|
| Communication Requirement | † |
| GTW 101 fulfills this requirement. | |
| Arts and Humanities Requirement | 3 |
| Social and Behavioral Sciences Requirement | 3 |
| Mathematics and Science Requirement | † |
| GTM 105 fulfills this requirement. | |
| Other Requirements | † |
| CMN 120 fulfills this requirement | |
| Special Requirements | |
| CMN 120 fulfills this requirement. | |
| Subtotal. | 6 † |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|--|-----------|
| BCT 105** | Professionalism in Service, Construction Math, Basic Rigging | 3 |
| BCT 107** | Basic Safety, Hand and Power Tools, Blueprint Reading | 3 |
| BCT 120 | Blueprint Reading for Construction | 3 |
| BCT 290 | Building & Construction Technologies Internship | 4 |
| Subtotal. | | 13 |

Required Support Courses

| | | |
|----------------------------|--|-----------|
| CSA 100* | Computer Literacy | 1 |
| CMN 120 | Business and Professional Communication | 3 |
| GTM 105* | Applied Technical Mathematics | 3 |
| GTW 101 | Writing for Trades and Technical Occupations | 3 |
| STU 100 | College Success and Career Planning. | 1 |
| Subtotal. | | 11 |

Core Focus Areas - A grade of C or better is required for graduation.

Complete one of the following focus areas: 33-35
 Department chair or faculty advisor approval is recommended in the selection of the program option.

Carpenter

| | | |
|------------------|--|-----------|
| BCT 101 | Principles of Construction | 3 |
| or BCT 102 | Building Materials | |
| BCT 123 | Concrete/Masonry | 3 |
| BCT 145* | Carpentry I | 4 |
| BCT 146 | Woodworking I | 3 |
| BCT 147* | Woodworking II | 3 |
| BCT 265 | Sustainability for Building Trades | 3 |
| BCT 286* | International Residential Code (IRC) I | 3 |
| BCT 287* | International Residential Code (IRC) II | 3 |
| CAD 151 | Computer Aided Drafting for Construction | 4 |
| CAD 166 | Introduction to Revit | 4 |
| Subtotal. | ..... | 33 |

Electrician

| | | |
|------------------|--|-----------|
| BCT 135* | National Electrical Code Residential Wiring Applications | 4 |
| BCT 172* | Electrical I | 4 |
| BCT 173* | Electrical II | 4 |
| BCT 174* | Electrical III | 4 |
| BCT 184* | National Electrical Code I | 3 |
| BCT 271* | Electrical IV | 4 |
| BCT 272* | Electrical V | 4 |
| BCT 273* | Electrical VI | 4 |
| BCT 284* | National Electrical Code II | 3 |
| Subtotal. | ..... | 34 |

HVAC-R Technician

| | | |
|------------------|---|-----------|
| BCT 106* | Soldering and Brazing for BCT | 4 |
| BCT 132* | Residential and Industrial HVAC I | 4 |
| BCT 133* | Residential and Industrial HVAC II | 4 |
| BCT 134* | Residential and Industrial HVAC III | 4 |
| BCT 231* | Residential and Industrial HVAC IV | 4 |
| BCT 232* | Residential and Industrial HVAC V | 4 |
| BCT 233* | Residential and Industrial HVAC VI | 4 |
| BCT 234* | Residential and Industrial HVAC VII | 4 |
| BCT 265 | Sustainability for Building Trades | 3 |
| Subtotal. | ..... | 35 |

Plumber

| | | |
|------------------|---|-----------|
| BCT 106* | Soldering and Brazing for BCT | 4 |
| BCT 181* | Residential and Industrial Plumbing I | 4 |
| BCT 182* | Residential and Industrial Plumbing II | 4 |
| BCT 183* | Residential and Industrial Plumbing III | 4 |
| BCT 236* | Residential and Industrial Plumbing IV | 4 |
| BCT 237* | Residential and Industrial Plumbing V | 4 |
| BCT 238* | Residential and Industrial Plumbing VI | 4 |
| BCT 239* | Residential and Industrial Plumbing VII | 4 |
| BCT 265 | Sustainability for Building Trades | 3 |
| Subtotal. | ..... | 35 |

Management

| | |
|--|-----------------|
| Complete a Pima BCT Certificate*** | 16 ^Δ |
| ACC 100 Practical Accounting Procedures | 3 |
| BCT 202 Construction Business Management | 3 |
| BCT 265 Sustainability for Building Trades | 3 |
| BUS 100 Introduction to Business | 3 |
| BUS 148 Ethics in the Workplace | 3 |
| MGT 110 Human Relations in Business and Industry | 3 |
| Subtotal | 34 |
| Total credits as displayed | 63-65 |

† Core or support course(s) fulfill this requirement.

‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** BCT 100, 112 and 115 substitutes for BCT 105. BCT 111, 113 and 114 substitutes for BCT 107

*** The BCT certificate must be from the 2018-19 catalog year or later in one of the following areas: Cabinetmaker, Carpenter, Electrician, HVAC-Technician, or Plumber

Δ This is the credit total excluding the Core and Support Courses already identified in this degree.

Cabinetmaker — Certificate for Direct Employment

Learn basic and fine woodworking skills, wood joinery methods and applying finishes.

What can I do with this certificate?

Career Options: Entry level Cabinetmaker or Woodworker in the Building Construction Trades Industry.

Academic Options: Pursue the Building Construction Technologies Associate of Applied Science Degree.

Gainful Employment Information: www.pima.edu/ge-crtcmk

Location: Downtown Campus

Department/Contact Information

Dean: 206-7134

Lead Faculty: 206-7137

Program/Major/Concentration Codes: **CRTCМК/CMK1**

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Courses - A grade of C or better is required for graduation. | | |
| BCT 105** | Professionalism in Service, Construction Math, Basic Rigging | 3 |
| BCT 107** | Basic Safety, Hand and Power Tools, Blueprint Reading | 3 |
| BCT 120 | Blueprint Reading for Construction | 3 |
| BCT 146 | Woodworking I | 3 |
| BCT 147* | Woodworking II | 3 |
| BCT 148 | Cabinetmaking I | 3 |
| BCT 149 | Cabinetmaking II | 3 |
| CAD 151 | Computer-Aided Drafting for Construction | 4 |
| Subtotal | | 25 |

Required Support Courses

| | | |
|-----------------------------------|--|-----------|
| CSA 100* | Computer Literacy | 1 |
| GTM 105* | Applied Technical Mathematics | 3 |
| GTW 101* | Writing for Trades and Technical Occupations | 3 |
| STU 100 | College Success and Career Planning | 1 |
| Subtotal | | 8 |
| Total credits as displayed | | 33 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** BCT 100, 112 and 115 substitutes for BCT 105. BCT 111, 113 and 114 substitutes for BCT 107.

Carpenter — Certificate for Direct Employment

Learn to lay out, cut, fabricate, erect, install, and repair wooden structures and fixtures, using hand and power tools. Includes instruction in technical mathematics, framing, construction materials and selection, job estimating, blueprint reading, foundations and roughing-in, finish carpentry techniques, and applicable codes and standards.

What can I do with this certificate?

Career Options: Entry level Carpenter, Woodworker, Window and Door Installer, Trim Installer in the Building Construction Trades Industry.

Academic Options: Pursue the Building Construction Technologies Associate of Applied Science Degree.

Location: Downtown Campus

Department/Contact Information:

Dean: 206-7134

Lead Faculty: 206-7137

Program/Major/Concentration Codes: **CRTCPT/CPT1**

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Courses - A grade of C or better is required for graduation. | | |
| BCT 101 or BCT 102 | Principles of Construction Building Materials | 3 |
| BCT 105** | Professionalism in Service, Construction Math, Basic Rigging | 3 |
| BCT 107** | Basic Safety, Hand and Power Tools, Blueprint Reading | 3 |
| BCT 120 | Blueprint Reading for Construction | 3 |
| BCT 123 | Concrete/Masonry | 3 |
| BCT 145* | Carpentry I | 4 |
| BCT 146 | Woodworking I | 3 |
| BCT 147* | Woodworking II | 3 |
| Subtotal. | | .25 |
| Required Support Courses | | |
| CSA 100* | Computer Literacy..... | 1 |
| GTM 105* | Applied Technical Mathematics | 3 |
| GTW 101* | Writing for Trades and Technical Occupations | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| Subtotal. | | .8 |
| Total credits as displayed | | .33 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** BCT 100, 112 and 115 substitutes for BCT 105. BCT 111, 113 and 114 substitutes for BCT 107.

Electrician — Certificate for Direct Employment

Learn to install, operate, maintain, and repair electric apparatus and systems such as residential, commercial, and industrial electric-power wiring; and DC and AC motors, controls, and electrical distribution panels. Includes the principles of electronics and electrical systems, wiring, power transmission, safety, industrial and household appliances, job estimation, electrical testing and inspection, and applicable codes and standards.

What can I do with this certificate?

Career Options: Apply for entry-level positions in building and construction trades.

Academic Options: Pursue the Building Construction Technologies Associate of Applied Science Degree.

Location: Downtown Campus

Department/Contact Information:

Dean: 206-7134

Lead Faculty: 206-7137

Program/Major/Concentration Codes: **CRTELE/ELE1**

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Courses - A grade of C or better is required for graduation. | | |
| BCT 105** | Professionalism in Service, Construction Math, Basic Rigging. | 3 |
| BCT 107** | Basic Safety, Hand and Power Tools, Blueprint Reading. | 3 |
| BCT 120* | Blueprint Reading for Construction | 3 |
| BCT 135* | National Electrical Code Residential Wiring Applications | 4 |
| BCT 172* | Electrical I. | 4 |
| BCT 173* | Electrical II | 4 |
| BCT 174* | Electrical III. | 4 |
| Subtotal. | | 25 |
| Required Support Courses | | |
| CSA 100* | Computer Literacy. | 1 |
| GTM 105* | Applied Technical Mathematics | 3 |
| GTW 101* | Writing for Trades and Technical Occupations | 3 |
| STU 100 | College Success and Career Planning. | 1 |
| Subtotal. | | 8 |
| Total credits as displayed | | 33 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** BCT 100, 112, and 115 substitutes for BCT 105. BCT 111, 113, and 114 substitutes for BCT 107.

HVAC-R Technician — Certificate for Direct Employment

Learn to repair, install, service and maintain the operating condition of heating, air conditioning, and refrigeration systems. Includes instruction in diagnostic techniques, the use of testing equipment and the principles of mechanics, electricity, and electronics as they relate to the repair of heating, air conditioning and refrigeration systems.

What can I do with this certificate?

Career Options: HVAC/R Technician, HVAC/R system installations in the Building Construction Trades Industry.

Academic Options: Continue your studies by taking classes in the Associate of Applied Science program.

Location: Downtown Campus

Department/Contact Information:

Dean: 206-7134

Lead Faculty: 206-7137

Program/Major/Concentration Codes: **CRTHVA/HVA1**

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| BCT 105** | Professionalism in Service, Construction Math, Basic Rigging. | 3 |
| BCT 106* | Soldering and Brazing for BCT | 4 |
| BCT 107** | Basic Safety, Hand and Power Tools, Blueprint Reading. | 3 |
| BCT 120* | Blueprint Reading for Construction | 3 |
| BCT 132* | Residential and Industrial HVAC I. | 4 |
| BCT 133* | Residential and Industrial HVAC II | 4 |
| BCT 134* | Residential and Industrial HVAC III. | 4 |
| Subtotal. | | 25 |

Required Support Courses

| | | |
|-----------------------------------|--|-----------|
| CSA 100* | Computer Literacy | 1 |
| GTM 105* | Applied Technical Mathematics | 3 |
| GTW 101* | Writing for Trades and Technical Occupations | 3 |
| STU 100 | College Success and Career Planning | 1 |
| Subtotal. | | .8 |
| Total credits as displayed | | 33 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** BCT 100, 112, and 115 substitutes for BCT 105. BCT 111, 113, and 114 substitutes for BCT 107.

Plumber — Certificate for Direct Employment

Preparation to practice as licensed plumbers by applying technical knowledge and skills to lay out, assemble, install, and maintain piping fixtures and systems for steam, natural gas, oil, hot water, heating, cooling, drainage, lubricating, sprinkling, and industrial processing systems in home and business environments. Includes instruction in source determination, water distribution, wastewater removal, pressure adjustment, basic physics, technical mathematics, blueprint reading, pipe installation, pumps, welding and soldering, plumbing inspection, and applicable codes and standards.

What can I do with this certificate?

Career Options: Plumber, plumbing repairs, swimming pool installations, new home installations.

Academic Options: Pursue the Building Construction Technologies Associate of Applied Science Degree.

Location: Downtown Campus

Department/Contact Information:

Dean: 206-7134

Lead Faculty: 206-7137

Program/Major/Concentration Codes: **CRTPLM/PLM1**

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Courses - A grade of C or better is required for graduation. | | |
| BCT 105** | Professionalism in Service, Construction Math, Basic Rigging | 3 |
| BCT 106* | Soldering and Brazing for BCT | 4 |
| BCT 107** | Basic Safety, Hand and Power Tools, Blueprint Reading | 3 |
| BCT 120* | Blueprint Reading for Construction | 3 |
| BCT 181* | Plumbing I | 4 |
| BCT 182* | Plumbing II | 4 |
| BCT 183* | Plumbing III | 4 |
| Subtotal. | | 25 |

Required Support Courses

| | | |
|-----------------------------------|--|-----------|
| CSA 100* | Computer Literacy | 1 |
| GTM 105* | Applied Technical Mathematics | 3 |
| GTW 101* | Writing for Trades and Technical Occupations | 3 |
| STU 100 | College Success and Career Planning | 1 |
| Subtotal. | | .8 |
| Total credits as displayed | | 33 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** BCT 100, 112 and 115 substitutes for BCT 105. BCT 111, 113 and 114 substitutes for BCT 107.

Business

Explore the world of business including accounting, marketing, finance, economics and business administration. Acquire marketable business skills for employment in a variety of fields or prepare to start your own business.

Basic Business — Certificate for Direct Employment

Get an introduction to business skills and principles.

What can I do with this certificate?

Career Options: Entry-level business operations.

Academic Options: Continue your studies with the Advanced Business Certificate program.

Gainful Employment Information: www.pima.edu/ge-crtbusiness-b

Locations: All campuses.

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-7691

Program/Major Codes: **CRTBUSINES-B/BUB1**

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| ACC 211 | Financial Accounting (<i>was ACC 101</i>) SUN# ACC 2201 | 3 |
| BUS 100 | Introduction to Business | 3 |
| BUS 148 | Ethics in the Workplace | 3 |
| BUS 151* | Mathematics of Business | 3 |
| MGT 110 | Human Relations in Business and Industry | 3 |
| MGT 124 | Small Business Management | 3 |
| MKT 111 | Principles of Marketing | 3 |
| Subtotal. | | 21 |
| Required Support Courses | | |
| CMN 120 | Business and Professional Communications | 3 |
| CIS/CSA104* | Computer Fundamentals | 3 |
| STU 100 | College Success and Career Planning | 1 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| Subtotal. | | 10 |
| Total credits as displayed | | 31 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Advanced Business — Certificate for Direct Employment

Learn fundamental principles of business and skills in accounting, management and marketing.

What can I do with this certificate?

Career Options: Entry-level business and marketing functions.

Academic Options: Continue your studies through the AAS in Business.

Gainful Employment Information: <https://www.pima.edu/ge-crtbusiness-a>

Locations: All campuses.

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-7691

Program/Major Codes: **CRTBUSINES-A/BUA1**

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| ACC 211* | Financial Accounting SUN# ACC 2201 | 3 |
| ACC 212 | Managerial Accounting SUN# ACC 2202 | 3 |
| BUS 100 | Introduction to Business | 3 |
| BUS 125 | Ecommerce | 3 |
| BUS 148 | Ethics in the Workplace | 3 |
| BUS 151* | Mathematics of Business | 3 |
| BUS 220 | Legal Environment of Business | 3 |
| FIN 200 | Business Finance | 3 |
| MGT 110 | Human Relations in Business and Industry | 3 |
| MGT 124 | Small Business Management | 3 |
| MKT 111 | Principles of Marketing | 3 |
| Subtotal. | | 33 |
| Required Support Courses | | |
| CIS/CSA 104* | Computer Fundamentals | 3 |
| CMN 120 | Business and Professional Communications | 3 |
| ECN 201* | Microeconomic Principles SUN# ECN 2202 | 3 |
| STU 100 | Student Success and Career Planning | 1 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| Subtotal. | | 13 |
| Total credits as displayed | | 46 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Business — Associate of Applied Science Degree for Direct Employment

Learn basic business principles. Students planning to transfer to a four-year university should pursue the Associate of Business Administration.

What can I do with this degree?

Career Options: Carry out basic business functions for an employer or to open a small business.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html).

Locations: East and West Campuses

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-7691

Program/Major Codes: **AASBUS/BUS1**

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|---|
| Communication Requirement | † |
| WRT 101 fulfills this requirement. | |
| Arts and Humanities Requirement | 3 |
| Recommend: ART 105 or HUM 260 | |
| Social and Behavioral Science Requirement | † |
| ECN 201 fulfills this requirement. | |
| Mathematics and Science Requirement | † |
| BUS 151 fulfills this requirement. | |

| | |
|-----------------------------------|------------|
| Other Requirement | † |
| CMN 120 fulfills this requirement | |
| Special Requirements | |
| CMN 120 fulfills this requirement | |
| Subtotal. | .3‡ |

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| ACC 211 | Financial Accounting SUN# ACC 2201 | 3 |
| ACC 212 | Managerial Accounting SUN# ACC 2202 | 3 |
| BUS 100 | Introduction to Business | 3 |
| BUS 125 | Ecommerce | 3 |
| BUS 148 | Ethics in the Workplace | 3 |
| BUS 151* | Mathematics of Business | 3 |
| BUS 220 | Legal Environment of Business | 3 |
| FIN 200 | Business Finance | 3 |
| MGT 110 | Human Relations in Business and Industry | 3 |
| MGT 124 | Small Business Management | 3 |
| MGT 270 | Computer Applications for Managers | 3 |
| MGT 276 | Human Resources | 3 |
| MGT 280* | Business Organization and Management | 3 |
| MKT 111 | Principles of Marketing | 3 |
| Subtotal. | | .42 |

| | | |
|--|--|------------|
| Required Support Courses | | |
| CIS/CSA 104* | Computer Fundamentals | 3 |
| CMN 120 | Business and Professional Communications | 3 |
| ECN 201* | Microeconomic Principles SUN# ECN 2202 | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| Electives: Select 3 credits hours from the following list: | | 3 |
| ECN 202, LGM 101, MGT 230, MKT200 | | |
| Subtotal. | | .16 |
| Total credits as displayed | | .61 |

† Core or support course(s) fulfill this requirement.
‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.
* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Business Administration — Associate of Business Administration (ABUS) Degree for Transfer

Jump start your career by completing this degree and then transferring to a university business administration degree or related program.

What can I do with this degree?

Academic Options: Transfer to a 4-year university to complete your bachelor's degree.

Locations: All campuses

Contact Information: Contact any campus Student Services office (www.pima.edu/mhtml/email/advising).

Program/Major Codes: **AOBBUSIADMIN/BUD1**

Arizona General Education Curriculum Requirement (AGEC-B) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|------------|
| English Composition | 6 |
| Humanities and Fine Arts..... † | |
| ART 105 and either HUM 260 or LIT 280 fulfill this requirement. | |
| Biological and Physical Sciences | 8 |
| Recommend two courses from: BIO 100IN, BIO 109IN, GEO 101IN or GLG 101IN | |
| Mathematics..... † | |
| MAT 212 fulfills this requirement. | |
| Social and Behavioral Sciences | † |
| ECN 201 and PSY 101 fulfill this requirement. | |
| Other Requirements | † |
| CIS 120 and ECN 202 fulfill this requirement. | |
| Special Requirements | |
| The I, C, and G requirements should be fulfilled by selecting the appropriate recommended courses in the above categories. | |
| Subtotal. | 14¥ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|---|--|---------------|
| ACC 211* | Financial Accounting (was ACC 101) SUN# ACC 2201 | 3 |
| ACC 212* | Managerial Accounting (was ACC 102) SUN# ACC 2202..... | 3 |
| BUS 148 | Ethics in the Workplace | 3 |
| BUS 205* | Statistical Methods in Economics and Business SUN# BUS 2201..... | 3 |
| BUS 220 | Legal Environment of Business | 3 |
| CIS 120 | Computer Applications for Business SUN# CIS 1120 | 4 |
| ECN 201* | Microeconomic Principles SUN# ECN 2202 | 3 |
| ECN 202* | Macroeconomic Principles SUN# ECN 2201..... | 3 |
| MAT 151* | College Algebra SUN# MAT 1151 | 4 |
| (MAT 151 may be substituted by another transferable course if the student has tested above MAT 151 or completed a College MAT course numbered higher than 151 with a grade C or better.) | | |
| Business Math Requirement: | | 6-7 |
| <i>Please note:</i> The UA accepts the combination of MAT 212 and BUS 277. ASU accepts MAT 212 and an additional Math course at ASU**. The NAU BSBA program in Flagstaff only requires MAT 172, while their BBA program through the Extended Campus requires MAT 212 and either MAT 151 or 172. | | |
| Regardless of which university a student plans to transfer, any student who wants to earn a Pima ABUS degree still needs one of the two combinations listed below. | | |
| MAT 212*** | Topics in Calculus SUN# MAT 2212 | |
| and BUS 277 | Analytical Methods in Business | |
| or | | |
| MAT 172 | Finite Mathematics | |
| and MAT 212 | Topics in Calculus SUN# MAT 2212 | |
| Subtotal. | | .35-36 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|---|---|--------------|
| ART 105 | Exploring Art and Visual Culture | 3 |
| HUM 260 | Intercultural Perspectives..... | 3 |
| or LIT 280 | Introduction to Literature | |
| PSY 101 | Introduction to Psychology SUN# PSY1101 | 3 |
| STU 107 | University Transfer Preparation..... | 1 |
| STU 210 | Transfer Strategies..... | 2 |
| WRT 254 | Advanced Professional Communication | 3 |
| Subtotal. | | 15 |
| Total credits as displayed | | 64-65 |

† Core or support course(s) fulfill this requirement.

¥ AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core, support, or second language courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** ASU may also accept the combination of MAT 220 and 231, which can substitute for the above listed courses.

*** UA will accept MAT 220 instead of MAT 212, which can substitute for the above listed courses.

Clinical Research Coordinator

Clinical Research Coordinator — Associate of Applied Science for Direct Employment

Learn to manage clinical research trials involving human subjects in classes taught by experienced clinical research professionals.

Before enrolling in this program, you must meet certain requirements.

- Attend an Allied Health Information session.
- Submit application packet to Program Director
- Complete health declaration and immunization information.

To participate in the internship course, students must:

- Maintain health insurance and CPR card at the Health Care Provider Level prior to registering for CRC 291 (Internship course).

What can I do with this degree?

Career Options: Seek an entry-level position or career advancement in hospitals, medical centers, universities, or private research group.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima’s Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Northwest Campus

Department/Contact Information:

Dean: 520-206-5105
Lead Faculty: 520-206-2153

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | | |
|---|---|-----------|
| Communication Requirement | † | |
| WRT 101 or 154 fulfill this requirement. | | |
| Arts and Humanities Requirement | 3 | |
| Recommend: ANT 112 or MUS 160 | | |
| Social and Behavioral Science Requirement | † | |
| PSY/SOC 215 fulfills this requirement | | |
| Mathematics and Science Requirement | † | |
| MAT 142 fulfills this requirement. | | |
| Other Requirements | † | |
| BIO 160IN fulfills this requirement | | |
| Special Requirement | | |
| PSY/SOC 215 fulfills this requirement | | |
| Subtotal. | | 3¥ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------|--|---|
| CRC 101 | Foundations of Clinical Research | 3 |
| CRC 102* | Introduction to Research Data | 3 |
| CRC 110* | Clinical Research Common Terminology | 3 |
| CRC 201* | Clinical Research Regulatory Compliance | 3 |
| CRC 202 | Product Development and Regulatory Affairs | 3 |
| CRC 230* | Introduction to Clinical Research Study Protocol | 3 |
| CRC 240* | Pharmacology for Clinical Trials | 4 |
| CRC 250IN* | Clinical Research Site Coordination and Management | 4 |

| | | |
|------------------|---|-----------|
| CRC 260IN* | Lab Skills and Professional Practice | 3 |
| CRC 270* | Research Management for Sponsors and CROs | 3 |
| CRC 291* | Clinical Research Coordinator Internship | 3 |
| Subtotal. | ..... | 35 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|-----------------------------------|--|-----------|
| BIO 160IN | Introduction to Human Anatomy and Physiology | 4 |
| BIO 250 | Biomedical Ethics | 3 |
| MAT 106* | Elementary Data Analysis with Spreadsheets | 3 |
| MAT 142* | Topics in College Mathematics SUN#1142 | 3 |
| PSY/SOC 215** | Human Sexuality | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| or WRT 154 | Career Communications | |
| WRT 102* | English Composition II SUN# ENG 1102..... | 3 |
| or CMN 120 | Business and Professional Communications | |
| Subtotal. | ..... | 23 |
| Total credits as displayed | ..... | 61 |

† Core or support course(s) fulfill this requirement.
 ‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.
 * This course has a prerequisite, co-requisite, or recommendation. See course description section.
 ** Other Social & Behavioral Science courses may be substituted for PSY 215. See Program Director and/or Allied Health Senior Academic Advisor for course substitution options. If substituted, the C or G requirement may need to be fulfilled by another course.

Computer-Aided Design

Prepare for careers in a variety of manufacturing and construction settings. Master basic to advanced computer-aided design skills for high-demand careers.

Computer-Aided Design — Associate of Applied Science Degree for Direct Employment

Choose from two Computer-Aided Design concentrations.

What can I do with this degree?

Career Options: Work as a drafter modeler and entry level designer in industries such as manufacturing, electronics, building construction and site development.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead faculty: 520-206-7230

Program/Major/Concentration Codes: **AASELECMECHN/CAD1/****** (see concentration codes below)

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|------------|
| Communication Requirement | † |
| WRT 101* or GTW 101* fulfill this requirement. | |
| Arts and Humanities Requirement | 3 |
| Recommend: ART 110 | |
| Social and Behavioral Science Requirement | 3 |
| Recommend: SOC 110 or ECN 201 or POS 201 | |
| Mathematics or Science Requirement | † |
| GTM 105* or MAT 189* fulfills this requirement. | |
| Other Requirement | 4 |
| Complete a Science course - Recommend: PHY 121IN* or BIO 108IN or MAC 275* | |
| Special Requirement | |
| The C or G requirement should be fulfilled by completing an appropriate course in the above categories. | |
| NOTE: If a student completes ECN 201 (or another course which does not have a C or G) for the Social and Behavioral Science requirement, BIO 108IN must be completed in the Other Requirement in order to meet the C or G requirement. | |
| Subtotal. | 10¥ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|---|----------|
| CAD 101 | Computer-Aided Drafting | 4 |
| CAD 280* | Computer-Aided Design Portfolio | 1 |
| Subtotal. | | 5 |

Core Concentrations - A grade of C or better is required for graduation.

Complete one of the following concentrations:

Department faculty approval is recommended when selecting concentration and technical elective courses.

Mechanical/Electro-Mechanical Concentration (Concentration Code: DFTA)

| | | |
|----------|--|---|
| CAD 117 | Print Reading with CAD for Manufacturing | 4 |
| CAD 142 | Introduction to Parametric Modeling: SolidWorks. | 4 |
| CAD 153* | Electro-Mechanical Design | 4 |
| CAD 172* | Geometric Dimensioning and Tolerancing | 3 |
| CAD 203* | Advanced Electro-Mechanical Design | 4 |
| CAD 242* | Advanced Parametric Modeling: SolidWorks. | 4 |

| | | |
|---------------------------|--|-----------|
| CAD 270* | Integrated Mechanical/Electro-Mechanical Design | 4 |
| MAC 100 | Introduction to Machine Tool | 3 |
| Technical Electives | | 8 |
| | Complete 8 credit hours from the following list: CAD 199, 199WK, 222, 232, 242, 252*, 282*, ENG, MAC, MCT 101, TEC 100, 101, WLD 110, or MAT 167 or higher | |
| | Recommend one of the following pairs: CAD 222/232, or CAD 252/MCT 101, or MAC 150/155 | |
| Subtotal. | | 38 |

Construction (Concentration Code: DFTC)

| | | |
|--|---|----|
| CAD 151 | Computer-Aided Design for Construction | 4 |
| CAD 155* | Residential Computer-Aided Design | 4 |
| CAD 157* | Introduction to Site Development and Design | 4 |
| Complete one of the following focus areas: | | 20 |

Building Design

| | | |
|----------|--|--|
| CAD 166 | Introduction to Revit | |
| CAD 206* | Commercial Design: Revit | |
| CAD 256* | Advanced Commercial Design: Revit | |
| CAD 265* | Design for Sustainability | |
| CAD 266* | Mechanical, Electrical, Plumbing Design: Revit MEP | |

Land Development

| | | |
|-------------------------|---|--|
| CAD 127 | Introduction to MicroStation | |
| CAD 166 | Introduction to Revit | |
| CAD 207* | Land Development Design: Civil 3D | |
| CAD 206* or CAD 265* | Commercial Design: Revit Design for Sustainability | |
| CAD 257* | Advanced Land Development Design: Civil 3D | |

| | | |
|---------------------------|--|-----------|
| Technical Electives | | 6 |
| | Complete 6 credit hours from the following list: BCT 101, 102, 204, 265, CAD 196, 199, 199WK, 296, LTP 119, 129, 140 | |
| | Recommend 6 credits from BCT 101, 102, LTP 129 or 140 | |
| Subtotal. | | 38 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|---|--|--------------|
| GTM 105* or MAT 189* | College Algebra SUN# MAT1151 | 3-4 |
| STU 100 | Applied Technical Mathematics | 1 |
| GTW 101* or WRT 101 | College Success and Career Planning..... Writing for Trades and Technical Occupations | 3 |
| | English Composition I SUN# ENG1101 | 7-8 |
| Subtotal. | | 7-8 |
| Total credits as displayed | | 60-61 |

† Core or support course(s) fulfill this requirement.

¥ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

CAD Technician — Certificate for Direct Employment

Learn basic drafting and design fundamentals using AutoCAD and SketchUp computer-aided drafting (CAD) tools

What can I do with this certificate?

Career Options: Work as an entry-level drafter/designer in residential architecture, small commercial architecture, small civil design, and interior design.

Academic Options: Continue your studies by completing the Architectural Technician Certificate and/or the Computer-Aided Drafting Associate of Applied Science Degree.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead faculty: 520-206-7230

Program/Major Codes: **CRTCDT/CDT1**

| Course Number | Course Title | Credit Hours |
|--|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CAD 101 | Computer-Aided Drafting | 4 |
| CAD 151 | Computer-Aided Design for Construction | 4 |
| CAD 155* | Residential Computer-Aided Design | 4 |
| CAD 157* | Introduction to Site Development and Design | 4 |
| Subtotal. | | 16 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| STU 100 | College Success and Career Planning..... | 1 |
| Subtotal. | | 1 |
| Total credits as displayed | | 17 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Civil Engineering CAD Technician — Certificate for Direct Employment

Learn basic drafting and design fundamentals using AutoCAD, Civil 3D, and MicroStation computer-aided design (CAD) tools

What can I do with this certificate?

Career Options: Work as an entry-level technician in land development and transportation civil engineering firms.

Academic Options: Continue your studies by completing the Computer-Aided Drafting Associate of Applied Science Degree.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead faculty: 520-206-7230

Program/Major Codes: **CRTCIV/CIV1**

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CAD 101 | Computer-Aided Drafting | 4 |
| CAD 127 | Introduction to MicroStation | 4 |
| or CAD 257* | Advanced Land Development Design: Civil 3D | 4 |
| CAD 157* | Introduction to Site Development and Design..... | 4 |
| CAD 196* | Independent Study in Computer Aided Design | 4 |
| or CAD 199/199WK | Co-op in Computer Aided Design | 4 |
| or CAD 207 | Land Development Design: Civil 3D | |
| Subtotal. | | 16 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| STU 100 | College Success and Career Planning..... | 1 |
| Subtotal. | | 1 |
| Total credits as displayed | | 17 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Revit Technician — Certificate for Direct Employment

Learn modeling and design fundamentals using Revit computer-aided design (CAD) tools

What can I do with this certificate?

Career Options: Work as an entry-level technician in architectural, mechanical/HVAC, electrical-engineering, plumbing, and construction firms.

Academic Options: Continue your studies by completing the Architectural Technician Certificate and/or the Computer-Aided Design Associate of Applied Science Degree.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead faculty: 520-206-7230

Program/Major Codes: **CRTREV/REV1**

| Course Number | Course Title | Credit Hours |
|--|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CAD 166 | Introduction to Revit | 4 |
| CAD 206* | Commercial Design: Revit..... | 4 |
| Revit Electives | ..... | 8 |
| Complete two courses from the following: | | |
| CAD 196 | Independent Study in Computer-Aided Design: 100 Level | |
| CAD 199/199WK | Co-op Work: Computer Aided Design** | |
| CAD 256* | Advanced Commercial Design: Revit | |
| CAD 265* | Design for Sustainability | |
| CAD 266* | Mechanical, Electrical, Plumbing Design: Revit MEP | |
| Subtotal. | | 16 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| STU 100 | College Success and Career Planning..... | 1 |
| Subtotal. | | 1 |
| Total credits as displayed | | 17 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** Primary work responsibilities must include Revit modeling.

SolidWorks Designer — Certificate for Direct Employment

Learn basic design and modeling fundamentals using SolidWorks computer-aided design (CAD) tools

What can I do with this certificate?

Career Options: Work as an entry-level drafter/designer in mechanical engineering and manufacturing industries.

Academic Options: Continue your studies by completing the Mechanical Designer/CNC Programmer Certificate or the Mechanical/Electro-Mechanical Designer Certificate and/or the Computer-Aided Design Associate of Applied Science Degree.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead faculty: 520-206-7230

Program/Major Codes: **CRTSWD/SWD1**

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CAD 117 | Print Reading with CAD for Manufacturing | 4 |
| CAD 142 | Introduction to Parametric Modeling: SolidWorks..... | 4 |
| CAD 172* | Geometric Dimensioning and Tolerancing | 3 |
| CAD 242* | Advanced Parametric Modeling: SolidWorks | 4 |
| Subtotal. | | 15 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| STU 100 | College Success and Career Planning..... | 1 |
| Subtotal. | | .1 |
| Total credits as displayed | | 16 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Architectural Technician — Certificate for Direct Employment

Gain advanced computer-aided design (CAD) Learn advanced design, drafting, and modeling fundamentals using AutoCAD, SketchUp, and Revit computer-aided design (CAD) tools.

What can I do with this certificate?

Career Options: Work as an entry-level technician in residential architecture, commercial architecture, and construction firms.

Academic Options: Continue your studies by completing the Computer-Aided Design Associate of Applied Science Degree.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead faculty: 520-206-7230

Program/Major Codes: **CRTACH/ACH1**

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CAD 101 | Computer-Aided Drafting | 4 |
| CAD 151 | Computer-Aided Design for Construction | 4 |
| CAD 155* | Residential Computer-Aided Design | 4 |
| CAD 157* | Introduction to Site Development and Design | 4 |
| CAD 166 | Introduction to Revit | 4 |
| CAD 206* | Commercial Design: Revit | 4 |
| CAD 256* | Advanced Commercial Design: Revit | 4 |
| or CAD 265* | Design for Sustainability | |
| or CAD 266* | Mechanical, Electrical, Plumbing, Drafting & Design: Revit MEP | |
| Technical Electives | ..... | 3 |
| | Complete 3 credit hours from the following list: BCT 101, 102, 204, 265, CAD 196, 199, 199WK, 296, LTP 119, 129, 140 | |
| | Recommend BCT 101 or 102 | |
| Subtotal. | | 31 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| STU 101 | College Success and Career Planning..... | 1 |
| Subtotal. | | .1 |
| Total credits as displayed | | 32 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Mechanical Designer/CNC Programmer — Certificate for Direct Employment

Learn mechanical design and modeling fundamentals using SolidWorks computer-aided design (CAD) and programmer skills in computer numerical control (CNC).

What can I do with this certificate?

Career Options: Work as an entry-level modeler/designer in manufacturing and/or employment in CNC programming.

Academic Options: Continue your studies by completing the Computer-Aided Drafting Associate of Applied Science Degree.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead faculty: 520-206-7230

Program/Major Codes: **CRTMDC/MDC1**

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CAD 117 | Print Reading with CAD for Manufacturing | 4 |
| CAD 142 | Introduction to Parametric Modeling: SolidWorks | 4 |
| CAD 172* | Geometric Dimensioning and Tolerancing | 3 |
| CAD 242* | Advanced Parametric Modeling: SolidWorks | 4 |
| CAD 270* | Integrated Mechanical/Electro-Mechanical Design | 4 |
| CAD 280* | Computer-Aided Design Portfolio | 1 |
| MAC 100 | Introduction to Machine Tool | 3 |
| MAC 150* | Computer Numerical Control (CNC) Mill Programming I | 4 |
| MAC 155* | Computer Numerical Control (CNC) Mill Programming II | 4 |
| MAC 257* | Computer Aided Machining (CAM) I | 4 |
| Subtotal | | 35 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| GTM 105* or MAT 188* | Applied Technical Mathematics Precalculus I | 3-4 |
| STU 100 | College Success and Career Planning | 1 |
| GTW 101* or WRT 101 | Writing for Trades and Technical Occupations English Composition I SUN# ENG1101 | 3 |
| Subtotal | | 7-8 |
| Total credits as displayed | | 42-43 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Mechanical/Electro-Mechanical Designer — Certificate for Direct Employment

Learn mechanical and electro-mechanical design and modeling fundamentals using AutoCAD and SolidWorks computer-aided design (CAD).

What can I do with this certificate?

Career Options: Work as an entry-level modeler/designer in mechanical and electro-mechanical engineering and manufacturing.

Academic Options: Continue your studies by completing the Computer-Aided Design Associate of Applied Science Degree.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead faculty: 520-206-7230

Program/Major Codes: **CRTMEM/MEM1**

| Course Number | Course Title | Credit Hours |
|--|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CAD 101 | Computer-Aided Drafting | 4 |
| CAD 117 | Print Reading with CAD for Manufacturing | 4 |
| CAD 142 | Introduction to Parametric Modeling: SolidWorks | 4 |
| CAD 153* | Electro-Mechanical Design | 4 |
| CAD 172* | Geometric Dimensioning and Tolerancing | 3 |
| CAD 203* | Advanced Electro-Mechanical Design | 4 |
| CAD 242* | Advanced Parametric Modeling: SolidWorks | 4 |
| Subtotal. | | 27 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| STU 100 | College Success and Career Planning | 1 |
| GTM 105* or MAT 188* | Applied Technical Mathematics | 3-4 |
| GTW 101* or WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| Subtotal. | | 7-8 |
| Total credits as displayed | | 34-35 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Computer Information Systems

Prepare for a career as a programmer, network administrator, systems administrator, or upgrade existing skills and improve job performance.

Computer Programmer/Analyst — Associate of Applied Science Degree for Direct Employment

Learn to design and develop software programs and applications. Courses focus on problem solving and structured programming concepts.

What can I do with this degree?

Career Options: Become a programmer or programmer/analyst.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Locations: East Campus, West Campus

Department/Contact Information:

Dean: 206-7694 (East Campus);

Program/Major Concentration Codes: **AASCPM/CPM/****** (see concentration codes below)

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|-----------|
| Communication Requirement | † |
| WRT 101 fulfill this requirement. | |
| Math or Science | † |
| MAT 151 or 188 fulfills this requirement. | |
| Social Science Requirement | † |
| ECN 150 fulfills this requirement. | |
| Fine Arts and Humanities | 3 |
| Other Requirement | † |
| MAT 172 fulfills this requirement | |
| Special Requirement | † |
| ECN 150 fulfills this requirement. | |
| Subtotal. | 33 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|--|-----------|
| CIS 129* | Programming and Problem Solving I | 4 |
| CIS 131* | Programming and Problem Solving II | 4 |
| CIS 162 | Database Design and Development | 3 |
| CIS 250* | Introduction to Assembly Language | 3 |
| CIS 280* | Systems Analysis and Design: Concepts and Tools | 3 |
| CIS 281* | Systems Analysis and Design: Applications Capstone | 3 |
| Subtotal. | | 20 |

Required Concentration Courses - A grade of C or better is required for graduation.

Complete courses from one of the following concentrations. Department faculty or advisor approval is recommended.

Applied Programming Concentration (Concentration Code: CPMA)

Core Concentration

| | | |
|----------|----------------------------------|---|
| CIS 141* | Introduction to VB.NET | 3 |
| CIS 185* | Introduction to Python | 3 |
| CIS 269* | Data Structures | 4 |

| | | |
|-------------------------------|---|-----------|
| CIS 276 | Mobile App Programming: Android I | 3 |
| CIS 278* | C++ and Object Oriented Programming | 4 |
| CIS 279* | Java Programming | 4 |
| Subtotal. | ..... | 21 |
| Support Courses | | |
| BUS 125 | eCommerce | 3 |
| ECN 150* | An Economic Perspective | 3 |
| MAT 151** | College Algebra | 4 |
| or MAT 188** | Precalculus I | |
| MAT 172*# | Finite Mathematics | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| Subtotal. | ..... | 17 |
| Concentration Subtotal | ..... | 38 |

Cyber Operations Programming Concentration (Concentration Code: CPMC)

Core Concentration

| | | |
|------------------|---|--------------|
| CIS 265 | The C Programming Language..... | 3 |
| CIS 185 | Introduction to Python | 3-4 |
| or 269 | Data Structures | |
| CIS 182 | Introduction to ANSI SQL | 3 |
| CIS 288 | Fundamentals of Cybersecurity | 4 |
| CIS 278 | C++ and Object-Oriented Programming | 4 |
| or 279 | Java Programming | |
| or 283 | Advanced Python | |
| Subtotal. | ..... | 17-18 |

Support Courses

| | | |
|----------------------------------|-------------------------------|--------------|
| ECN 150 | An Economic Perspective | 3 |
| MAT 151** | College Algebra | 4 |
| or MAT 188** | Precalculus I | |
| MAT 172*# | Finite Mathematics | 3 |
| WRT 101 | English Composition I | 3 |
| WRT 102 | English Composition II..... | 3 |
| AGEC Science | ..... | 4 |
| Complete any AGEC Science course | ..... |  |
| Subtotal. | ..... | 20 |
| Concentration Subtotal. | ..... | 37-38 |

Total credits as displayed **60-61**

† Core or support course(s) fulfill this requirement.
 ‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.
 * This course has a prerequisite, co-requisite, or recommendation. See course description section.
 ** Students who place into MAT 172 on the Math Placement test are not required to complete MAT 151 or 188, and additional credits may be needed to get to the minimum of credits of 60 required for a degree.
 # Students who plan to transfer to a university should complete MAT 227, Discrete Mathematics in Computer Science, Mat 189 or higher can substitute for MAT 172.

Computer Systems Administration/Networking — Associate of Applied Science Degree for Direct Employment

Learn to Install and administer computer systems, networking technologies, and network analysis. Courses also provide preparatory knowledge for industry accepted credentials.

What can I do with this degree?

Career Options: Administer computer systems, CISCO and Microsoft systems.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Locations: East Campus

Department/Contact Information:

Dean: 206-7694 (East Campus),

Program/Major/Concentration Codes: **AASCOMPYSAD/CSN1**

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|-------------|
| Communication Requirement | † |
| WRT 154 fulfills this requirement | |
| Arts and Humanities Requirement | 3-4 |
| Recommend: ART 100 or DAR 250 | |
| Social and Behavioral Science Requirement | 3 |
| Recommend: ECN 150, JRN 102, GEO 104, POS 201 or POS 202 | |
| Mathematics and Science Requirement | † |
| MAT 106 fulfills this requirement | |
| Other Requirement | † |
| CMN 120 fulfills this requirement | |
| Special Requirements | |
| CMN 120 fulfills this requirement | |
| Subtotal. | 6-7† |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------|--|---|
| CIS 103 | Microsoft Windows Operating System Professional Administration | 3 |
| CIS 136 | Computer Hardware Components | 3 |
| CIS 137* | Introduction to the UNIX Operating System | 3 |
| CIS 170* | CISCO I: Networking Fundamentals | 4 |
| CIS 171* | CISCO II: Networking Router Technologies | 4 |
| CIS 216* | Introduction to Wireshark and Network Analysis. | 4 |
| CIS 219* | Introduction to Virtual Computing | 3 |
| CIS 221* | Microsoft Windows Servers | 3 |
| CIS 222* | Implementing Windows Server Network Infrastructure | 3 |
| CIS 225* | Linux (UNIX) System and Network Administration | 3 |
| CIS 228* | Fundamentals of Network Security | 4 |

Complete one of the following focus areas. 8-9
 Meeting with a program advisor is recommended in the selection of the focus areas.

CISCO Focus

| | | |
|----------|---|---|
| CIS 172* | CISCO III: Advanced Routing and Switching | 4 |
| CIS 173* | CISCO IV: Project Based Learning | 4 |

Cyber Security Focus

| | | |
|----------|---|---|
| CIS 132* | Introduction to Computer Forensics | 3 |
| CIS 223* | Implementing Windows Directory Services | 3 |
| CIS 235* | Advanced Topics in Linux/Unix Security | 3 |

Network Administrator Focus

| | | |
|----------|--|---|
| CIS 223* | Implementing Windows Directory Services | 3 |
| CIS 226* | Advanced Linux Networking | 3 |
| CIS 229* | Protecting Your PC and Network: Countermeasures to Network Intrusion | 3 |

Subtotal. **45-46**

| Course Number | Course Title | Credit Hours |
|-----------------------------------|--|--------------|
| Required Support Courses | | |
| CMN 120 | Business and Professional Communications | 3 |
| MAT 106 | Elementary Data with Spreadsheets | 3 |
| STU 100 | College Success and Career Planning | 1 |
| WRT 154 | Career Communications | 3 |
| Subtotal. | ..... | 10 |
| Total credits as displayed | ..... | 61-63 |

† Core or support course(s) fulfill this requirement.

¥ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Culinary Arts

Set your culinary career in motion and prepare to work in hotels, restaurants and resorts.

Culinary Fundamentals - Certificate for Direct Employment

Courses focus on the basics of cold foods, hot foods, baking, nutrition, and safety and sanitation.

Before you can enroll, you must interview with a Culinary Arts faculty member or the Program Coordinator.

What can I do with this certificate?

Career Options: Gain entry-level employment in such positions as a food preparation worker, short order cook, station cook, cook's helper, or assistant baker.

Academic Options: Continue your studies by completing the advanced certificate program or Associate of Applied Science degree.

Gainful Employment Information: www.pima.edu/ge-crtcuf-cuf

Location: Desert Vista Campus

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-5043

Program Coordinator: 520-206-5302

Special Admissions Program: You are not fully admitted to this program until you have completed an interview. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CUL 105* | Food Service Nutrition and Sanitation | 3 |
| CUL 130* | Hot Foods I | 3 |
| CUL 140* | Culinary Principles | 3 |
| CUL 150* | Garde Manger | 3 |
| CUL 160* | Bakery and Pastry Production I | 3 |
| CUL 189* | Culinary Arts Capstone I | 1 |
| Total credits as displayed | | 16 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Culinary Arts — Advanced Certificate for Direct Employment

Courses focus on cold foods, hot foods, baking, nutrition, safety and sanitation, and general restaurant operations.

Before enrolling in this program, you must interview with a Culinary Arts faculty member or the Program Coordinator.

What can I do with this certificate?

Career Options: Gain entry-level employment as a cook, menu planner, dining room manager or other culinary positions.

Academic Options: Continue your studies by completing the Associate of Applied Science degree.

Gainful Employment Information: www.pima.edu/ge-crtculnryart

Location: Desert Vista Campus

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-5164

Program Coordinator: 520-206-5302

Special Admissions Program: You are not fully admitted to this program until you have completed an interview and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|--|---------------------------------------|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CUL 101 | Principles of Restaurant Operations | 3 |
| CUL 105* | Food Service Nutrition and Sanitation | 3 |
| CUL 130* | Hot Foods I | 3 |
| CUL 140* | Culinary Principles | 3 |
| CUL 150* | Garde Manger | 3 |
| CUL 160* | Bakery and Pastry Production I | 3 |
| CUL 163* | Sauces | 3 |
| CUL 170 | Dining Room Operations | 2 |
| CUL 174* | From Garden to Table | 3 |
| CUL 180 | Food in History | 3 |
| CUL 189* | Culinary Arts Capstone I | 1 |
| Subtotal | | 30 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| CSA 100* | Computer Literacy | 1 |
| Subtotal | | 1 |
| Total credits as displayed | | 31 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Culinary Arts — Associate of Applied Science Degree for Direct Employment

Courses focus on culinary management, budgeting, and hands-on food preparation.

Before enrolling in this program, you must interview with a Culinary Arts faculty member or the Program Coordinator.

What can I do with this degree?

Career Options: Become a cook, menu planner, caterer, dining room manager or work in other culinary positions.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima’s Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Desert Vista Campus

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-5164

Program Coordinator: 520-206-5302

Special Admissions Program: You are not fully admitted to this program until you have completed an interview and have been officially admitted to the program. See the website or an advisor for details.

General Education Requirements - A grade of C or better is required for graduation.

| | |
|--|-----------|
| Communication Requirement WRT 101 or WRT 154 fulfills this requirement. | |
| Arts and Humanities Requirement ART 105, HIS 102, or HUM 260 fulfills this requirement | † |
| Social and Behavioral Sciences Requirement ANT 102, 112, or GEO 103 fulfills this requirement | † |
| Mathematics and Science Requirement BIO/FSN 127IN or BUS 151* fulfills this requirement. NOTE: The Math Competency must be met | † |
| Other Requirement CMN 102, CMN 120, FRE 101, or SPA 101 fulfills this requirement. | † |
| Special Requirement ANT 102 or GEO 103 fulfills this requirement. | |
| Subtotal. | 0¥ |

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CUL 101 | Principles of Restaurant Operations | 3 |
| CUL 105* | Food Service Nutrition and Sanitation | 3 |
| CUL 130* | Hot Foods I | 3 |
| CUL 140* | Culinary Principles | 3 |
| CUL 150* | Garde Manger | 3 |
| CUL 160* | Bakery and Pastry Production I | 3 |
| CUL 163* | Sauces | 3 |
| CUL 170 | Dining Room Operations | 2 |
| CUL 174* | From Garden to Table | 3 |
| CUL 180 | Food in History | 3 |
| CUL 251* | International Cuisine: World of Flavor | 3 |
| CUL 256* | Special Diets | 3 |
| CUL 289* | Culinary Capstone II | 1 |
| Subtotal. | | 36 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| ANT 102 or ANT 112 or GEO 103 | Introduction to Cultural Anthropology and Linguistics Exploring Non-Western Cultures Cultural Geography | 3 |
| ART 105 or HIS 102 or HUM 260 | Exploring Art and Visual Studies Introduction to Western Civilization I Intercultural Perspectives | 3 |
| BIO/FSN 127IN or BUS 151 | Human Nutrition and Biology Mathematics of Business | 3-4 |
| CMN 102 or CMN 120 or FRE 101 or SPA 101 | Introduction to Speech Communication Business and Professional Communication Elementary French I Elementary Spanish I | 3-4 |
| CSA 100 | Computer Literacy** | 1 |
| STU 100 | College Success and Career Planning | 1 |
| WRT 101 or WRT 154 | English Composition I Career Communications | 3 |
| Electives | Complete 5-7 credits from the following, so the total credits for the degree is at least 60: | 5-7 |
| ACC 100 | Practical Accounting Procedures | |
| BUS 100 | Introduction to Business | |
| BUS 148 | Ethics in the Workplace | |
| CUL 153* | Cakes | |
| CUL 156* | Pies | |
| CUL 162* | The Art of Chocolate | |
| CUL 168* | Specialty and Hearth Breads | |
| CUL 185* | Catering Operations | |
| CUL 189* | Culinary Arts Capstone I | |
| CUL 199 | Co-op: Culinary Arts | |
| CUL 199WK | Co-op Work: Culinary Arts | |
| CUL 230* | Hot Foods II | |
| CUL 260* | Bakery and Pastry Production II | |
| FSN 154 | Nutrition | |
| HRM 110 | Food Service Systems Management | |
| HRM 111* | Commercial Food | |
| HRM 140* | Introduction to Bar and Beverage Management | |
| MGT 110 | Human Relations in Business and Industry | |
| MKT 111 | Principles of Marketing | |
| Subtotal. | | 24 |
| Total Credits as Displayed | | 60 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** CSA/CIS 104 may be substituted for CSA 100.

‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

Dental Studies

Complete programs to work in direct patient care as a dental hygienist or assistant, or prepare for a career in a dental laboratory.

- Dental Assisting Education
- Dental Hygiene
- Dental Laboratory Technologies

Dental Assisting Education

Dental Assisting Education — Certificate for Direct Employment

Learn to assist dentists and other dental professionals in patient care. Complete at least 336 hours of clinical work in dental clinics or offices. This program is accredited by the American Dental Association Commission on Dental Accreditation.

Before enrolling in this program, you must meet certain requirements:

This certificate requires a special program application. Students may request a program application available at:

www.pima.edu/programs-courses/credit-programs-degrees/health-professions/dental/dental-assisting/admission.html

Because of the clinical component of this program, students must:

- Be able to perform a number of physical activities in the clinical portion of the program. At a minimum, students will need to stand for several hours at a time and perform bending activities. The clinical experience also places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting patients' 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 submitting an application.
- Present proof of immunization and/or immunity for MMR/Varicella/Hepatitis-B/TDaP/Influenza.
- Proof of negative TB skin test or negative chest x-ray for TB within the last two years.
- Maintain health insurance and a current CPR card at the Health Care Provider Level throughout the program.
- Completed health declaration form from a licensed care provider.
- Present proof of current Arizona DPS Fingerprint Clearance Card; additional background screening and drug screening may be required.

What can I do with this certificate?

Career Options: Take the exams to gain National Dental Assisting Certification, Arizona Oral Radiology Certification and Coronal Polishing Certification. Work as a dental assistant in hospitals, clinics and dental offices.

Academic Options: Continue your studies by taking courses toward the Dental Hygienist AAS degree.

Gainful Employment Information: www.pima.edu/ge-crtedentassis

Location: West Campus

Department/Contact Information:

Dean: 520-206-7694

Program Director: 520-206-6916

Selective Admissions Program: Students may apply and be admitted to the program, but must fulfill the requirements listed below to start the program. See the website or an advisor for details.

Preparatory Coursework

Students must have completed the following requirements before starting the program:

| | |
|---|------------|
| REA 112HP* or REA 112* or Accuplacer Reading assessment score of 92 or higher | 0-4 |
| High school or college biology course | 0-4 |
| High school diploma or G.E.D. | |
| Subtotal. | 0-8 |

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| DAE 159* | Introduction to Health Care for Dental Assisting | 2 |
| DAE 160* | Orientation to Dental Care | 1 |

| | | |
|--|--|------------------|
| DAE 161* | Biomedical Dental Science | 3 |
| DAE 162/162LB* | Dental Assisting I | 3 |
| DAE 163/163LC* | Oral Radiography | 3 |
| DAE 164/164LB*Δ | Dental Materials | 3 |
| DAE 165/165LC*Δ | Dental Assisting Procedures I/Dental Assisting Procedures Clinical I | 2 |
| DAE 166* | Dental Assisting II | 3 |
| DAE 167* | Dental Assisting III | 3 |
| DAE 169/169LC* | Dental Assisting Procedures II/Dental Assisting Procedures Clinical II | 6.5 |
| Total credits as displayed (not including preparatory coursework) | | 29.5 |
| Total credits as displayed (including preparatory coursework) | | 29.5-37.5 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Δ DHE 116/116LC will substitute for DAE 163/163LC if completed within the last three years. DHE 132/132LB will substitute for DAE 164/164LB if completed within the last three years. See academic advisor or faculty for information regarding course substitution.

Dental Hygiene

Dental Hygiene — Associate of Applied Science Degree for Direct Employment

Learn dental hygiene and dental health education. This program is accredited by the American Dental Association Commission on Dental Accreditation.

Before enrolling in this program, you must meet certain requirements:

This degree requires a special program application. Once all prerequisites are complete students can access the program application on the MyPima Academics tab in the Degrees and Programs section. Additional application information is available at <http://www.pima.edu/programs-courses/credit-programs-degrees/health-professions/dental/dental-hygiene/index.html>.

Once students are accepted into the Dental Hygiene program, admitted students will be expected to meet the criteria below prior to their enrollment in the Dental Hygiene courses. To participate in dental hygiene coursework, accepted students must:

- Obtain an Arizona DPS Fingerprint Clearance Card.
- Pass a urine toxicology screening exam.
- Be able to perform a number of physical activities in the clinical portion of the program. At a minimum, students will be required to lift patients, stand for several hours at a time and perform bending activities. The dental experience also places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting patients' 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 submitting an application and be advised that they may be exposed to blood borne pathogens and infectious diseases during delivery of care.
- Present proof of immunization or immunity for MMR/Varicella/Hep-B, Hep-A, TB and TDap.
- Show proof of negative TB skin test or negative chest x-ray for TB.
- Maintain health insurance.
- Health related professions students are advised that state/national license exams or certification applications may include a personal history section in which prospective applicants must report and may have to provide a detailed explanation of legal situations. Examples of situations which may prohibit licensure or certification include, but are not limited to: felony or misdemeanor convictions, substance abuse, conviction of an offense involving immoral behavior, or being guilty of acts which deceive, defraud or cause harm to the public in any way.
- Fingerprinting may be part of many state and federal licensing and certification processes. If there is any question about eligibility for licensure or certification, it is the responsibility of the applicant to contact the state and/or federal agency responsible for licensure or certification.

Students who opt to leave the dental hygiene program may re-enter one time without need to repeat mandatory course work, if they re-enter within one (1) year, based on space availability.

What can I do with this degree?

Career Options: Take national and regional exams in preparation for state licensure, then work in general or specialty dental offices, hospitals, schools, public health or government agencies.

Academic Options: Continue your studies at Northern Arizona University for a Bachelor of Science in Dental Hygiene or other online baccalaureate opportunities.

Location: West Campus

Department/Contact Information:

Dean: 520-206-7694
 Program Director: 520-206-6622

Selective Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and below and have been officially admitted to the program. See the website or an advisor for details.

Preparatory Coursework

Student must have completed the following basic requirements before they may begin the application process.

| | |
|---|---------------|
| REA 112HP** or Accuplacer Reading score of 92 or higher..... | 0-4 |
| CHM 130IN*, CHM 140IN*, BIO 201IH* or BIO 201IN*, and BIO 202IN*, with a combined average grade of B or better within the last six years..... | 16 |
| Complete the BIO 156IN* prerequisite if needed..... | 0-4 |
| Subtotal. | .16-24 |

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|------------|
| Communication Requirement | † |
| WRT 101 fulfills this requirement | |
| Arts and Humanities Requirement | 3 |
| Recommend: HIS 124 or PHI 130 | |
| Social and Behavioral Sciences Requirement | † |
| SOC 101 fulfills this requirement. | |
| Mathematics and Science Requirement | † |
| MAT 142 fulfills this requirement. | |
| Other Requirement | † |
| PSY 101 fulfills the requirement | |
| Special Requirement | † |
| SOC 101 fulfills the requirement. | |
| Subtotal. | .3† |

| | | |
|----------------------|---------------------|---------------------|
| Course Number | Course Title | Credit Hours |
|----------------------|---------------------|---------------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|---|--------------|
| DHE 101/101LC* | Dental Hygiene I/Dental Hygiene I Clinical | 5 |
| DHE 104/104LB* | Dental and Oral Morphology/Dental and Oral Morphology Lab | 2 |
| DHE 107* | Oral Embryology and Histology | 2 |
| DHE 112* | Preventive Dentistry | 3 |
| DHE 116/116LC ^Δ | *Oral Radiography/Oral Radiography Clinical | 3 |
| DHE 119* | Periodontology | 2 |
| DHE 120* | Oral Pathology | 2 |
| DHE 122* | Pharmacology | 2 |
| DHE 132/132LB ^Δ | Dental Materials/Dental Materials Lab | 3 |
| DHE 150/150LB/ 150LC* | Dental Hygiene II/Dental Hygiene II Lab/Dental Hygiene II Clinical | 5.5 |
| DHE 208/208LC* | Pain and Anxiety Control for Dental Hygiene/Pain and Anxiety Control for Dental Hygiene Clinical | 2 |
| DHE 209* | Ethics and Practice Management | 1 |
| DHE 212* | Nutrition and Oral Health | 1 |
| DHE 213/213CA/ 213CB* | Advanced Periodontal Services/Advanced Periodontal Services Clinical-A/ Advanced Periodontal Services Clinical-B | 4 |
| DHE 216* | Community and Dental Health Education | 3 |
| DHE 250/250LC* | Dental Hygiene III/Dental Hygiene III Clinical | 7 |
| DHE 255/255LC* | Dental Hygiene IV/Dental Hygiene IV Clinical | 4 |
| Subtotal. | | .51.5 |

Required Support Courses

| | | |
|-----------|--|---|
| BIO 205IN | Microbiology SUN# BIO 2205 | 4 |
| CMN 120 | Business and Professional Communication | 3 |
| CSA 100 | Computer Literacy..... | 1 |
| MAT 142* | Topics in College Mathematics SUN# MAT 1142..... | 3 |

| | | | |
|---|----------------------------|---------------|------------------|
| PSY 101 | Introduction to Psychology | SUN# PSY 1101 | 3 |
| SOC 101 | Introduction to Sociology | SUN# SOC 1101 | 3 |
| WRT 101* | English Composition I | SUN# ENG 1101 | 3 |
| Subtotal. | | | .20 |
| Total credits (not including preparatory coursework) | | | 74.5 |
| Total credits (including preparatory coursework) | | | 90.5-98.5 |

† Core or support course(s) fulfill this requirement.

¥ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** REA 112 will also be accepted.

Δ DAE 163/163LC will substitute for DHE 116/116LC if completed within the last three years. DAE 164/164LB will substitute for DHE 132/132LB if completed within the last three years. Students must have current CDA certification to substitute these courses. See academic advisor or faculty for information regarding course substitution.

Dental Laboratory Technologies

Dental Laboratory Technology — Associate of Applied Science Degree for Direct Employment

Learn the skills to construct and repair dentures, partial dentures, crowns, bridges and other dental appliances. Get 1,492 clock hours of laboratory practice. This program is accredited by the American Dental Association Commission on Dental Accreditation.

Before enrolling in this program, please complete a program application (available at:

www.pima.edu/programs-courses/credit-programs-degrees/health-professions/dental/dental-laboratory-admission.html)

What can I do with this degree?

Career Options: Work in a dental lab.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html).

Location: West Campus

Department/Contact Information:

Dean: 520-206-7694

Program Director: 520-206-3100

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above. See the website or an advisor for details.

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|-----------|
| Communication Requirement | † |
| WRT 101*¥ fulfills this requirement. | |
| Arts and Humanities Requirement | † |
| ART 100, 110 or 120 fulfills this requirement. | |
| Social and Behavioral Sciences Requirement | † |
| POS 201 or 202 fulfills this requirement. | |
| Mathematics and Sciences Requirement | † |
| CHM 130IN fulfills the credit requirement for this category | |
| NOTE: The Math Competency must be met | |
| Other Requirement | † |
| CIS 120 or PHI 123 fulfill this requirement. | |
| Special Requirement | |
| POS 201 or 202 fulfill this requirement. | |
| Subtotal. | 0¥ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------------|---|------------|
| DLT 101/101LB* | Dental Morphology | 3 |
| DLT 102* | Non-Metallic Dental Materials | 3 |
| DLT 103/103LB* | Complete Dentures | 4 |
| DLT 104/104LB* | Dental Occlusion | 4 |
| DLT 105/105LB* | Partial Denture Construction | 4 |
| DLT 106/106LB* | Orthodontic Appliances | 3 |
| DLT 108* | Laboratory Management | 3 |
| DLT 201/201LB* | Dental Laboratory I | 3 |
| DLT 202* | Dental Metallurgy | 3 |
| DLT 203/203LB* | Fixed Bridgework | 4 |
| DLT 204/204LB* | Dental Laboratory II | 3 |
| DLT 206/206LB* | Dental Ceramics | 4 |
| DLT 207/207LB* | Advanced Dental Laboratory Technology | 5 |
| Subtotal. | | .46 |

Required Support Courses

| | | |
|-----------------------------------|--|--------------|
| ART 100 | Basic Design | 3 |
| or ART 110 | Drawing I SUN# ART 1111 | |
| or ART 120 | Sculptural Design SUN# ART 1115 | |
| CIS 120 | Computer Applications for Business SUN# CIS1120 | 3-4 |
| or PHI 123 | Philosophical Foundations of Science | |
| CHM 130IN* | Fundamental Chemistry SUN# CHM 1130 | 4 |
| POS 201 | American National Government and Politics SUN# POS 1110..... | 3 |
| or POS 202 | Introduction to International Relations SUN# POS 1120 | |
| STU 100 | College Success and Career Planning..... | 1 |
| WRT 101*‡ | English Composition I SUN# ENG 1101 | 3 |
| Subtotal. | | 17-18 |
| Total credits as displayed | | 63-64 |

† Core or support course(s) fulfill this requirement.

‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

‡ WRT 154 or GTW 101 can be used to meet general education program requirements.

Digital Arts Studies

Whether your medium is print or film, television or the web, sharpen your skills and enhance your career prospects with these hands-on programs. Students wishing to prepare to transfer to a 4-year university program in audio, film and/or video should follow the Associate of Arts degree.

Digital Arts

Digital Arts — Associate of Applied Science Degree for Direct Employment

Prepare for a career in graphic design or web design.

What can I do with this degree?

Career Options: Become a graphic designer or web designer.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: West Campus

Department/Contact Information:

Dean: 520-206-6690

Lead Faculty: 520-206-6840

Program/Major/Concentration Codes: **AASCOMMGRAPH/DAR1/****** (see concentration codes below)

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|--------------|
| Communication Requirement | † |
| GTW 101 or WRT 101 fulfills this requirement | |
| Arts and Humanities Requirement | † |
| ART 105 or 115 or DAR 250 fulfills this requirement | |
| Social and Behavioral Sciences Requirement | 3 |
| Recommend: PSY 132 | |
| Mathematics and Science Requirement | 3 |
| Recommend: BUS 151 | |
| Other Requirement | 3-4 |
| Recommend: ANT 202, CMN 120, DAR 250, or ECN 150 | |
| Special Requirement | |
| The C or G requirement should be fulfilled by completing an appropriate course in the above categories. | |
| Subtotal. | 9-10† |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|---|-----------|
| DAR 102 | Fundamentals of Digital Design | 4 |
| DAR 112 | Graphic Design | 4 |
| DAR 120 | Applied Computer Graphics | 4 |
| DAR 122 | Desktop Graphics: Adobe Illustrator | 4 |
| DAR 221* | Photo Image Editing: Adobe PhotoShop | 4 |
| DAR 226* | DeskTop Publishing for Digital Arts: Adobe InDesign | 4 |
| DAR 288* | Digital Arts Business and Portfolio Capstone | 2 |
| Subtotal. | | 26 |

Required Support Course

| | | |
|------------------|--|------------|
| ART 105 | Exploring Art and Visual Studies | 3-4 |
| or ART 115* | Color and Composition | |
| or DAR 250 | Computer 2-D Animation: Adobe After Effects | |
| STU 100 | College Success and Career Planning..... | 1 |
| GTW 101* | Writing for Trades and Technical Occupations | 3 |
| or WRT 101 | English Composition I SUN# ENG1101 | |
| Subtotal. | | 7-8 |

Core Concentrations - A grade of C or better is required for graduation.

Complete one of the following concentrations:

Department faculty advisor or counselor approval is recommended in the selection of the program concentration.

Design (Concentration Code: DARD)

| | | |
|------------------|--|-----------|
| DAR 101 | Color Rendering and Theory | 4 |
| DAR 111* | Typography | 4 |
| DAR 210* | Digital Arts Design Studio: Advertising Design | 4 |
| DAR 212* | Digital Arts Design Studio: Collateral Design | 4 |
| DAR 230* | Production Techniques for Print | 4 |
| Subtotal. | | 20 |

Web Design (Concentration Code: DARW)

| | | |
|-----------------------------------|--------------------------------|--------------|
| DAR 252* | Interactive Design I | 4 |
| DAR 254* | Interactive Design II | 4 |
| DAR 256* | Web Design | 4 |
| DAR 257* | Advanced Web Design..... | 4 |
| DAR 259 | Mobile Application Design..... | 4 |
| Subtotal. | | 20 |
| Total credits as displayed | | 62-64 |

† Core or support course(s) fulfill this requirement.

‡ General Education requires a minimum of 15 credits. This subtotal shows the General Education credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Digital Film Arts and Animation — Associate of Applied Science Degree for Direct Employment

Prepare for a career in television, film, video or other media. Courses cover filming, editing, production, design, lighting, script writing, and photography. Develop skills in animation, cinematography, video production and script writing. The Animation concentration has courses covering drawing, illustration, cartooning, digital imaging and computer animation. Students seeking to transfer into a digital/film arts or digital/film animation program at a university should pursue an Associate of Arts degree.

What can I do with this degree?

Career Options: Obtain employment as a writer, producer, editor, director, camera operator, or sound designer. **Film:** Leads to careers in television, film and audio production.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: West Campus

Department/Contact Information:

Dean: 520-206-6690

Lead Faculty: 520-206-6976

Program/Major/Concentration Codes: **AASDAA/DAA/****** (see concentration codes below)

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|--------------|
| Communication Requirement | † |
| WRT 101 fulfills this requirement | |
| Arts and Humanities Requirement | 3-4 |
| Social and Behavioral Sciences Requirement | 3 |
| Mathematics and Science Requirement | 3-4 |
| NOTE: The Math Competency must be met | |
| Other Requirement | † |
| WRT 102 fulfills this requirement | |
| Special Requirement | |
| The C or G requirement should be fulfilled by completing an appropriate course in the above categories | |
| Subtotal. | 9-11‡ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|-----------------------|---|-----------|
| DAR 103 | Introduction to Digital Video and Film Arts | 3 |
| DAR 115* | Digital Video Editing | 4 |
| DAR 124 | Writing for Film and Television | 3 |
| Subtotal. | | 10 |

Required Support Courses

| | | |
|-----------------------|--|----------|
| STU 100 | College Success and Career Planning | 1 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| WRT 102* | English Composition II SUN# ENG 1102 | 3 |
| Subtotal. | | 7 |

Core Concentrations - A grade of C or better is required for graduation.

Complete one of the following concentrations:

Department faculty advisor or counselor approval is recommended in the selection of the program concentration.

Digital and Film Arts (Concentration Code: DAAF)

| | | |
|-----------------------|--|-----------|
| DAR 125* | Digital Cinematography I | 4 |
| DAR 173 | History of American Cinema | 3 |
| DAR 175* | The Art of Digital Cinematography | 3 |
| DAR 205* | Lighting for Film and Video | 4 |
| DAR 217* | Post Production for Film | 4 |
| DAR 225* | Digital Cinematography II | 4 |
| DAR 275 | Basic Audio Production | 4 |
| DAR 285 | Documentary Television and Film Production | 4 |
| DAR 286* | Digital Cinematography Capstone | 4 |
| Subtotal. | | 34 |

Digital Animation (Concentration Code: DAAA)

| | | |
|---|--|--------------|
| DAR 101 | Color Rendering and Theory | 4 |
| DAR 120 | Applied Computer Graphics | 4 |
| DAR 122* | DeskTop Graphics: Adobe Illustrator | 4 |
| DAR 140* | Digital Arts Illustration Studio: Illustration Technique and Media | 4 |
| DAR 176 | Digital Animation | 4 |
| DAR 221* | Photo Image Editing: Adobe PhotoShop | 4 |
| DAR 250* | Computer 2-D Animation: Adobe After Effects | 4 |
| DAR 251* | Computer 3-D Animation: Maya | 4 |
| DAR 258* | Advanced Computer 3-D Animation: Maya | 4 |
| Subtotal. | | 36 |
| Total credits as displayed | | 60-64 |

† Core or support course(s) fulfill this requirement.

‡ General Education requires a minimum of 15 credits. This subtotal shows the General Education credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Digital and Film Arts — Associate of Arts Degree for Transfer

A student planning to obtain a Digital and Film Arts bachelor's degree should follow the **Associate of Arts Degree for Transfer in Liberal Arts**.

The program is designed to prepare students to transfer to a four-year college or university program in audio, film, and/or video. Good writing skills and creative background in art, design, computers, and photography are helpful in this degree option.

Verification of transfer courses should be established with the transfer university or college or a Pima Community College counselor or faculty advisor.

Program/Major Codes: **AOALIBRALART/ALA**

Digital Game and Simulation

Digital Game and Simulation — Associate of Applied Science Degree for Direct Employment

Prepare for a career in digital games and simulations.

What can I do with this degree?

Career Options: Become a game play tester; game designer or programmer; or an artist, character builder, or modeler working with digital games and simulations.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: West Campus

Department/Contact Information:

Dean: 520-206-6690

Lead Faculty: 520-206-6908

Program/Major/Concentration Codes: **AASDAG/DAG1/****** (see concentration codes below)

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|----------------|
| Communication Requirement | † |
| WRT 101 fulfills this requirement | |
| Arts and Humanities Requirement | 3 |
| For the Animation and Production concentration - Recommend: ART 100, 131, or HUM 253 | |
| For the Programming concentration - Recommend: HUM 251, 253, or PHI 101 | |
| Social and Behavioral Sciences Requirement | 3 |
| Recommend: HUM 260, PSY 132, or SOC 120 | |
| Mathematics or Science Requirement | 0-4 |
| For the Animation and Production concentration - Recommend: MAT 142, BIO 160IN, BIO 184IN, or GEO 102IN | |
| NOTE: The Math Competency must be met. | |
| For the Programming concentration - MAT 188 fulfills this requirement | |
| Other Requirement | 0-3 |
| For the Animation and Production concentration - Recommend: ART 115 | |
| For the Programming concentration - MAT 189 fulfills this requirement | |
| Special Requirement | |
| The C or G requirement should be fulfilled by completing an appropriate course in the above categories. | |
| Subtotal | .6-13 ‡ |

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| GAM 101 | Game Design I | 4 |
| GAM 102* | Game Design II | 4 |
| GAM 120* | Introduction to Game Programming | 4 |
| GAM 201* | Game Design III | 4 |
| GAM 218* | Game Design Portfolio Capstone | 4 |
| Subtotal. | | 20 |
| Required Support Courses | | |
| STU 100 | College Success and Career Planning..... | 1 |
| WRT 101* | English Composition I SUN# ENG1101..... | 3 |
| Subtotal. | | 4 |
| Core Concentrations - A grade of C or better is required for graduation. | | |
| Complete courses from one of the following concentrations. Department faculty or advisor approval is recommended. | | |
| Digital Animation and Production (Concentration Code: DAGA) | | |
| ART 213* | Life Drawing I | 3 |
| DAR 120 | Applied Computer Graphics | 4 |
| DAR 122* | Desktop Graphics: Adobe Illustrator | 4 |
| DAR 176 | Digital Animation | 4 |
| DAR 221* | Photo Image Editing: Adobe Photoshop | 4 |
| DAR 251* | Computer 3D Animation: Maya | 4 |
| DAR 258* | Advanced Computer 3D Animation: Maya | 4 |
| Subtotal. | | 27 |
| Digital Programming (Concentration Code: DAGP) | | |
| CIS 129* | Program and Problem-Solving I | 4 |
| CIS 131* | Program and Problem-Solving II | 4 |
| CIS 142* | Introduction to C++ | 3 |
| CIS 278* | C++ and Object-Oriented Programming | 4 |
| GAM 150 | Game Programming I..... | 4 |
| GAM 151* | Game Programming II | 3 |
| GAM 296* | Independent Study..... | 4 |
| MAT 188* | Precalculus I | 4 |
| MAT 189* | Precalculus II | 3 |
| Subtotal. | | 33 |
| Total credits as displayed | | 63-64 |

† Core or support course(s) fulfill this requirement.

‡ General Education requires a minimum of 15 credits. This subtotal shows the General Education credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Education

From infancy through high school, from classroom basics to advanced certification, gain the skills to educate tomorrow's leaders.

- Early Childhood Education
- Teacher Education
- Educational Technology

Early Childhood Studies

Prepare to care for children, birth through age five, by learning theories and skills to best support young children's growth and development.

Early Childhood Studies — Child Development Associate (CDA) Preparation Certificate

Learn fundamental concepts in Early Care and Education. Courses focus on child development, learning and culture as well as teaching techniques, observation, and curriculum.

Before enrolling in this program, students must be working in a Department of Health Services-licensed, Department of Economic Security-certified, or tribally-regulated program with children from birth through age 5 years not yet in kindergarten. Most courses are site based at the student's place of employment.

What can I do with this certificate?

Career Options: Apply for the national Child Development Associate credential; or meet the CDA equivalency as defined by the National Association for the Education of Young Children (NAEYC), develop skills working with young children, or use the coursework to meet the state Department of Health Services professional development requirements. Completion meets the requirements for Level C of the Early Childhood Workforce Career Lattice.

Academic Options: Submit these courses as the formal early childhood education requirement for the eight CDA subject areas for the national CDA credential. Continue your studies by applying your coursework towards the Early Childhood Assistant Educator Certificate and/or the Early Childhood Studies AAS.

Location: Desert Vista Campus

Department/Contact Information:

Dean: 520-206-5105
 Center for Early Childhood Studies: 520-206-5245
 Lead Faculty: 520-206-5107

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CDA 103 | Curriculum Planning and Schedule Development | 1 |
| CDA 138 | Building Parent and Classroom Connections | 3 |
| CDA 161 | Principles of Social Competence | 1 |
| CDA 222 | Elements of Children's Culture | 1 |
| ECE 117 ** | Child Growth and Development | 3 |
| or CDA 170 ** | Ages and Stages of Young Children: Prenatal through Toddler | |
| and CDA 173 ** | Ages and Stages of Young Children: The Preschool Years | |
| ECE 118 | Foundations of Early Childhood Education (only if taken after Summer 2014)..... | 3 |
| or CDA 102 | The Child's Total Learning Environment | |
| and CDA 121 | Techniques for Observing Children | |
| and CDA 271 | Professionalism in Childcare | |
| Total credits as displayed | | 12 |

** CDA 170 and CDA 173, or ECE 117 fulfill the requirement for the CDA national credential but are not equivalent. Students interested in the Early Childhood Studies AAS should complete ECE 117.

Early Childhood Assistant Educator — Certificate for Direct Employment

Acquire theoretical knowledge and develop the competencies needed to enter a career and to continue professional growth in the care and education of children birth through age eight in various settings.

Before enrolling in this program, you must meet the requirements listed below:

- Valid Arizona Identity Verified Fingerprint (IVP) Clearance Card
- TB Test (negative result or a negative chest x-ray)
- Verification of required Immunizations

What can I do with this certificate?

Career Options: Apply for a position working with young children, or use credits toward professional development requirements. Completion meets the criteria for the Arizona Early Childhood Workforce Career Lattice, Level D.

Academic Options: Continue your studies by applying your coursework toward the Early Childhood Studies AAS.

Gainful Employment Information: www.pima.edu/ge-crteca

Location: Desert Vista Campus

Department/Contact Information:

Dean: 520-206-5105

Center for Early Childhood Studies: 520-206-5245

Lead Faculty: 520-206-5107

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| ECE 108* | Literature/Social Studies for Children..... | 3 |
| ECE 117 | Child Growth and Development | 3 |
| ECE 118 or CDA 102 and CDA 121 and CDA 271 | Foundations of Early Childhood Education (only if taken after Summer 2014)..... The Child's Total Learning Environment Techniques for Observing Children Professionalism in Childcare | 3 |
| ECE 125 | Nutrition, Health, and Safety for the Young Child | 3 |
| ECE 211* | Inclusion of Young Children with Special Needs | 3 |
| ECE 226* | Positive Child Guidance | 3 |
| ECE or CDA Elective | Complete three credits from the following: ECE 107, 115, 124, 129, 245, CDA 103, 112, 126, 138, 155, 161, 170, 173, 211, 222 | 3 |
| Subtotal. | | .21 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| ART 105 or MAT 106 or WRT 101 | Exploring Art and Visual Culture | 3 |
| CSA 100 | Elementary Data Analysis with Spreadsheets English Composition I | 1 |
| STU 100 | Computer Literacy..... College Success and Career Planning..... | 1 |
| Subtotal. | | .5 |
| Total credits as displayed | | .26 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Early Childhood Studies — Associate of Applied Science Degree for Direct Employment

Learn to excel at caring for and educating young children through this flexible, high-quality program. Students planning to transfer to a bachelor's degree program should pursue the Associate of Arts in Liberal Arts in Early Childhood Education or Elementary Education.

Before enrolling in this program, you must meet the requirements listed below:

- Valid Arizona Identity Verified Fingerprint (IVP) Clearance Card
- TB Test (negative result or a negative chest x-ray)
- Verification of required Immunizations

What can I do with this degree?

Career Options: Become a teacher's aide, lead teacher or director of a pre-school center, or open your own home child care center. Degree completion meets the criteria for the Arizona Early Childhood Workforce Career Lattice Level E.

Academic Options: While this program was not designed to transfer to a bachelor's degree program, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Desert Vista Campus

Department/Contact Information:

Dean: 520-206-5105

Center for Early Childhood Studies: 520-206-5245

Lead Faculty: 520-206-5107

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|-----------|
| Communication Requirement | † |
| WRT 101 fulfills this requirement | |
| Arts and Humanities Requirement | † |
| ART 105 fulfills this requirement | |
| Social and Behavioral Sciences Requirement | † |
| ECE 117 fulfills this requirement | |
| Math and Science Requirement | † |
| BIO 105 fulfills the credit requirement for this category | |
| NOTE: The Math Requirement must be met. | |
| Other Requirement | † |
| ANT 112, ANT/HIS 127, or HUM 260 fulfills this requirement | |
| Special Requirement | |
| ART 105 fulfills this requirement | |
| Subtotal. | 0¥ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|---|-----------|
| ECE 115* | Supervision and Administration of Early Childhood Programs | 3 |
| ECE 117 | Child Growth and Development | 3 |
| ECE 118 | Foundations of Early Childhood Education (only if taken after Summer 2014). | 3 |
| or CDA 102 | The Child's Total Learning Environment | |
| and CDA 121 | Techniques for Observing Children | |
| and CDA 271 | Professionalism in Childcare | |
| ECE 125* | Nutrition, Health and Safety for the Young Child | 3 |
| ECE 226* | Positive Child Guidance | 3 |
| ECE 228* | The Young Child: Family, Culture, and Community | 3 |
| ECE 240* | Assessment of Young Children | 3 |
| ECE 246* | Integrating Learning and Lesson Planning: Literacy (was ECE 110) | 3 |
| ECE 292* | Early Childhood Education: Theory to Practice (was ECE 190) | 4 |
| Subtotal. | | 28 |

Required Support Courses- A grade of C or better is required for graduation.

| | | |
|--------------------------------|--|-----------|
| ART 105 | Exploring Art and Visual Culture | 3 |
| ANT 112 | Exploring Non-Western Cultures | 3 |
| or HIS127/ANT127 or HUM 260 | History and Culture of the Mexican-American in the Southwest Intercultural Perspectives | |
| BIO 105IN | Environmental Biology | 4 |
| CSA 100 | Computer Literacy | 1 |
| MAT 106 | Elementary Data Analysis and Spreadsheets | 2 |
| STU 100 | College Success and Career Planning | 1 |
| WRT 101 | English Composition I SUN# ENG 1101 | 3 |
| WRT 102* | English Composition II SUN# ENG1102 | 3 |
| Subtotal. | | 20 |

Electives: Complete any 12 credits from the courses below. Contact the Center for Early Childhood Studies to select electives appropriate for your career goal.

Early Childhood Education

| | | |
|----------|---|---|
| ECE 107 | Human Development and Relations | 3 |
| ECE 108* | Literature/Social Studies for Children | 3 |
| ECE 124* | Math and Science for Children | 3 |
| ECE 129* | Infant and Toddler Education | 3 |
| ECE 211* | Inclusion of Young Children with Special Needs | 3 |
| ECE 245* | Integrating Learning and Lesson Planning through the Arts | 3 |

Childhood Development

| | | |
|-----------------------------------|---|-----------|
| CDA 103 | Curriculum Planning and Schedule Development | 1 |
| CDA 112 | Guidance Principles for Encouraging Self-Discipline | 1 |
| CDA 126 | Literature for Pre-School Children | 2 |
| CDA 138 | Building Parent and Classroom Connections | 3 |
| CDA 155 | Understanding How Children Learn and Development | 1 |
| CDA 161 | Principles of Social Competence | 1 |
| CDA 170 | Ages and Stages of Young Children: Prenatal through Toddler | 2 |
| CDA 173 | Ages and Stages of Young Children: The Preschool Years | 1 |
| CDA 211 | Small and Large Muscle Development | 2 |
| CDA 222 | Elements of Children's Culture | 1 |
| Subtotal. | | 12 |
| Total credits as displayed | | 60 |

† Core or support course(s) fulfill this requirement.

¥ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

AA in Liberal Arts - Early Childhood Education Concentration

See the Liberal Arts section for details on the degree requirements.

K-12 Education

Prepare to become an elementary or secondary school teacher in general education or special education.

Students who do not hold a bachelor's degree and plan to teach elementary school should pursue the **Elementary Education Associate of Arts degree for transfer**; those who wish to teach secondary school should pursue an Associate of Arts degree for transfer. All students will need to complete a bachelor's degree at a 4-year college or university before becoming a teacher.

Students who hold a bachelor's degree in any discipline may be eligible to enroll in the Post-Degree Teacher Certification program and immediately start working toward teacher certification and advanced endorsements.

AA in Liberal Arts - Elementary Education Concentration

See the Liberal Arts section for details on the degree requirements.

Education — Elementary Certification — Post-Degree Certificate for Direct Employment

Prepare for Arizona General Education Elementary (grades K-8) teacher certification with this post-degree program. Courses emphasize professional teaching standards, technology, data literacy, diversity and current teaching theory, and include supervised and directed internship.

Before enrolling in this program, you must see a program coordinator, attend an information session, and meet the following admission requirements:

- Bachelor's degree from an accredited Institution
- Passing score on NES Elementary Subject Knowledge exam (within the last 8 years)
 - Additional subject knowledge exam(s) may be required for Intern Pathway candidates teaching middle grades or single subject
- Valid Arizona Identify Verified Fingerprint (IVP) Clearance Card

What can I do with this certificate?

Career Options: Elementary school teacher.

Academic Options: Continue your education with post-graduate work in education offered by Pima.

Gainful Employment Information: www.pima.edu/ge-crdelm

Location: Desert Vista Campus and online

Department/Contact Information:

Dean: 520-206-5105

Program Manager/Department Chair: 520-206-5144

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses – Must be completed with grades of C or higher.

Field Experience must be completed with grades of B or higher. A program GPA of 3.0 or higher is required for graduation.

Foundations:

| | | |
|------------------|--|-----------|
| EDC/ESE 250 | Introduction to Teaching | 3 |
| EDC/ESE 251 | Educational Psychology | 3 |
| EDC/ESE 252 | Survey of Exceptional Education | 3 |
| EDC 254* | Classroom Management: Elementary | 3 |
| EDC/ESE 257 | 21st Century Learning | 3 |
| Subtotal. | ..... | 15 |

Methods Courses:

| | | |
|-----------------|---|-----------|
| EDC 270* | Elementary Methods: English Language Arts | 3 |
| EDC 271* | Elementary Methods: Math | 3 |
| EDC 272* | Elementary Methods: Reading/Phonics | 3 |
| EDC 273* | Elementary Methods: Science/Social Studies | 3 |
| EDC 274* | Elementary Methods: Instruction Across the Curriculum | 3 |
| Subtotal | | 15 |

Pathways

Candidates who are not currently teaching in an elementary classroom take the Traditional Pathway.

Candidates who are currently teaching full time in an elementary classroom on an intern certificate take the Internship Pathway

Field Experiences (Traditional Pathway)

| | | |
|-----------------|------------------------------|-----------|
| EDC 267 | Traditional Practicum | 2 |
| EDC 291 | Student Teaching: Elementary | 8 |
| Subtotal | | 10 |

Field Experiences (Internship Pathway)

| | | |
|-----------------|---------------------------------|-----------|
| EDC 266 | Internship Practicum | 2 |
| EDC 291A | Student Teaching I: Elementary | 4 |
| EDC 291B | Student Teaching II: Elementary | 4 |
| Subtotal | | 10 |

Required Support Courses – Must be completed with grades of C or higher.

| | | |
|-----------------------------------|--------------------------------------|--------------|
| EDC 286 | Structured English Immersion Methods | 3 |
| POS 210** | National and State Constitutions | 0-3 |
| Subtotal | | 3-6 |
| Total credits as displayed | | 43-46 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** This course will be waived with an official passing score in the Constitutions of the U.S. and Arizona AEPA (Arizona Educator Proficiency Assessment.) See program coordinator for additional information.

Education — Secondary Certification — Post-Degree Certificate for Direct Employment

Prepare for Arizona General Education Secondary (grades 6-12) teacher certification with this post-degree program. Courses emphasize professional teaching standards, technology, data literacy, diversity and current teaching theory, and include supervised and directed internship.

Before enrolling in this program, you must see a program coordinator, attend an information session, and meet the following admission requirements:

- Bachelor's degree from an accredited Institution
- Passing score on relevant NES/AEPA Secondary Subject Knowledge exam (within the past 8 years) or Bachelor's degree in the discipline
- Valid Arizona Identify Verified Fingerprint (IVP) Clearance Card

What can I do with this certificate?

Career Options: Secondary school teacher.

Academic Options: Continue your education with post-graduate work in education offered by Pima.

Gainful Employment Information: www.pima.edu/ge-crdsec

Location: Desert Vista Campus and online

Department/Contact Information:

Dean: 520-206-5105

Program Manager/Department Chair: 520-206-5144

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses – Must be completed with grades of C or higher.

Field Experiences must be completed with grades of B or higher. A program GPA of 3.0 or higher is required for graduation.

Foundations:

| | | |
|------------------|---------------------------------------|-----------|
| EDC/ESE 250 | Introduction to Teaching | 3 |
| EDC/ESE 251 | Educational Psychology | 3 |
| EDC/ESE 252 | Survey of Exceptional Education | 3 |
| EDC 256 | Classroom Management: Secondary | 3 |
| EDC/ESE 257 | 21st Century Learning | 3 |
| Subtotal. | | 15 |

Methods:

| | | |
|------------------|--|----------|
| EDC 275 | Secondary Methods: English Language Arts/Social Sciences | 3 |
| or EDC 276 | Secondary Methods: Math/Science | |
| EDC 277 | Secondary Methods: Instruction Across the Curriculum | 3 |
| Subtotal. | | 6 |

Pathways

Candidates who are not currently teaching in a secondary classroom take the Traditional Pathway.

Candidates who are currently teaching full time in a secondary classroom on an intern certificate take the Internship Pathway.

Field Experiences (Traditional Pathway)

| | | |
|------------------|-----------------------------------|-----------|
| EDC 267 | Traditional Practicum | 2 |
| EDC 292 | Student Teaching: Secondary | 8 |
| Subtotal. | | 10 |

Field Experiences (Internship Pathway)

| | | |
|------------------|--------------------------------------|-----------|
| EDC 266 | Internship Practicum | 2 |
| EDC 292A | Student Teaching I: Secondary | 4 |
| EDC 292B | Student Teaching II: Secondary | 4 |
| Subtotal. | | 10 |

Required Support Courses – Must be completed with grades of C or higher.

| | | |
|-----------------------------------|--|--------------|
| EDC 286 | Structured English Immersion Methods | 3 |
| POS 210** | National and State Constitutions | 0-3 |
| Subtotal. | | 3-6 |
| Total credits as displayed | | 34-37 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** This course will be waived with an official passing score in the Constitutions of the U.S. and Arizona AEPA (Arizona Educator Proficiency Assessment.) See a program coordinator for additional information.

Special Education Mild-Moderate Disabilities Certification — Post-Degree Certificate for Direct Employment

Prepare for Arizona Special Education Mild-Moderate Disabilities (grades K-12) certification. This post-degree program applies to students who do not have K-12 teacher certification. Courses emphasize professional teaching standards, instruction for students with diverse needs, technology, current teaching theory, and include supervised and directed field experiences.

Before enrolling in this program, you must see a program coordinator, attend an information session, and meet the following admission requirements:

- Bachelor's degree from an accredited Institution
- Passing score on NES Special Education Exam (Intern Pathway candidates)
- Valid Arizona Identify Verified Fingerprint (IVP) Clearance Card

What can I do with this certificate?

Career Options: Special Education Mild-Moderate Disabilities K-12 Teacher.

Academic Options: Continue your education with post-degree work in education offered by Pima.

Gainful Employment Information: www.pima.edu/ge-crdecs

Location: Desert Vista Campus and online

Department/Contact Information:

Dean: 520-206-5105

Program Manager/Department Chair: 520-206-5144

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Courses – Must be completed with grades of C or higher.

Field experiences must be completed with grades of B or higher. A program GPA of 3.0 or higher is required for graduation.

Foundations:

| | | |
|------------------|--|-----------|
| EDC/ESE 250 | Introduction to Teaching | 3 |
| EDC/ESE 251 | Educational Psychology | 3 |
| EDC/ESE 252 | Survey of Exceptional Education | 3 |
| ESE 254* | Foundations of Instruction: Mild-Moderate Disabilities | 3 |
| ESE 255 | Classroom Management for Mild-Moderate Disabilities | 3 |
| EDC/ESE 257 | 21st Century Learning | 3 |
| Subtotal. | | 18 |

Methods:

| | | |
|------------------|--|-----------|
| ESE 270 | Methods of Instruction: Students/Mild-Moderate Disabilities | 3 |
| ESE 271* | Mild-Moderate Methods: K-12 Instruction Across the Curriculum..... | 3 |
| ESE 272* | Developmental Reading, Instruction, Assessment, Remediation..... | 3 |
| ESE 273 | Diagnosis and Assessment of Mild-Moderate Disabilities..... | 3 |
| Subtotal. | | 12 |

Pathways

Candidates who are not currently teaching in a Mild-Moderate Special Education classroom take the Traditional Pathway. Candidates who are currently teaching full time in a Mild-Moderate Special Education classroom on an intern certificate take the Internship Pathway.

Field Experiences (Traditional Pathway)

| | | |
|------------------|---|-----------|
| EDC 267 | Traditional Practicum | 2 |
| ESE 290 | Student Teaching: Mild-Moderate Disabilities..... | 8 |
| Subtotal. | | 10 |

Field Experiences (Internship Pathway)

| | | |
|------------------|---|-----------|
| EDC 266 | Internship Practicum | 2 |
| ESE 290A | Student Teaching I: Mild-Moderate Disabilities | 4 |
| ESE 290B | Student Teaching II: Mild-Moderate Disabilities | 4 |
| Subtotal. | | 10 |

Required Support Courses - Must be completed with grades of C or higher.

| | | |
|-----------------------------------|--|--------------|
| EDC 286 | Structured English Immersion Methods | 3 |
| POS 210** | National and State Constitutions..... | 0-3 |
| Subtotal. | | 3-6 |
| Total credits as displayed | | 43-46 |

* This course has a prerequisite, co-requisite or recommendation. See course description section

** This course is not required with an official passing score in the Constitutions of the U.S. and Arizona AEPA (Arizona Educator Proficiency Assessment.) See a program coordinator for additional information.

Special Education Mild-Moderate Disabilities Certification for Certified Teachers — Post-Degree Certificate for Direct Employment

Prepare for Arizona Special Education Mild-Moderate Disabilities (grades K-12) certification. This post-degree program applies to students who have Elementary, Secondary, or Special Education teacher certification. Courses emphasize professional teaching standards, technology, diversity and current teaching theory, and include supervised and directed field experiences. A program GPA of 3.0 or higher is required for graduation.

Before enrolling in this program, you must earn a bachelor’s degree and meet additional admission requirements.

Before enrolling in this program, you must see a program coordinator, attend an information session, and meet the following admission requirements:

- Bachelor’s degree from an accredited Institution
- Passing score on NES Special Education Exam (Intern Pathway candidates)
- Valid Arizona Identify Verified Fingerprint (IVP) Clearance Card
- Elementary or Secondary Teaching Certificate

What can I do with this certificate?

Career Options: Special Education Mild-Moderate Disabilities K-12 Teacher.

Academic Options: Continue your education with post-degree work in education offered by Pima.

Gainful Employment Information: www.pima.edu/ge-crdeads

Location: Desert Vista Campus and online

Department/Contact Information:

Dean: 520-206-5105

Program Manager/Department Chair: 520-206-5144

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses – Must be completed with grades of C or higher.
Field experiences must be completed with grades of B or higher. A program GPA of 3.0 or higher is required for graduation.

Foundations:

| | | |
|------------------|--|-----------|
| EDC/ESE 252 | Survey of Special Education | 3 |
| ESE 254* | Foundations of Instruction: Mild-Moderate Disabilities | 3 |
| ESE 255 | Classroom Management for Mild-Moderate Disabilities | 3 |
| EDC/ESE 257 | 21st Century Learning | 3 |
| Subtotal. | | 12 |

Methods:

| | | |
|------------------|---|-----------|
| ESE 270 | Methods of Instruction: Students/Mild-Moderate Disabilities | 3 |
| ESE 271* | Mild-Moderate Methods: K-12 Instruction Across the Curriculum | 3 |
| ESE 272* | Developmental Reading, Instruction, Assessment, Remediation | 3 |
| ESE 273 | Diagnosis and Assessment of Mild-Moderate Disabilities | 3 |
| Subtotal. | | 12 |

Pathways

Candidates who are not currently teaching in a Mild-Moderate Special Education classroom take the Traditional Pathway. Candidates who are currently teaching full time in a Mild-Moderate Special Education classroom but are not certified in Mild-Moderate Special Education take the Internship Pathway.

Field Experiences (Traditional Pathway)

| | | |
|------------------|--|-----------|
| EDC 267 | Traditional Practicum | 2 |
| ESE 290 | Student Teaching: Mild-Moderate Disabilities | 8 |
| Subtotal. | | 10 |

Field Experiences (Internship Pathway)

| | | |
|------------------|---|----------|
| ESE 290A | Student Teaching I: Mild-Moderate Disabilities | 4 |
| ESE 290B | Student Teaching II: Mild-Moderate Disabilities | 4 |
| Subtotal. | ..... | 8 |

Required Support Courses

| | | |
|-----------------------------------|--|--------------|
| EDC 286** | Structured English Immersion Methods | 0-3 |
| POS 210*** | National and State Constitutions | 0-3 |
| Subtotal. | ..... | 0-6 |
| Total credits as displayed | ..... | 32-40 |

* This course has a prerequisite, co-requisite or recommendation. See course description section

** This course is not required if an SEI Endorsement is displayed on the student's teaching certificate.

*** This course is not required with an official passing score in the Constitutions of the U.S. and Arizona AEPA (Arizona Educator Proficiency Assessment). See Program advisor for additional information.

Emergency Medical Technology

Emergency Medical Technology — Certificate for Direct Employment

Learn pre-hospital emergency medical care, including physical assessment, medical techniques and ambulance operations. This program is approved by the Arizona Department of Health Services, Bureau of Emergency Medical Services towards certification as an EMT in the State of Arizona.

Before enrolling in this program you must meet certain admission requirements:

- Be 18 years old when class starts.
- Provide proof of a negative drug screening; obtain a drug screen form and instructions from the EMT Service Center at East Campus.
- Provide a fingerprint clearance card or be fingerprinted the first day of class.
- Have cardio-pulmonary resuscitation (CPR) certification at the Healthcare Provider level with at least 6 months left in the certification period. This card must remain current throughout the EMT program and the certification process.
- Have the ability to lift 125 pounds alone and 250 pounds with a partner.
- Must provide proof of personal medical insurance. This coverage must remain current throughout the course.
- Score at least 84 on the College Reading Assessment test.
- Meet with EMT Service Center staff prior to enrolling in the course.
- Provide immunization records for: Measles, Mumps, Rubella (MMR), Varicella (VZV, Varivax)
- Tetanus/Diphtheria (adult type e.g., Td or Tdap) within the last ten years.
- Tuberculosis (TB) screening indicating negative activity (given no more than six months prior to the beginning of the course)
- Hepatitis B vaccination series (HBV is encouraged but is not required)
- Flu vaccine is highly encouraged

EMT Program information is available online at <https://www.pima.edu/programs-courses/credit-programs-degrees/public-safety/emt/basic-emt.html>

Certification testing requires an additional fee to the National Registry of Emergency Medical Technicians (NREMT). Students with felony and some misdemeanor convictions may not be eligible for certification—contact the Arizona Department of Health Services for additional information about eligibility.

What can I do with this certificate?

Career Options: Take required Arizona and National Registry of Emergency Medical Technicians exams that qualify you to work as an emergency medical technician.

Academic Options: Once you receive EMT certification and work as an emergency medical technician, continue your studies by pursuing the Paramedic Associate of Applied Science Degree.

Locations: East Campus, Community Campus

Department/Contact Information:

Dean: 520-206-7694

EMT Lab: 520-206-7839

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|--|------------------------------------|--------------|
| Required Core Course - A grade of C or better is required for graduation. | | |
| EMT 100* | Emergency Medical Technology | 9 |
| Total credits as displayed | | 9 |

Emergency Medical Technology — Paramedic — Associate of Applied Science Degree for Direct Employment

The Associate of Applied Science program increases the knowledge and skill of the EMT and AEMT in advanced life support including endotracheal intubation, cardiac arrhythmia recognition and intervention. The program also includes drug therapy, invasive procedures, advanced airway management, and I.V. therapy.

Before enrolling in this program, you must meet certain admission requirements:

- A. American Heart Association Basic Life Support for the Healthcare Provider certification card. This card must remain current throughout the paramedic program and the certification process
- B. Current EMT or higher prehospital certification. This certification **MUST** remain current throughout the paramedic program and certificate process (a lapse in certification will result in immediate expulsion from the program) and be either: National Registry certification; or State of Arizona certification
- C. Documentation of being 18 years old.
- D. Reading assessment at the 9th grade level.
- E. Current health insurance coverage. This coverage must remain current throughout the course of training and the certification process.
- F. Negative results of a 5-panel drug screening within 6 months of the course start date. Screening must include:
 - Marijuana
 - Cocaine
 - Barbiturates
 - Sedatives
 - Amphetamines
- G. Provide proof of immunity or immunization for the following:
 - Proof of negative TB test or chest X-ray within 6 months prior to application as defined in R9-25-308 (D) and proof of annual TB testing while enrolled in the program.
 - Measles (Rubeola)/Mumps/Rubella.
 - Tetanus/Diphtheria within the last 10 years.
 - Results of serological testing showing Hepatitis B (HBV) immunization, begin HBV vaccination series, or sign the release of liability claims/declination form.
 - Flu Shot (this needs to be obtained during flu season, see program staff for dates)
- H. Evidence of a current Background Security Clearance
- I. Successfully Screen for the following areas:
 - ALS written exam
 - Oral Board screening
 - Practicals screening

What can I do with this degree?

Career Options: Paramedic

Academic Options: See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Locations: Community Campus 29th St. Coalition Center

Department/Contact Information:

Program Manager: 520-206-3502

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 00.

| | |
|--|---|
| Communication | † |
| WRT101 or 154 fulfill this requirement | |
| Arts and Humanities | 3 |
| Social and Behavioral Sciences | 3 |
| Mathematics or Science | 3 |
| NOTE: The Math Competency must be met | |
| Other Requirement | † |
| CMN 120 fulfills this requirement | |

| | | |
|-----------------------------------|--|----------|
| Special Requirement | | |
| CMN 120 fulfills this requirement | | |
| Subtotal. | | 9 |

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| All of the core courses require acceptance into the Paramedic Program. | | |
| EMT 170* | ALS Operations | 1.5 |
| EMT 205* | ALS Pharmacology and Medication Administration | 3.5 |
| EMT 214* | ALS Advanced Special Considerations | 2 |
| EMT 218* | Paramedic National Registry Preparatory Course | 3 |
| EMT 219* | ALS Foundations | 1 |
| EMT 221* | ALS Airway and Ventilation | 2 |
| EMT 222* | ALS Patient Assessment and Assessment Based Management | 2 |
| EMT 223* | ALS Trauma Emergencies and Systems | 2.5 |
| EMT 224* | ALS Medical Emergencies | 4 |
| EMT 225* | ALS Special Medical Considerations | 2.5 |
| EMT 227LC* | ALS Practicum: Clinical Lab - Emergency Room | 1.5 |
| EMT 228LC* | ALS Practicum: Vehicular Lab - Team Member | 2 |
| EMT 230* | Basic ECG Interpretation | 3 |
| EMT 242* | ALS Advanced Foundations | 4 |
| EMT 244* | ALS Advanced Medical Emergencies | 2.5 |
| EMT 247LC* | ALS Advanced Practicum: Clinical Lab -Specialized Care | 2 |
| EMT 248LC* | ALS Advanced Practicum: Vehicular Lab - Team Lead CAPSTONE | 4 |
| EMT 250 | Advanced Cardiac Care | 1 |
| EMT 252 | Pediatric Advanced Life Support | 1 |
| EMT 254* | Advanced ECG Interpretation | 2 |
| EMT 295 | ALS Independent Research | 1 |
| Subtotal. | | 48 |

| | | |
|--|---|-----------|
| Required Support Courses - A grade of C or better is required for graduation. | | |
| CMN 120 | Business and Professional Communication | 3 |
| WRT 101 | English Composition I SUN# ENG1101 | 3 |
| or WRT 154 | Career Communications | |
| Subtotal. | | 6 |
| Total credits as displayed | | 63 |

‡ General Education requires at least 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Fashion Design

Prepare for an exciting career in Fashion Design. Complete this program by taking classes in the Fashion Design and Clothing Department at Pima's West Campus.

Fashion Design — Certificate for Direct Employment

Prepare for entry-level careers in fashion design for the apparel industry by studying fashion drawing, imaginative design, historical and global fashion, sewing applications, textiles, and pattern drafting.

What can I do with this certificate?

Career Options: Seek entry level positions by studying fashion drawing, imaginative design, historical and global fashion, sewing applications, textiles, and pattern drafting.

Academic Options: Continue your studies by taking courses toward AA in Liberal Arts, Fashion Design concentration.

Gainful Employment Information: www.pima.edu/ge-crtfdc

Location: West Campus

Department/Contact Information:

Dean: 520-206-6690

Lead Faculty: 520-206-3028

Program/Major Codes: **CRTFDC/FDC**

| Course Number | Course Title | Credit Hours |
|---|--------------------------------------|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| FDC 110 | Clothing Construction I | 3 |
| FDC 111* | Clothing Construction II | 3 |
| FDC 121 | Flat Pattern Making I | 3 |
| FDC 122 | History of Clothing | 3 |
| or FDC 132 | Global Fashion and Culture | 3 |
| FDC 126 | Textiles | 3 |
| FDC 141 | Introduction to Fashion Design | 3 |
| FDC 144* | Fashion Drawing | 3 |
| FDC 211* | Clothing Construction III | 3 |
| Choose one of the following courses: | | 3 |
| FDC 123* | Computer Patternmaking | |
| FDC 212* | Tailoring: Jackets | |
| FDC 213* | Tailoring: Pants and Shirts | |
| FDC 214* | Bridal and Formalwear | |
| FDC 215* | Sewing with Knits | |
| FDC 221* | Flat Patternmaking II | |
| FDC 241* | Draping | |
| FDC 245* | Digital Fashion Design | |
| Total credits as displayed | | .27 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

AA in Liberal Arts - Fashion Design Concentration

See the Liberal Arts section for details on the degree requirements.

Fire Science

Fire Science Academy Track — Certificate for Direct Employment

Gain firefighting, hazardous materials and wildland firefighting skills. This program meets Arizona certification requirements for Firefighter I and II, and will enable students to achieve International Fire Service Accreditation Congress (IFSAC) certification as a Hazmat First Responder. In addition, students will be awarded a certificate of completion for wildland firefighting training from the National Wildfire Coordinating Group.

Before enrolling in this program, you must fulfill meet certain requirements.

- Documentation of being 18 years old (for acceptance Into PCC Fire Academy).
- Medical evaluation (for acceptance into PCC Fire Academy).
- Attend a program orientation.

What can I do with this certificate?

Career Options: Students will be eligible to take the State of Arizona Certification Test to become a certified firefighter and/or work as a wildland firefighter.

Academic Options: Continue your studies by taking classes toward an Associate of Applied Science in Fire Science.

Gainful Employment Information: www.pima.edu/ge-crtfirescien

Location: Community Campus

Department/Contact Information:
Dean/Lead Faculty: 520-206-3583

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| EMT 100** | Emergency Medical Technology | 9 |
| FSC 101 | Principles of Emergency Services (FESHE Core) | 3 |
| FSC 110 | Rope I | 0.75 |
| FSC 127 | Principles of Emergency Services Safety and Survival (FESHE Core) | 3 |
| FSC 130* | Strength and Fitness for the Fire Service | 1.0 |
| FSC 149* | Fire Operations I | 4 |
| FSC 150* | Fire Operations II | 4 |
| FSC 153 | Hazardous Materials | 1.5 |
| FSC 160 | Wildland Firefighting | 2 |
| FSC 173* | Records and Reports | 0.5 |
| Total credits as displayed | | 28.75 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** EMT 100 will be waived if student obtained certification at another institution and student holds a current state or national certification.

Fire and Emergency Services Higher Education (FESHE) — Associate of Applied Science Degree for Direct Employment

Prepare for the day-to-day demands of the profession and learn to cope with challenges in the field. This degree prepares students to move toward managerial and command positions.

Before enrolling in this program, you must fulfill meet certain requirements.

- Documentation of being 18 years old (for acceptance into PCC Fire Academy).
- Medical evaluation (for acceptance into PCC Fire Academy).
- Attend a program orientation.

What can I do with this degree?

Career Options: Seek employment or increase promotional opportunities in the fire service.

Academic Options: This program provides students the opportunity to transfer to a bachelor's program. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Community Campus/29th Street Coalition Center

Department/Contact Information:

Dean/Lead Faculty: 520-206-3583

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above. See the website or an advisor for details.

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|------------|
| Communication Requirement | † |
| WRT101 or 154 fulfills this requirement | |
| Arts and Humanities Requirement | 3 |
| Social and Behavioral Sciences Requirement | 3 |
| Mathematics and Science Requirement | 3 |
| NOTE: Math Competency must be met | |
| Other Requirements | † |
| CMN 120 fulfills this requirement | |
| Special Requirement | |
| CMN 120 fulfills this requirement | |
| Subtotal. | .9¥ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------|------------------------------------|---|
| EMT 100+ | Emergency Medical Technology | 9 |
|----------|------------------------------------|---|

Fire Academy

| | | |
|----------|---|------|
| FSC 110 | Rope I | 0.75 |
| FSC 130 | Strength and Fitness for Fire Science | 1 |
| FSC 149 | Fire Operations I | 4 |
| FSC 150* | Fire Operations II | 4 |
| FSC 153 | Hazardous Materials | 1.5 |
| FSC 160 | Wildland Firefighting | 2 |
| FSC 173 | Records and Reports | 0.50 |

Feshe Courses

| | | |
|----------|---|---|
| FSC 101+ | Principles of Emergency Services (FESHE Core) | 3 |
| FSC 120 | Fire Behavior and Combustion (FESHE Core) | 3 |
| FSC 123 | Building Construction Related to the Fire Service (FESHE Core) | 3 |
| FSC 124 | Fire Prevention (FESHE Core) | 3 |
| FSC 126 | Fire Protection Systems in the Fire Service (FESHE Core) | 3 |
| FSC 127+ | Principles of Emergency Services Safety and Survival (FESHE Core) | 3 |
| FSC 174 | Fire Investigation I (FESHE Non-Core) | 3 |

| | | |
|------------------|---|---------------|
| FSC 252 | Fire Service Strategy and Tactics CAPSTONE (FESHE Non-Core) | 3 |
| Subtotal. | | .46.75 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|-----------------------------------|---|---------------|
| CMN 120 | Business and Professional Communication | 3 |
| WRT 101 | English Composition I SUN# ENG1101 | 3 |
| or WRT 154 | Career Communication | |
| Subtotal. | | .6 |
| Total credits as displayed | | .61.75 |

Fire Science Electives **

| | | |
|---------------|--|------|
| FSC 111 | Rope II | 0.75 |
| FSC 112* | Rope III | 0.75 |
| FSC 118* | Swift Water Rescue for First Responders | 1 |
| FSC 125 | Hydraulics and Water Supply (FESHE Non-Core) | 2.5 |
| FSC 128 | Incident Safety Officer | 1 |
| FSC 163* | Fire Apparatus and Equipment | 3 |
| FSC 168* | Special Hazard Tactical Problems | 3 |
| FSC 170* | Fire Science Leadership | 3 |
| or FSC 170A* | Fire Science Leadership I | 1 |
| and FSC 170B* | Fire Science Leadership II | 1 |
| and FSC 170C* | Fire Science Leadership III | 1 |
| FSC 180* | Driver Training for Fire Science | 3 |
| FSC 249* | Occupational Safety and Health for Emergency Services (FESHE Non-Core) | 3 |
| FSC 260* | Fire and Emergency Services Instructor | 2 |
| FSC 270* | Leadership I for Fire Services Executives | 1 |
| FSC 271* | Leadership II for Fire Services Executives | 1 |
| FSC 272* | Leadership III for Fire Services Executives | 1 |
| FSC 273* | Leadership IV for Fire Services Executives | 1 |
| FSC 274* | Leadership V for Fire Services Executives | 1 |
| FSC 280 | Fire Chief Preparation | 4 |
| FSC 289* | Current Issues in Fire Science | 2 |

† Core or support course(s) fulfill this requirement.

‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

+ EMT 100 will be waived if student obtained certification at another Institution and student holds a current state or national certification. Additional FSC credits from the list of Fire Science Electives will be required to reach a total of at least 60 credits toward the degree.

++ FSC 101 and 127 are FESHE courses completed as part of the Fire Academy.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** Electives that may be used to substitute certain classes in Required Core section. Contact the fire science program office or Fire Program Advisor for more details.

Fitness and Sport Sciences

Learn to coach athletes, teach physical education or train individuals in personal fitness.

Fitness Professional — Certificate for Direct Employment

Learn exercise and fitness theories and the skills to teach people how to safely exercise. The program may include work-related experiences at the Fitness and Conditioning Center and in local fitness clubs and agencies.

What can I do with this degree?

Career Options: Work as a personal trainer and/or group fitness instructor in your own business or within a fitness club or agency. Take exams for certification through the American College of Sports Medicine (ACSM), the American Council of Exercise (ACE), or the National Strength and Conditioning Association (NSCA).

Academic Options: A student planning to transfer to obtain a bachelor’s degree in Exercise Science should follow the Associate of Science Degree for Transfer.

Gainful Employment Information: www.pima.edu/ge-crtfitness

Location: West Campus

Department/Contact Information:

Dean: 520-206-6996

Lead Faculty: 520-206-6685

Program/Major Codes: **CRTFITNESS/FSP1**

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| FSS 208* | Group Fitness Instructor | 2 |
| FSS 218* | Strength Training: Applied Principles and Techniques | 3 |
| FSS 234 | Fundamentals of Exercise Science | 4 |
| or FSS 234A & 234B | | |
| FSS 236* | Health Communication: Behavioral Change | 2 |
| FSN 154 | Nutrition | 3 |
| or FSS 241 | | |
| FSS 276* | Exercise Testing and Prescription | 3 |
| FSS 277* | Cardiovascular Training: Physiology and Programming | 3 |
| FSS 281* | Capstone: Certified Personal Trainer | 1 |
| Subtotal. | | .21 |

Required Support/Elective Courses

Select 6 credits from the following list:

| | | |
|-----------------------------------|---|------------|
| FAW 182 | Healthy Living and Mind-Body Training | 3 |
| FAW 183 | Health Coach Professional | 3 |
| FAW 184 | Health, Wellness, and Physical Activity | 3 |
| FSS 238 | Introduction to Sports Injury Management | 3 |
| FSS 260 | Business Practices for the Personal Trainer | 2 |
| FSS 262* | Personal Trainer: Special Populations | 2 |
| FSS 271 | Sport Psychology | 3 |
| FSS 273 | Sport Physiology | 3 |
| FSS 280* | Weight Management Specialist | 1 |
| FSS 291* | Fitness and Sport Sciences Internship | 3 |
| Subtotal. | | .6 |
| Total credits as displayed | | .27 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Fitness and Wellness Specialist — Certificate for Direct Employment

The Fitness and Wellness Specialist Certificate program is designed to educate students in the science and principles supporting the growing field of wellness. Students will acquire the knowledge needed to work as a professional in the wellness field and develop the skills for positive behavioral change. Students who complete this certificate and wish to practice in the profession will be prepared to sit for a national certification exam. Those who are taking the program specifically for personal development will be able to safely and effectively make healthier lifestyle choices.

Before enrolling in this program, students are encouraged to have successfully completed or be concurrently enrolled in ICS 081 or MAT 086, and REA 112, and WRT 101.

Certification testing requires an additional fee to the American Council of Exercise (ACE). Students must be 18 years or older to apply for the certification exam, and possess proof of CPR/AED certification at time of testing.

What can I do with this degree?

Career Options: Work as a personal trainers, group exercise leaders, health club sales or management professionals, community health leaders, corporate wellness programs, recreation workers/leaders, and many other health and wellness related professions. Additional options include pursuing further studies toward exercise science, physical therapy, strength and conditioning, or athletic training. Students may be required to show proof of CPR/AED certificate upon future employment. Suggested national certification exam after completion of program through American Council of Exercise (ACE) Health Coach, which is accredited by the National Commission for Certifying Agencies (NCCA).

Academic Options: A student planning to transfer to obtain a bachelor’s degree in Exercise Science, Exercise and Wellness, Health Education and Health Promotion should follow the Associate of Science Degree for Transfer.

Gainful Employment Information: www.pima.edu/ge-crtfws-fws

Location: West Campus

Department/Contact Information:

Dean: 520-206-6996

Lead Faculty: 520-206-6685

Program/Major Codes: **CRTFWS/FWS**

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| FAW 182 | Healthy Living and Mind-Body Training | 3 |
| FAW 183 | Health Coach Professional | 3 |
| FAW 184 | Health, Wellness, and Physical Activity | 3 |
| FSN 154 | Nutrition | 3 |
| or FSS 241 | Nutrition for Exercise and Sport | |
| FSS 234 | Fundamentals of Exercise Science | 3-4 |
| or FSS 234A & 234B | | |
| or FSS 273 | Sport Physiology | |
| Subtotal. | | 15-16 |
| Required Support/Elective Courses | | |
| Select at least 7 credits from the following list: | | |
| FAW** | Activity Classes (Choose up to 3 FAW group fitness classes) | 1-3 |
| FSS 280* | Lifestyle and Weight Management Consultant | 2 |
| FSS 291* | Fitness and Sports Sciences Internship | 3 |
| PSY 218* | Health Psychology | 3 |
| WED 110 | Introduction to Complementary and Alternative Medicine | 3 |
| WED 111 | Self-Care for Personal Wellness | 2 |
| Subtotal. | | 7 |
| Total credits as displayed | | 22-23 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** Only one (1) credit fitness classes allowed and cannot be repeated.

Physical Education, Exercise and Wellness, Athletic Trainer

A student planning to transfer to obtain a bachelor's degree in Physical Education, Exercise and Wellness, or Athletic Trainer should follow the **Associate of Arts Degree for Transfer in Liberal Arts**. A student planning to transfer to obtain a bachelor's degree in Exercise Science should follow the **Associate of Science Degree for Transfer**. A student should meet with Fitness and Sport Science faculty or an advisor to plan courses. Students who plan to transfer should contact an advisor from their chosen school and/or use a transfer guide for verification of transfer courses.

General Studies

General Studies — Associate of General Studies Degree

This degree allows students to uniquely design an associate’s degree in collaboration with a faculty member, advisor or counselor. Courses may be chosen from a variety of subject areas. Students should meet with an advisor or counselor before beginning this degree.

What can I do with this degree?

Career Options: Select courses to fit careers of your choice.

Academic Options: Continue taking classes toward a transfer degree.

Locations: All campuses

Program/Major Codes: **AGSGENRSTUDY/AGS**

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|--------------|
| Communication Requirement | 3 |
| Arts and Humanities Requirement | 3-4 |
| Social and Behavioral Science Requirement | 3 |
| Mathematics and Science Requirement | 3-4 |
| NOTE: The Math Competency must be met | |
| Other Requirement | 3-4 |
| Special Requirement | |
| The C or G requirement should be fulfilled by completing an appropriate course in the above categories. | |
| Subtotal. | 15-18 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | |
|---|--------------|
| Electives | 42-45 |
| Complete courses numbered 100 or higher. See an advisor to develop an education plan. | |
| Subtotal. | 42-45 |
| Total credits as displayed | 60 |

Health Information Management

Health Information Technology — Associate of Applied Science for Direct Employment

Prepare for entry-level employment or advancement within the growing health-care industry as a professionally trained Health Information Technician. Health Information Technician professionals work behind the scenes to support patient care in clinics, hospitals, physician and specialty practices and in external agencies including legal firms and research centers.

What can I do with this degree?

Career Options: Find entry-level employment as a medical coder, medical billing and insurance claims specialist, or physician or hospital coder.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-6916

Lead Faculty: 520-206-7186

Program/Major Codes: **AASOAH/OAH**

| Course Number | Course Title | Credit Hours |
|--|---|--------------|
| General Education Requirements - A grade of C or better is required for graduation. | | |
| <i>Course lists for each General Education category listed below can be found starting on page 74.</i> | | |
| | Communication Requirement | † |
| | WRT 101 fulfills this requirement. | |
| | Arts and Humanities Requirement | † |
| | AIS/ANT/ARC 205, HIS 141 or 142 fulfills this requirement. | |
| | Social and Behavioral Requirement | † |
| | ECN 150, POS 210, PSY 101, or SOC 101 fulfills this requirement | |
| | Mathematics and Sciences Requirement | † |
| | MAT 106 fulfills this requirement. | |
| | Other Requirement | † |
| | BIO 160IN fulfills this requirement | |
| | Special Requirement | |
| | AIS/ANT/ARC 205, HIS 141 or 142 fulfills this requirement. | |
| | Subtotal | 0¥ |

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------|--|-------------|
| HIT 100 | Introduction to Health Information Management | 3 |
| HIT 101* | Introduction to ICD Coding | 3 |
| HIT 102* | CPT Coding | 3 |
| HIT 105 | Medical Terminology | 3 |
| HIT 108 | Health Information Employment Policies | 1 |
| HIT 112* | Health Insurance and Medical Billing | 3 |
| HIT 125 | Pathophysiology and Pharmacology for Health Information Technology | 3 |
| HIT 150 | Introduction to Health Management Information Systems | 3 |
| HIT 175 | Health Information Statistics and Research | 3 |
| HIT 201* | Advanced ICD Coding | 3 |
| HIT 202* | Advanced Classification Systems Applications | 3 |
| HIT 210* | Medical Quality Assurance and Supervision | 3 |
| HIT 211* | Medicolegal Aspects in Health Information Management | 3 |
| HIT 225* | Advanced Health Management Information Systems | 3 |
| HIT 290* | Health Information Technology Internship | 4.5 |
| | Subtotal | 44.5 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|---|---|-------------|
| AIS/ANT/ARC 205 or HIS 141 or HIS 142 | Introduction to Southwestern Prehistory 3 History of the United States I SUN# HIS 1131 History of the United States I SUN# HIS 1132 | 3 |
| BIO 160IN ^Δ | Introduction to Human Anatomy and Physiology | 4 |
| CIS 120* | Computer Applications for Business SUN# CIS 1120..... | 4 |
| ECN 150 or POS 210 or PSY 101 or SOC 101 | An Economic Perspective..... 3 National and State Constitutions Introduction to Psychology SUN# PSY 1101 Introduction to Sociology SUN# SOC 1101 | 3 |
| MAT 106* | Elementary Data Analysis and Spreadsheets..... | 3 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| Subtotal. | | 20 |
| Total credits as displayed | | 64.5 |

† Core or support course(s) fulfill this requirement.

‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Δ Completion of BIO 2011H and BIO 2021N can be substituted for BIO 160IN.

Medical Billing and Coding — Certificate for Direct Employment

Prepare for entry-level employment or advancement within the growing health-care industry with a focus in medical coding and billing.

What can I do with this certificate?

Career Options: Become a coder, insurance or medical records technician, or professional in a medical facility or health care or insurance agency.

Academic Options: Continue your studies by taking additional courses toward the Health Information Technology concentration of the Office and Administrative Professions degree.

Gainful Employment Information: www.pima.edu/ge-crtmbc-mbc

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead Faculty: 520-206-7186

Program/Major/Concentration Codes: **CRTMBC/MBC**

| Course Number | Course Title | Credit Hours |
|---|--|----------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| HIT 100 | Introduction to Health Information Management | 3 |
| HIT 101* | Introduction to ICD Coding | 3 |
| HIT 102* | CPT Coding | 3 |
| HIT 105 | Medical Terminology | 3 |
| HIT 108 | Health Information Employment Policies | 1 |
| HIT 112* | Health Insurance and Medical Billing | 3 |
| HIT 125 | Pathophysiology and Pharmacology for Health Information Technology | 3 |
| HIT 201* or HIT 290* | Advanced ICD Coding 3-4.5 Advanced Health Information Technology Internship | 3-4.5 |
| Subtotal. | | 22-23.5 |

Required Support Courses

| | | |
|-----------------------------------|--|----------------|
| BIO 160IN | Introduction to Human Anatomy and Physiology..... | 4 |
| CIS 120 | Computer Applications for Business SUN# CIS 1120 | 4 |
| Subtotal. | | 8 |
| Total credits as displayed | | 30-31.5 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Honors

Honors Program — Certificate

The Honors Program offers academically excellent students a variety of enrichment opportunities to assist them in attaining their full academic potential.

Before enrolling in this program, students must meet certain requirements:

- A. Incoming freshmen, with less than 12 college credits, must have maintained a GPA of at least 3.5 at an accredited high school, and scored 90 or higher on both the reading and writing portions of the College assessment tests.
- OR
- B. Continuing students must have completed at least 12 college credits in courses numbered 100 or higher, with a GPA of 3.5 or better.
- Complete HON 101: Honors Colloquium with a grade of B or better.

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above. See the website or an advisor for details.

Required Courses:

To earn this certificate, students must complete a minimum of 15 credits of Honors coursework with an overall 3.5 GPA.

| Course Number | Course Title | Credit Hours |
|--|-------------------|--------------|
| Required Core Course - A grade of B or better is required for graduation. | | |
| HON 101 | Honors Colloquium | 3 |
| Subtotal. | | 3 |

Required Support Courses - A grade of B or better is required for graduation.

Electives - Select a minimum of 12 credits from the following:

| | | |
|---|----------------------------------|-----------|
| HON 210* | College Honors Advisory Council | 1 |
| HON 244* | Honors Field Excursions | 1-3 |
| HON 296* | Honors Independent Study Project | 1-3 |
| WRT 101HC* | English Composition I: Honors | 3 |
| WRT 102HC* | English Composition II: Honors | 3 |
| Honors Courses in any Prefix ** | | 3-12 |
| Honors Contracts in regular courses *** | | 3-12 |
| Subtotal. | | 12 |
| Total credits as displayed | | 15 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** See the class schedule for current offerings.

*** To start an Honors Contract you must have completed HON 101. Meet with an Honors Coordinator at any campus or contact us at <http://www.pima.edu/programs-courses/honors/honors-contact-us.html>

Hotel and Restaurant Management

Learn basic principles of hotel and restaurant management.

Hotel and Restaurant Management — Certificate for Direct Employment

Work in the resort/hotel or restaurant industry while completing an entry-level, career-track certificate that provides an introduction to hotel/restaurant management. Earn credit for co-op work experience.

What can I do with this degree?

Career Options: Entry-level employment in hotel or restaurant management

Academic Options: Courses can apply toward the Associate of Arts in Liberal Arts, Hotel and Restaurant Management concentration, or to the HRM baccalaureate degree at Northern Arizona University. This program does not transfer to Arizona State University or The University of Arizona.

Gainful Employment Information: www.pima.edu/ge-crthrm

Location: Northwest Campus

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-2176

Program/Major Codes: **CRTHRM/HRC**

| Course Number | Course Title | Credit Hours |
|--|---|--------------|
| Required Core Course - A grade of C or better is required for graduation. | | |
| CSA 110 | Spreadsheets: Microsoft Excel | 3 |
| HRM 100 | Introduction to Hospitality Industry | 3 |
| HRM 104 | Hotel Food and Beverage Management | 3 |
| HRM 199/199WK* | Introductory Co-op/Introductory Co-op Work: Hotel and Restaurant Management | 3 |
| or | | |
| HRM 299/299WK* | Advanced Co-op/Advanced Co-op Work: Hotel and Restaurant Management | 12 |
| Subtotal. | | 12 |
| Required Support Courses | | |
| Hospitality Electives | | 9 |
| Complete three courses from the list below: | | |
| HRM 101 | Front Office Procedures | |
| HRM 110 | Food Service Systems Management | |
| HRM 111* | Commercial Food | |
| HRM 150 | Hospitality Property Management | |
| HRM 210* | Managing Customer Service for the Hospitality Industry | |
| Subtotal. | | 9 |
| Total credits as displayed | | 21 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

AA in Liberal Arts - Hotel and Restaurant Management Concentration

See the Liberal Arts section for details on the degree requirements.

Human Resources

Human Resources — Certificate for Direct Employment

Learn the principles and practices associated with a career in Human Resources.

What can I do with this certificate?

Career Options: Move into basic human relations functions with a current employer. Find employment in human relations tasks.

Academic Options: Expand your business knowledge through other business programs.

Gainful Employment Information: www.pima.edu/ge-crthumanres

Location: Community Campus

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-7216

Program/Major codes: **CRTHUMANRES/HRS**

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| HRS 101 | Introduction to Human Resources Management | 3 |
| HRS 102 | Human Resource Law | 3 |
| HRS 103 | Benefits and Compensation | 3 |
| HRS 104 | Job Requirements, Recruitment, and Personnel Selection | 3 |
| HRS 105 | Training and Development | 3 |
| HRS 106 | Labor Relations | 3 |
| STU 100 | College Success and Career Planning | 1 |
| Total credits as displayed | | 19 |

Justice Professions

Law Enforcement Academy — Certificate for Direct Employment

Learn the skills needed to begin a career in law enforcement while preparing for the licensure examination. Completion of the program exceeds the minimum P.O.S.T. requirements for entry-level employment as an Arizona peace officer.

Before enrolling in this program you must meet certain requirements:

- High school diploma or GED
- At least 21 years of age upon completion of the academy
- No felony convictions
- U.S. Citizen
- Must possess a valid driver's license
- Physical requirement test
- Written evaluation
- Psychological evaluation
- Oral Board review
- Background investigation
- No history of AZPOST or agency disqualifiers identified in the background investigation reviewed by skills-matter experts.
- Medical evaluation
- Polygraph exam
- Other requirements that are specific to Arizona Peace Officer Standards and Training Board (Az P.O.S.T.)
<https://post.az.gov/>

What can I do with this certificate?

Career Options: After passing the licensure examination, seek entry-level employment as an Arizona police officer.

Academic Options: Continue your studies by working toward an associate's degree in Law Enforcement.

Gainful Employment Information: www.pima.edu/ge-crtlwy

Location: Public Safety and Emergency Services Institute.

Department/Contact Information:

Program Manager: 520-206-3540

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|---------------------------------------|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| LEA 110 | Law Enforcement Academy Part I | 29 |
| LEA 210* | Law Enforcement Academy Part II | 16 |
| Subtotal. | | .45 |
| Total credits as displayed | | .45 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Justice Professions — Associate of Applied Science Degree for Direct Employment

This two-year degree covers a broad range of knowledge and professional skills in criminal law, corrections, and the American justice system.

What can I do with this degree?

Career Options: Find entry-level employment or promotion in corrections or criminal justice.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: East Campus

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-7477

Program/Major/Concentration Codes: **AASJUS/JUS/****** (see concentration codes below)

The Law Enforcement Concentration is a Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above for the Law Enforcement Certificate program, and have been officially admitted to the program. See the website or an advisor for details

General Education Requirements - A grade of C or better is required for graduation

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|------------|
| Communication | † |
| WRT 101 or 154 fulfills this requirement. | |
| Arts and Humanities | † |
| ART 100 fulfills this requirement. | |
| Social and Behavioral Sciences | † |
| AJS 225, ANT 112, or HIS 161 fulfills this requirement. | |
| Mathematics and Science | † |
| MAT 142 or higher fulfills this requirement. | |
| Other Requirements | † |
| CMN 120 fulfills this requirement. | |
| AGEC Special Requirements | |
| CMN 120 fulfills this requirement. | |
| Subtotal. | .0¥ |

| Course Number | Course Title | Credit Hours |
|---------------------------------|--|--------------|
| Required Support Courses | | |
| ART 100 | Basic Design | 3 |
| AJS 225 | Criminology..... | 3 |
| or ANT 112 | Exploring Non-Western Cultures | |
| or HIS 161 | Modern Latin America | |
| CMN 120 | Business and Professional Communications | 3 |
| MAT 142 | Topics in College Mathematics SUN# MAT1142 | 3 |
| or higher MAT | | |
| WRT 101 | English Composition I SUN# ENG1101..... | 3 |
| or WRT 154 | Career Communications | |
| STU 100 | College Success and Career Planning..... | 1 |
| Subtotal. | | 16 |

Concentration - A grade of C or better is required for graduation.

Complete one of the following concentrations: 44-45

Administration of Justice (Concentration Code: JUSD)

| | | |
|----------|--|---|
| AJS 101 | Introduction to Administration of Justice Systems SUN# AJS 1101..... | 3 |
| AJS 109 | Criminal Law | 3 |
| AJS 113 | Criminal Justice Crime Control Policies and Practices..... | 3 |
| AJS 115* | Criminal Procedures | 3 |
| AJS 123 | Corrections as a Process | 3 |
| AJS 124 | Ethics and the Administration of Justice | 3 |
| AJS 201* | Rules of Evidence..... | 3 |
| AJS 204* | Criminal Investigation | 3 |
| AJS 205* | Forensic Pathology and Death Investigation..... | 3 |
| AJS 212 | Juvenile Justice Procedures..... | 3 |
| AJS 260* | Criminal Justice Management | 3 |
| AJS 265 | Issues in the Administration of Justice (CAPSTONE) | 1 |

Electives:

| | |
|---|--------------|
| Complete four courses from the following:..... | 12-14 |
| AJS 225 Criminology | |
| AJS 280 Terrorism in the 21st Century | |
| AJS 290* Administration of Justice Studies Internship | |
| PSY 101 Introduction to Psychology SUN# PSY1101 | |
| SPA 101 Elementary Spanish SUN# SPA1101 | |
| SPA 102 Elementary Spanish SUN# SPA1101 | |
| Subtotal. | 46-48 |

Law Enforcement (AZ Post) (Special Admissions Program)

| | |
|---|--------------|
| LEA 110 Law Enforcement Academy Part I | 29 |
| LEA 210* Law Enforcement Academy Part II CAPSTONE | 16 |
| Subtotal. | 45 |
| Total credits as displayed | 61-64 |

† Core or support course(s) fulfill this requirement.

¥ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

AA in Liberal Arts - Administration of Justice Concentration

See the Liberal Arts section for details on the degree requirements.

Liberal Arts - Associate of Arts Degree for Transfer

Complete the first two years of a bachelor's degree for many majors. For most of the concentrations below, Pima requirements are aligned most closely with those at the University of Arizona. Substitutions are available for students planning to transfer to other schools. See an advisor.

Concentrations available:

- General
- Administration of Justice
- American Sign Language and Interpretation Studies
- Anthropology
- Biology
- Communication
- Early Childhood Education
- Elementary Education
- English
- Ethnic, Gender and Transborder Studies
- Fashion Design
- History
- Hotel and Restaurant Management
- Political Science
- Psychology
- Social Services
- Sociology
- Translation and Interpretation Studies

Program/Major /Concentration Codes: **AOAALA/ALA1/****** (see concentration codes below)

Liberal Arts – General Concentration

Complete this concentration if you are unsure which Bachelor of Arts degree you plan to pursue, or if your major is not included in the other concentrations offered.

What can I do with this concentration?

Academic Options: Transfer to a university to complete a Bachelor of Arts degree.

Location: Any Campus

Contact Information: Contact any campus Student Services office: www.pima.edu/mhtml/email/advising.

Concentration Codes: **ALAG**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|-----------|
| English Composition | 6 |
| Humanities and Fine Arts | 6 |
| Biological and Physical Sciences | 8 |
| Mathematics | 3 |
| Social and Behavioral Sciences | 6 |
| Other Requirements | † |
| Second Language courses fulfill this requirement | |
| Special Requirements | |
| Second Language course numbered 202 fulfills the G requirements (or the C requirement if the language is ASL). The I and either the C or G requirement should be fulfilled by selecting appropriate courses in the above categories. | |
| Subtotal. | 29 |

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| Transfer Electives | Complete 12-16 credits of transferrable electives so the total credits for the degree are 60-64. | 12-16 |
| Subtotal. | | 12-16 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| STU 100 or STU 107 | College Success and Career Planning University Transfer Preparation | 1 |
| STU 210 | Transfer Strategies | 2 |
| Second Language* | Completion of a Language course numbered 202*, fourth semester level. | 16 |
| Subtotal. | | 19 |
| Total credits as displayed | | 60-64 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

Liberal Arts – Administration of Justice Studies Concentration

Prepare for advanced studies in the criminal justice system.

What can I do with this concentration?

Academic Options: Transfer to a university degree program in Criminal Justice, Justice Studies, or a related program.

Location: East Campus

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-7477

Concentration Code: **ALAJ**

Arizona General Education Curriculum (AGEC-A) Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | | |
|---|--|-----------|
| English Composition | | 6 |
| Humanities and Fine Arts | | † |
| ANT 112 or HIS 161, and either ART 100 or MUS 160 fulfill this requirement | | |
| Biological and Physical Sciences | | † |
| BIO 135IN and CHM 121IN fulfill this requirement | | |
| Mathematics | | † |
| MAT 142 fulfills this requirement | | |
| Social and Behavioral Sciences | | † |
| AJS 225 and POS 201 fulfill this requirement | | |
| Other Requirements | | † |
| ASL 101, SPA 101 or PSY 101, and either ASL 102, SPA 102, HUM 260 or THE 105 fulfill this requirement | | |
| AGEC Special Requirements | | |
| ANT 112 or HIS 161 fulfills this requirement | | |
| Subtotal | | 6¥ |

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| AJS 101 | Introduction to Administration of Justice Systems SUN# AJS 1101 | 3 |
| AJS 109 | Criminal Law | 3 |

| | | |
|-----------------|--|-----------|
| AJS 115* | Criminal Procedures | 3 |
| AJS 124 | Ethics and the Administration of Justice | 3 |
| AJS 204* | Criminal Investigation | 3 |
| AJS 225 | Criminology | 3 |
| AJS 265 | Issues in the Administration of Justice | 1 |
| Subtotal | | 19 |

Required Support Courses

| | | |
|--|--|--------------|
| ANT 112 | Exploring Non-Western Cultures | 3 |
| or HIS 161 | Modern Latin America | |
| ART 100 | Basic Design | 3 |
| or MUS 160 | Popular Music in America | |
| ASL 101# | American Sign Language I | 3-4 |
| or SPA 101# | Elementary Spanish I SUN# SPA1101 | |
| or PSY 101# | Introduction to Psychology SUN# PSY1101 | |
| ASL 102## | American Sign Language II | 3-4 |
| or SPA 102## | Elementary Spanish II SUN# SPA1102 | |
| or HUM 260## | Intercultural Perspectives | |
| or THE 105## | Theatre Appreciation | |
| BIO 135IN | Genetics, Biotechnology and Human Affairs | 4 |
| CHM 121IN | Chemistry and Society | 4 |
| MAT 142 | Topics in College Mathematics SUN# MAT1142 | 3 |
| POS 201 | American National Government and Politics SUN# POS1110 | 3 |
| STU 100 | College Success and Career Planning | 1 |
| Transfer Electives: | | 9 |
| Recommend: three courses from the following: AJS 113, 123, 201, 205, 212, 260, 290 | | |
| Subtotal | | 36-38 |
| Total credits as displayed | | 61-63 |

† Core or support course(s) fulfill this requirement.

¥ AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Students transferring to the UA should complete ASL 101 or SPA 101; students transferring to NAU should complete PSY 101; students transferring to ASU should choose the appropriate course depending on the transfer major at ASU.

Students transferring to the UA should complete ASL 102 or SPA 102; students transferring to NAU should complete HUM 260 or THE 105; students transferring to ASU should choose the appropriate course depending on the transfer major at ASU.

Liberal Arts – American Sign Language (ASL) and Interpreter Studies Concentration

Learn pre-interpreting skills such as cognitive processing and translation. This program includes lecture and laboratory skills. Students will develop the intralingual skills needed to analyze discourse in English and American Sign Language (ASL).

What can I do with this concentration?

Academic options: Complete a bachelor's degree in Special Education & Rehabilitation - Deaf Studies emphasis at the UA. This program may transfer to other institutions, but some required courses may not transfer to other universities.

Locations: West Campus

Department/Contact Information:

Dean: 520-206-7134

Lead Faculty: 520-206-6094

Video Relay Service/Video Phone: 520-445-8338

Concentration Codes: **ASLI**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--------------------------------|---|
| English Composition | 6 |
| Humanities and Fine Arts | 6 |
| Recommend: ANT 112 and THE 105 | |

| | |
|--|------------|
| Biological and Physical Sciences | 8 |
| Recommend: CHM 121IN for one of the courses | |
| Mathematics..... | 3 |
| Social and Behavioral Sciences | 6 |
| Recommend: PSY 132 and SOC 201 | |
| Other Requirements | † |
| ASL 101 & 102 fulfill this requirement | |
| Special Requirements | |
| ASL 201 fulfills the C requirements. The I and G requirement should be fulfilled by selecting appropriate courses in the above categories. | |
| Subtotal. | 29¥ |

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses – A grade of C or better is required for graduation. | | |
| ASL 101 | American Sign Language I | 4 |
| ASL 102* | American Sign Language II | 4 |
| ASL 200* | Introduction to the Deaf Community..... | 3 |
| ASL 201 | American Sign Language III | 4 |
| ASL 202 | American Sign Language IV | 4 |
| ASL 203* | Comparative Analysis of ASL and English..... | 3 |
| ASL 215* | ASL Literature: Narratives..... | 3 |
| ITP 201* | Ethics and Social Justice of Interpreting..... | 3 |
| ITP 211* | Fundamentals of Interpreting I..... | 3 |
| ITP 212* | Fundamentals of Interpreting II | 3 |
| Subtotal. | | 34 |
| Total credits as displayed | | 63 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Liberal Arts – Anthropology Concentration

Learn about human biological and cultural differences, including human biology and origins, linguistics and world cultures both past and present.

What can I do with this concentration?

Academic Options: Transfer to a university degree program in anthropology or archaeology. You may also choose to pursue a Field Archaeology Certificate to learn practical archaeological fieldwork techniques.

Location: West Campus

Department/Contact Information:

Dean: 520-206-7666

Lead Faculty: 520-206-6905

Concentration Codes: **ALAA**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|---|
| English Composition | 6 |
| Humanities and Fine Arts..... | 6 |
| Biological and Physical Sciences | 8 |
| Recommend: GLG 101IN and either GLG 102IN or BIO 109IN for students who plan to specialize in Archaeology for their B.A. | |
| Mathematics..... | 3 |
| Social and Behavioral Sciences | 3 |
| ANT/ARC 101 or 102 fulfills 3 credits of this requirement. Complete a non-ANT/ARC course from this category. | |
| Other Requirements | † |
| ANT 210 and Second Language fulfill this requirement | |

Special Requirements

ANT 210 fulfills the I and G requirement. The C requirement should be fulfilled by completing an appropriate course in the above categories.

Subtotal. **26**†

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| ANT/ARC 101 or ANT 102 | Human Origins and Prehistory Introduction to Cultural Anthropology and Linguistics | 3 |
| ANT/ARC 204IN | Human Evolution: Ape Men, Cave Women and Missing Links | 4 |
| ANT 210 | Cultural Anthropology | 3 |
| ANT 215 | The Nature of Language | 3 |
| ANT/ARC 225 | Principles of Archaeology | 3 |
| Subtotal. | | 16 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| STU 100 or STU 107 | College Success and Career Planning. University Transfer Preparation | 1 |
| Transfer Electives | Complete 3 credits of transferrable electives Recommend: ANT/ARC 101, ANT 102, ARC 275 or ANT elective in consultation with an Anthropology faculty Advisor | 3 |
| Second Language* | Completion of a Language course numbered 202*, fourth semester level. | 16 |
| Subtotal. | | 20 |
| Total credits as displayed | | 62 |

† Core or support course(s) fulfill this requirement.

‡ AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

Liberal Arts – Communication Concentration

Learn about best practices for communicating effectively across multimodal channels and settings; develop global, historical and cultural awareness of the major principles of communication; develop cultural diversity consciousness and communication competence in interactions with culturally dissimilar people.

What can I do with this concentration?

Academic Options: Transfer to a university to complete a bachelor's degree in Communications

Location: West Campus

Department/Contact Information:

Dean: 520-206-7666

Lead Faculty: 520-206-6830

Concentration Code: **ALAC**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|---|
| English Composition | 6 |
| Humanities and Fine Arts. | † |
| ART 100, MUS 160 or THE 105, and either HUM 253 or LIT 261 fulfill this requirement. | |
| Biological and Physical Sciences | † |
| Two courses from BIO 108IN, BIO/FSN 127IN, CHM 121IN or GLG 102IN fulfill this requirement | |
| Mathematics. | † |
| MAT 151 fulfills this requirement. | |

| | |
|---|------------|
| Social and Behavioral Sciences | † |
| Two courses from POS 202, PSY 101, or SOC 101 fulfill this requirement. | |
| Other Requirements | † |
| CMN 102 and 110 fulfill this requirement. | |
| Special Requirements | |
| HUM 253 or LIT 261 fulfill this requirement. | |
| Subtotal. | .6¥ |

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CMN 102 | Introduction to Speech Communication SUN# COM1100 | 3 |
| CMN 110 | Public Speaking | 3 |
| CMN 130 | Small Group Communication | 3 |
| or CMN 140 | Interpersonal Communication | |
| CMN 200 | Intercultural Communication | 3 |
| CMN 228 | Research Methods in Communication | 3 |
| Subtotal. | | 15 |

Required Core Support:

| | | |
|--|--|-----------|
| ART 100 | Basic Design | 3 |
| or MUS 160 | Popular Music in America | |
| or THE 105 | Theater Appreciation | |
| HUM 253* | Western Humanities III. | 3 |
| or LIT 261* | Modern Literature | |
| MAT 151** | College Algebra SUN# MAT1151 | 4 |
| MAT 167* | Introductory Statistics SUN# MAT1160 | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| Two courses from | ..... | 8 |
| BIO 108IN | Plants, People, and Society | |
| or BIO/FSN 127IN | Human Nutrition | |
| or CHM 121IN | Chemistry and Society | |
| or GLG 102IN | Introductory Geology II: Historical Geology | |
| Two courses from | ..... | 6 |
| POS 202 | Introduction to International Relations SUN# POS1120 | |
| or PSY 101 | Introduction to Psychology SUN# PSY1101 | |
| or SOC 101 | Introduction to Sociology SUN# SOC1101 | |
| Second Language Requirement*** | ..... | 16 |
| Completion of a language course numbered 202, fourth semester level. | | |
| Subtotal. | | 44 |
| Total credits as displayed | | 65 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** MAT 151 may be replaced by any transferable course if 1) student tests above MAT 151 or 2) student earns a grade C or better in a College MAT course numbered higher than 151.

*** See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

Liberal Arts – Early Childhood Education Concentration

Learn to teach young children effectively while preparing to transfer to a bachelor's degree program with birth-3rd grade teaching certification.

What can I do with this concentration?**Academic Options:** Transfer to a bachelor's degree program in early childhood with birth-3rd grade teaching certification.**Location:** Desert Vista Campus.**Department/Contact Information:**

Dean: 520-206-5105

Center for Early Childhood Studies: 520-206-5245

Lead Faculty: 520-206-5107

Concentration Code: **ALAE****General Education Requirements A grade of C or better is required for graduation.***Course lists for each General Education category listed below can be found starting on page 74.*

| | |
|--|----------|
| English Composition | 6 |
| Humanities and Fine Arts..... † | |
| ART 105 and either HIS 141 or HIS 142 fulfill this requirement. | |
| Biological and Physical Sciences | † |
| BIO 105IN and either AST 101IN, CHM 130IN, GEO 101IN, GEO 102IN, GLG 101IN or PHY 121IN fulfill this requirement | |
| Mathematics..... † | |
| MAT 142 fulfills this requirement. | |
| Social and Behavioral Sciences | † |
| POS 210 and either ANT 112, ANT/HIS 127, or HUM 260 fulfill this requirement | |
| Other Requirements | † |
| The Second Language courses fulfill this requirement. | |
| Special Requirements | |
| ANT 112, ANT 127, or HUM 260 fulfills the I and C requirement; ART 105 fulfills the G requirement. | |
| Subtotal. | 6 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------------------|------------------------------------|----------|
| ECE 117 | Child Growth and Development | 3 |
| ECE 226* | Positive Child Guidance..... | 3 |
| Subtotal. | | 6 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|--|--|-----------|
| ART 105 | Exploring Art and Visual Culture | 3 |
| ANT 112 | Exploring Non-Western Cultures | 3 |
| or ANT/HIS 127 History and Culture of the Mexican American In the Southwest | | |
| or HUM 260 Intercultural Perspectives | | |
| AST 101IN | Solar System | 4 |
| or AST 102IN Stars, Galaxies, Universe | | |
| or CHM 130IN* Fundamental Chemistry SUN# CHM 1130 | | |
| or GEO 101IN Physical Geography: Weather and Climate | | |
| or GEO 102IN Physical Geography: Land Forms and Oceans | | |
| or GLG 101IN Physical Geology SUN# GLG 1101 | | |
| or PHY 121IN* Introductory Physics I SUN# PHY 1111 | | |
| BIO 105IN | Environmental Biology | 4 |
| HIS 141 | History of the United States I SUN# HIS 1131 | 3 |
| or HIS 142 History of the United States II SUN# HIS 1132 | | |
| MAT 142 | Topics in College Mathematics | 3 |
| (or any Math course numbered 151 or higher) | | |
| MAT 146* | Mathematics for Elementary Teachers I | 3 |
| MAT 147* | Mathematics for Elementary Teachers II | 3 |
| POS 210 | National and State Constitutions | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| or STU 107 University Transfer Preparation | | |
| STU 210 | Transfer Strategies..... | 2 |
| Second Language Requirement** | | 16 |
| Completion of a Language course numbered 202*, fourth semester level. | | |
| Subtotal. | | 48 |
| Total credits as displayed | | 60 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

Liberal Arts – Elementary Education Concentration

Complete the first two years of an elementary education degree and transfer to a four-year degree program.

What can I do with this concentration?

Academic Options: Transfer to a bachelor's degree program with elementary education certification. Students interested in secondary education, rehabilitation or special education should pursue the general Associate of Arts degree.

Locations: Classes can be taken at multiple campuses.

Department/Contact Information:

Dean: 520-206-5105

Lead Faculty: 520-206-5107

Concentration Codes: **ALAD**

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|-----------|
| English Composition | 6 |
| Humanities and Fine Arts..... † | |
| ART 105 and either HIS 141 or 142 fulfill this requirement. | |
| Biological and Physical Sciences | † |
| BIO 105IN and either AST 101IN, CHM 130IN, GEO 101IN, GLG 101IN, or PHY 121IN fulfill this requirement | |
| Mathematics..... † | |
| MAT 142 fulfills this requirement. | |
| Social and Behavioral Sciences | † |
| POS 210 and either ANT 112, ANT/HIS 127 or HUM 260 fulfill this requirement | |
| Other Requirements | † |
| The Second Language courses fulfill this requirement. | |
| Special Requirements | |
| ANT 112, ANT 127, or HUM 260 fulfills the I and C requirement; ART 105 fulfills the G requirement. | |
| Subtotal. | 6¥ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------------------|--|----------|
| EDU 200 | Introduction to Education | 3 |
| EDU 206 | Relationships in Classroom Settings..... | 3 |
| Subtotal. | | 6 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|---|--|---|
| ANT 112 | Exploring Non-Western Cultures | 3 |
| or ANT/HIS 127 History and Culture of the Mexican-American In the Southwest | | |
| or HUM 260 Intercultural Perspectives | | |
| ART 105 | Exploring Art and Visual Culture | 3 |
| AST 101IN | Solar System | 4 |
| or CHM 130IN* Fundamental Chemistry SUN# CHM 1130 | | |
| or GEO 101IN Physical Geography: Weather and Climate | | |
| or GEO 102IN Physical Geography: Land Forms and Oceans | | |
| or GLG 101IN Physical Geology SUN# GLG 1101 | | |
| or PHY 121IN* Introductory Physics I SUN# PHY 1111 | | |
| BIO 105IN | Environmental Biology | 4 |

| | | | |
|---|--|---------------|-----------|
| HIS 141 | History of the United States I | SUN# HIS 1131 | 3 |
| or HIS 142 | History of the United States II | SUN# HIS 1132 | |
| MAT 142 | Topics in College Mathematics | SUN# MAT 1142 | 3 |
| MAT 146* | Mathematics for Elementary Teachers I | | 3 |
| MAT 147* | Mathematics for Elementary Teachers II | | 3 |
| POS 210 | National and State Constitution | | |
| STU 100 | College Success and Career Planning | | 1 |
| or STU 107* | University Transfer Preparation | | |
| STU 210 | Transfer Strategies | | 2 |
| Second Language Requirement** | | | 16 |
| Completion of a Language course numbered 202*, fourth semester level. | | | |
| Subtotal. | | | 48 |
| Total credits as displayed | | | 60 |

† Core or support course(s) fulfill this requirement.

‡ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

Liberal Arts – English Concentration

What can I do with this concentration?

Academic Options: Attend a university degree program in English or Creative Writing. Prepare for a career in professional and technical writing, editing, communications, education, law, advertising, or business management/leadership.

Location: West Campus

Department/Contact Information:

Dean: 520-206-7666

Lead Faculty: 520-206-6905

Concentration Code: **ALAN**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|-----------|
| English Composition | 6 |
| Humanities and Fine Arts | † |
| WRT 205 and either HUM 251, 252, 253, 260, LIT 224*, 225 or PHI 101 fulfills this requirement. | |
| Biological and Physical Sciences | 8 |
| Mathematics | 3 |
| Social and Behavioral Sciences | 6 |
| Other Requirements | † |
| Second Language courses fulfill this requirement | |
| Special Requirements | |
| LIT 280* fulfills this requirement. | |
| Subtotal. | 23 |

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|---|--------------------------------|-----------|
| WRT 205* | Introduction to Poetry Writing | 3 |
| WRT 206* | Short Story Writing | 3 |
| LIT 280* | Introduction to Literature | 3 |
| Select two courses from: | | |
| LIT 231, 261*/261HC*, 265, 289*/289HC*, WRT 162, 207* | | |
| Subtotal. | | 15 |

Required Core Support:

| | | |
|---|-------------------------------------|-----------|
| HUM 251* | Western Humanities I | 3 |
| or HUM 252* | Western Humanities II | |
| or HUM 253* | Western Humanities II | |
| or HUM 260* | Intercultural Perspectives | |
| or LIT 224* | Southwestern Literature | |
| or LIT 225* | Science Fiction Literature | |
| or PHI 101 | Introduction to Philosophy | |
| STU 100 | College Success and Career Planning | 1 |
| STU 210 | Transfer Strategies | 2 |
| Second Language** | | 16 |
| Completion of a Language course numbered 202*, 4th semester level | | |
| Subtotal. | | 22 |
| Total credits as displayed | | 60 |

† Core or support course(s) fulfill this requirement.

‡ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

Liberal Arts – Ethnic, Gender, and Transborder Studies Concentration

The Ethnic, Gender, and Transborder Studies (EGTS) Concentration offers an interdisciplinary study of the histories, cultures, socio-economic concerns, politics, and identities of people of color and people of multiple genders and sexualities on their own terms. This concentration offers courses in American Indian Studies, Gender and Women's Studies (including LGBTQ), Global Studies, and Mexican American Studies.

What can I do with this concentration?

Academic Options: Transfer to a university degree program in Ethnic studies, Gender and Women's studies, or the other related social sciences.

Locations: All Campuses

Department/Contact Information:

Dean: 520-206-7666

or contact any campus Student Services office: www.pima.edu/mhtml/email/advising

Concentration Code: **EGTS**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|------------|
| English Composition | 6 |
| Humanities and Fine Arts | 6 |
| Biological and Physical Sciences | 8 |
| Mathematics | 3 |
| Social and Behavioral Sciences | 6 |
| Other Requirements | † |
| Second Language courses fulfill this requirement | |
| Special Requirements | |
| Second Language course numbered 202 fulfills the G requirements (or the C requirement if the language is ASL). The I and either the C or G requirement should be fulfilled by selecting appropriate courses in the above categories. | |
| Subtotal. | 29‡ |

| Course Number | Course Title | Credit Hours |
|--|---|--------------|
| Required Core Courses – A grade of C or better is required for graduation. | | |
| Select 5 transferable courses from the following prefixes: | | |
| AIS**, GLS**, GWS**, MAS | | 15 |
| Subtotal. | | 15 |
| Required Support Courses-A grade of C or better is required for graduation. | | |
| First Year Experience (Select one additional course from the list below) | | |
| STU 100 | College Success and Career Planning..... | 1 |
| or STU 106 | Making Career Choices: Interests and Values | |
| or STU 107 | University Transfer Preparation | |
| STU 210 | Transfer Strategies..... | 2 |
| Second Language Requirement*** | | 16 |
| Completion of a Language course numbered 202*, fourth semester level. | | |
| Subtotal. | | 19 |
| Total Credits as displayed | | 60 |

† Core or support course(s) fulfill this requirement.

‡ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

** Courses cross listed with AIS, GLS, GWS, and MAS prefixes may also be applied to meet required core coursework.

*** See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

NOTE: Some core courses may also fulfill AGEC category requirements. If you complete a core course which "double-dips" to also meet general education requirements, you will need to complete additional transfer courses to meet the minimum 60 credits required for an associate's degree.

Liberal Arts – Fashion Design Concentration

What can I do with this concentration?

Academic Options: Transfer to ASU's Bachelor of Arts degree in Fashion.

Locations: West Campus

Department/Contact Information:

Dean: 520-206-6690

Lead Faculty: 520-206-3028

Program/Major Codes: **ALAF**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | | |
|---|--|------------|
| English Composition | | 6 |
| Humanities and Fine Arts..... | | † |
| ART 110 and 131 fulfill this requirement. | | |
| Biological and Physical Sciences | | 8 |
| Mathematics..... | | † |
| MAT 142 fulfills this requirement | | |
| Social and Behavioral Sciences | | 6 |
| Other Requirements | | 6 |
| Special Requirements | | |
| ART 131 fulfills the I and G requirement. The C requirement should be fulfilled by selecting appropriate courses in the above categories. | | |
| Subtotal. | | 26‡ |

| Course Number | Course Title | Credit Hours |
|---|------------------------------|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| FDC 110 | Clothing Construction I..... | 3 |

| | | |
|------------------|--------------------------------------|-----------|
| FDC 111* | Clothing Construction II | 3 |
| FDC 123* | Computer Pattern Making | 3 |
| FDC 126 | Textiles..... | 3 |
| FDC 132 | Global Fashion and Culture | 3 |
| FDC 141 | Introduction to Fashion Design | 3 |
| FDC 144* | Fashion Drawing | 3 |
| FDC 245* | Digital Fashion Design..... | 3 |
| Subtotal. | | 24 |

Required Support Courses

| | | |
|-----------------------------------|---|-----------|
| ART 110 | Drawing I SUN# ART1111 | 3 |
| ART 131 | Art & Culture: Gothic through Modern SUN# ART 1102..... | 3 |
| MAT 142 | Topics in College Mathematics SUN# MAT 1142..... | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| Transfer Elective | | 3 |
| Recommend: FDC 211 | | |
| Subtotal. | | 13 |
| Total credits as displayed | | 63 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core, support, or second language courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Liberal Arts – History Concentration

Study the origins and development of society by taking courses that focus on the history of regions, countries and peoples from pre-historic times to the present.

What can I do with this concentration?

Academic options: Continue studies toward a bachelor of arts in history. All courses in Pima's concentration are not required at all transfer universities, but provide a good lower division preparation for history majors.

Locations: All Campuses

Department/Contact Information:

Dean: 520-206-7666

or contact any campus Student Services office: www.pima.edu/mhtml/email/advising

Concentration Code: **ALAH**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 55.

| | |
|---|------------|
| English Composition | 6 |
| Humanities and Fine Arts..... | 3 |
| HIS 101 fulfills 3 credits in the Humanities category. Complete a course from the Fine Arts category. | |
| Biological and Physical Sciences | 8 |
| Mathematics..... | 3 |
| Social and Behavioral Sciences | 3 |
| HIS 141 fulfills 3 credits of this requirement. Complete a non-HIS course from this category. | |
| Other Requirements | † |
| HIS 101 and 141 fulfill this requirement. | |
| Special Requirements | |
| HIS 160 fulfills this requirement. | |
| Subtotal. | 23¥ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses – A grade of C or better is required for graduation.

| | | |
|---------------|--|---|
| HIS 101 | Introduction to Western Civilization I | 3 |
| or HIS 101 HC | Introduction to Western Civilization I: Honors | |

| | | |
|------------------|---|-----------|
| HIS 102 | Introduction to Western Civilization II | 3 |
| or HIS 102 HC | Introduction to Western Civilization II: Honors | |
| HIS 141 | United States History I SUN# HIS 1131 | 3 |
| or HIS 141HC | United States History I: Honors | |
| HIS 142 | United States History II SUN# HIS 1132 | 3 |
| HIS 160 | Latin America Before Independence | 3 |
| Subtotal. | | 15 |

Required Support Courses-A grade of C or better is required for graduation.

| | | |
|-----------------------------------|---|-----------|
| STU 100 | College Success and Career Planning | 1 |
| or STU 106 | Making Career Choices: Interests and Values | |
| or STU 107 | University Transfer Preparation | |
| STU 210 | Transfer Strategies | 2 |
| Second Language Requirement* | | 16 |
| | Completion of a language course numbered 202, fourth semester level. | |
| Transfer Electives | | 3 |
| | Complete 3 transferable credits so that the total degree credits is 60. | |
| Subtotal. | | 22 |
| Total credits as displayed | | 60 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

Liberal Arts – Hotel and Restaurant Management Concentration

Learn basic principles of hotel and restaurant management while completing lower-division required courses for a bachelor's degree in Hotel-Restaurant Management.

What can I do with this concentration?

Academic Options: Complete a bachelor's degree in Hotel and Restaurant Management in Tucson through a partnership with NAU. Completion of required program courses, including AGEC-A requirements, allows students to waive 12 upper-division liberal studies courses upon transfer to NAU.

Location: Northwest Campus

Department/Contact Information:

Dean: 520-206-7694

Lead Faculty: 520-206-2299

Program/Major Codes: **ALAR**

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | | |
|----------------------------------|---|---|
| English Composition | | 6 |
| Humanities and Fine Arts | | 6 |
| | Recommend: ART 105 and either ANT 112, HUM 253, or HUM 260 | |
| Biological and Physical Sciences | | 8 |
| | Recommend two courses from: BIO 100IN, BIO 105IN, BIO 109, or BIO/FSN 127IN | |
| Mathematics | | 3 |
| | Recommend: MAT 142 or 151 | |
| Social and Behavioral Sciences | | 3 |
| | ECN 150 fulfills 3 credits of this requirement. Complete a non-ECN course from this category. | |
| | Recommend: GEO 103, GEO 104, HIS 102, or SOC 101 | |

| | |
|--|------------|
| Other Requirements | † |
| Second language courses fulfill this requirement. | |
| Special Requirements | |
| The I, C, and G requirements should be fulfilled by courses in the above categories. | |
| Subtotal. | 26¥ |

Required Core Courses - A grade of C or better is required.

| | | |
|------------------------|--|-----------|
| HRM 100 | Introduction to Hospitality Industry | 3 |
| HRM 101 | Front Office Procedures | 3 |
| HRM 110 | Food Service Systems Management | 3 |
| HRM 111* | Commercial Food | 3 |
| HRM 150 | Hospitality Property Management | 3 |
| HRM 289 | Hospitality Management Capstone | 1 |
| Subtotal. | | 16 |

Required Support Courses

| | | |
|--|--|-----------|
| ACC 211* | Financial Accounting SUN# ACC 2201 | 3 |
| CIS 120* | Computer Applications for Business SUN# CIS 1120 | 4 |
| ECN 150 | An Economic Perspective | 3 |
| STU 100 | College Success and Career Planning | 1 |
| Second Language Requirement | | 8 |
| Completion of two semesters of a language course numbered 101 and 102* | | |
| Subtotal. | | 19 |
| Total credits as displayed | | 61 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Liberal Arts – Political Science Concentration

The political science program is designed to prepare students for transfer to a political science program at a four-year institution. Following a four-year degree, students may also pursue graduate degrees in law, international business communications, political science, public administration, and management.

What can I do with this concentration?

Academic Options: Transfer to a 4-year university to complete a political science degree.

Locations: All campuses

Department/Contact Information:

Dean: 520-206-7666

or contact any campus Student Services office: www.pima.edu/mhtml/email/advising

Concentration Code: **ALAO**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|-------------|
| English Composition | 6 |
| Humanities and Fine Arts | 6 |
| Biological and Physical Sciences | 8 |
| Mathematics | 3 |
| Recommend: MAT 142 | |
| Social and Behavioral Sciences | † |
| POS 201 and ECN 201 fulfill this requirement | |
| Other Requirements | † |
| POS 202 and 204 fulfill this requirement. | |
| Special Requirements | |
| POS 204 fulfills the C & G requirement. The I requirement must be fulfilled by a course in one of the above categories. | |
| Subtotal. | 23 ¥ |

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| POS 100 | Introduction to Politics | 3 |
| POS 201 | American National Government and Politics SUN# POS 1110 | 3 |
| POS 202 | Introduction to International Relations SUN# POS 1120 | 3 |
| POS 203 | Introduction to Political Ideas | 3 |
| POS 204 | Introduction to Comparative Politics SUN# POS 2204 | 3 |
| Subtotal. | | 15 |
| Required Support Courses | | |
| ECN 201 | Macroeconomics Principles SUN# ECN 2202 | 3 |
| ECN 202 | Macroeconomics Principles SUN# ECN 2201 | 3 |
| STU 100 | College Success and Career Planning | 1 |
| or STU 106 | Making Career Choices: Interests and Values | |
| or STU 107 | University Transfer Preparation | |
| Second Language Requirement* | Completion of a language course numbered 202*, fourth-semester level. | 16 |
| Subtotal. | | 23 |
| Total credits as displayed | | 61 |

† Core or support course(s) fulfill this requirement.

‡ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

Liberal Arts – Psychology Concentration

What can I do with this concentration?

Academic Options: Transfer to a university and major in subjects other than science, business or technology. Additional information on transferring to a university is available online (<http://www.pima.edu/transfer/transferringfrompima.shtml>) or from any advisor or counselor.

Locations: All campuses

Contact Information:

Dean: 520-206-7666

or contact any campus Student Services office: www.pima.edu/mhtml/email/advising.

Concentration Code: **ALAP**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required in all courses for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|------------|
| English Composition | 6 |
| Humanities and Fine Arts | 6 |
| Biological and Physical Sciences | 8 |
| Mathematics | † |
| MAT 142 or 188 fulfills this requirement | |
| Social and Behavioral Sciences | 3 |
| PSY 101 fulfills 3 credits of this requirement. Complete a non-PSY course from this category. | |
| Other Requirements | † |
| PSY 230 and a Second Language course fulfill this requirement | |
| AGEC Special Requirements | |
| The I, C, and G requirements should be fulfilled by completing appropriate courses in the above categories. | |
| Subtotal. | 23‡ |

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses – A grade of C or better is required for graduation. | | |
| PSY 101* | Introduction to Psychology SUN# PSY 1101 | 3 |
| PSY 230* | Psychological Measurements and Statistics | 3 |
| PSY 289* | Research Methods..... | 4 |
| PSY Elective | ..... | 3 |
| PSY 132* | Psychology and Culture | |
| or PSY 214* | Abnormal Psychology | |
| or PSY/SOC 215* | Human Sexuality | |
| or PSY 216* | Psychology of Gender | |
| or PSY 218* | Health Psychology | |
| or PSY 220* | Psychology of Death & Loss | |
| or PSY 240* | Developmental Psychology | |
| or PSY 254* | Psychology of Love and Compassion | |
| or PSY 262* | Positive Psychology | |
| Subtotal. | ..... | 13 |
| Required Support Courses - A grade of C or better is required for graduation. | | |
| MAT 142 | Topics in College Mathematics SUN# MAT 1142..... | 3-4 |
| or MAT 151 | College Algebra SUN# MAT 1151 | |
| or MAT 188 | Precalculus I | |
| STU 100 | College Success and Career Planning..... | 1 |
| or STU 106 | Making Career Choices: Interests and Values | |
| or STU 107 | University Transfer Preparation | |
| Transfer Electives | ..... | 3-4 |
| Complete 3 or 4 credits of transferrable electives so the subtotal for this section is 24 and the total for the degree is 60 credits. | | |
| Second Language Requirement** | ..... | 16 |
| Completion of a language course numbered 202*, fourth-semester level. | | |
| Subtotal. | ..... | 24 |
| Total credits as displayed | ..... | 60 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

Liberal Arts – Social Services Concentration

Prepare to transfer to a university to complete a degree in social work.

What can I do with this concentration?

Academic Options: Transfer to ASU majoring in social work; may also transfer to other BSW programs.

Location: West Campus

Department/Contact Information:

Dean: 520-206-7666

Lead Faculty: 520-206-6958

Concentration Code: **ALAV**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|------------|
| English Composition | 6 |
| Humanities and Fine Arts..... | 3 |
| PHI 101 or 130 fulfills 3 credits of this requirement. Complete a course from the Art List | |
| Recommend: ART 105, MUS 151, 160 or THE 105 | |
| Biological and Physical Sciences | 4 |
| BIO 156IN or 160IN fulfill 4 credits of this requirement. Complete another course from this category | |
| Recommend: BIO 105IN, BIO 108IN, BIO 109IN, or GLG110IN | |
| Mathematics..... | † |
| MAT 142 or 151 fulfills this requirement | |
| Social and Behavioral Sciences | † |
| SSE 110 and either ECN 150 or 202 fulfill this requirement. | |
| Other Requirements | † |
| POS 201 and either PSY 101 or SOC 101 fulfill this requirement. | |
| Special Requirements | |
| ANT 112 or ANT/HIS/MAS 127 fulfills this requirement | |
| Subtotal. | 13‡ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|--|--|---|
| SSE 110 | Introduction to Social Welfare | 3 |
| SSE 111 | Group Work | 3 |
| SSE 205 | Case Report Writing and Documentation..... | 3 |
| SSE 210* | Community Organization and Development | 3 |
| SSE 281* | Social Service Delivery Systems (was SSE 212) | 3 |
| SSE 285* | Foundations of Social Work Practice (was SSE 202)..... | 3 |
| SSE Transferable Elective | 3 | |
| Choose 3 credits from the following: SSE 121, 160, 211, or 242 | | |
| Subtotal. | 21 | |

Required Support Courses

| | | |
|---|--|-----|
| ANT 112 | Exploring Non-Western Cultures | 3 |
| or ANT/HIS/MAS 127 | History and Culture of the Mexican-American in the Southwest | |
| BIO 156IN* | Introductory Biology for Allied Health | 4 |
| or BIO 160IN | Introduction to Human Anatomy and Physiology | |
| ECN 150* | An Economic Perspective | 3 |
| or ECN 202* | Macroeconomic Principles SUN# ECN 2201 | |
| MAT 142 * | Topics in College Mathematics SUN# MAT 1142..... | 3-4 |
| or MAT 151* | College Algebra SUN# MAT 1151 | |
| or any MAT course numbered above 151 | | |
| PHI 101 | Introduction to Philosophy SUN# PHI 1101 | 3 |
| or PHI 130 | Introductory Studies in Ethics and Social Philosophy SUN# PHI 1105 | |
| POS 201 | American National Government and Politics SUN# POS 1110 | 3 |
| PSY 101 | Introduction to Psychology SUN# PSY 1101 | 3 |
| or SOC 101 | Introduction to Sociology SUN# SOC 1101 | |
| Cultural Diversity Requirement | 6 | |
| Complete two additional courses with a "C" designation | | |
| Recommend two from ANT 202, 206, HIS 105, PSY/SOC 215, SOC 201 or 204 | | |
| Subtotal. | 28-29 | |
| Total credits as displayed | 62-63 | |

† Support or core course(s) fulfill this requirement.

‡ The AGECE requires 35 credits. This subtotal shows the AGECE credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Liberal Arts – Sociology Concentration

What can I do with this concentration?

Academic Options: Transfer to a 4-year university to complete a sociology degree.

Locations: All campuses

Department/Contact Information:

Dean: 520-206-7666

or contact any campus Student Services office: www.pima.edu/mhtml/email/advising

Concentration Code: **ALAS**

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|-------------|
| English Composition | 6 |
| Humanities and Fine Arts..... | 6 |
| Recommend: AIS/ANT/HIS 148, AIS/ANT 206, HUM 260 or LIT 224 | |
| Biological and Physical Sciences | 8 |
| Mathematics..... | 3 |
| Social and Behavioral Sciences | 3 |
| SOC 101 fulfills 3 credits of this requirement. Complete a non-SOC course from this category. | |
| Recommend: ANT/GWS 202, HIS/MAS 105, HIS/MAS 127 | |
| Other Requirements | † |
| SOC 120 and 201 fulfill this requirement. | |
| Special Requirements | |
| SOC 120 fulfills the C and G requirements. The I requirement can be fulfilled by selecting appropriate courses in the above categories. | |
| Recommend: HUM 260 or LIT 224 | |
| Subtotal. | 26 ‡ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------------------|---|-----------|
| SOC 101 | Introduction to Sociology SUN# SOC 1101 | 3 |
| SOC 120* | Current Social Problems SUN# SOC 2250 | 3 |
| SOC 127 | Marriage and the Family | 3 |
| SOC 201 | Race, Ethnicity, Minority Groups and Social Justice SUN# SOC 2215 | 3 |
| SOC 204 | Gender Identities, Interactions and Relations | 3 |
| Subtotal. | | 15 |

Required Support Courses

| | | |
|--|---|-----------|
| STU 100 | College Success and Career Planning..... | 1 |
| or STU 106 | Making Career Choices: Interests and Values | |
| or STU 107 | University Transfer Preparation | |
| Transfer Electives | | 3 |
| Recommend GLS/SOC 110, PSY/SOC 215* | | |
| Second Language Requirement** | | 16 |
| Completion of a language course numbered 202, fourth semester level. | | |
| Subtotal. | | 20 |
| Total credits as displayed | | 61 |

† Core or support course(s) fulfill this requirement.

‡ The AGECE requires 35 credits. This subtotal shows the AGECE credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** See an advisor or counselor if:

- you are a bilingual student to discuss exceptions to this requirement or
- if you are considering taking the CLEP test to earn language credits or
- if the university major does not require a second language, this requirement may be waived

If this requirement is met in fewer than 16 credits, or if the language requirement is waived, additional transferable electives are necessary to meet the minimum associate degree requirement of 60 credit hours.

Liberal Arts – Translation and Interpretation Studies Concentration

This program is designed to prepare students for entry level employment in translation or interpretation. The Associate of Applied Science degree has course work to develop skills specific to the translation of written documents and the interpretation of oral passages from a source language into a target language. Through a combination of theory and practice, students will gain experience in translating or interpreting in specialty areas such as health care, legal, literary, and business.

Before enrolling in this program, you must score a minimum of 601 on the Spanish WebCAPE (Computerized Adaptive Placement Test) – see <http://www.perpetualworks.com/webcape/overview>.

What can I do with this certificate?

Academic Options: Transfer to the University of Arizona Bachelor of Arts in Spanish, Translation and Interpretation Emphasis or similar program at other universities.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7045

Lead Faculty: 520-206-7274

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

Arizona General Education Curriculum Requirements (AGEC-A) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|-----------|
| English Composition | 6 |
| Humanities and Fine Arts | 6 |
| Biological and Physical Sciences | 8 |
| Mathematics | 3 |
| Social and Behavioral Sciences | 6 |
| Other Requirements | † |
| SPA 253* and either CMN 110 or 120 fulfill this requirement. | |
| Special Requirements | † |
| CMN 110 or 120 fulfills the C requirement, and SPA 253 fulfills the G requirement. The I requirement should be fulfilled by completing appropriate courses in the above categories. | |
| Subtotal. | 29 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------------------|--|-----------|
| TRS 101 | Introduction to Translation and Interpretation | 3 |
| TRS 120IN | Technology for Translation and Interpretation | 2 |
| TRS 161 | Medical Spanish/English Interpreting | 3 |
| TRS 162 | Introduction to Legal Spanish/English Interpretation | 3 |
| TRS 282 | Advanced Project in Translation | 4 |
| Subtotal. | | 15 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|---|--|--------------|
| CNM 110 | Public Speaking | 3 |
| or CMN 120 | Business and Professional Communication | |
| STU 100 | College Success and Career Planning..... | 1 |
| Second Language Requirement | | |
| SPA 253* | Intermediate Spanish for Heritage and Bilingual Learners | 4 |
| Transfer Electives | | 10-12 |
| Recommend TRS 160, 202, 270 | | |
| Subtotal. | | 18-20 |
| Total credits as displayed | | 62-64 |

† Core or support course(s) fulfill this requirement.

‡ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Logistics and Supply Chain Management

Basic Logistics and Supply Chain Management — Certificate for Direct Employment

Get an introduction to logistics and transportation skills and principles.

What can I do with this certificate?

Career Options: Entry-level positions in logistics.

Academic Options: Continue your studies with the Logistics and Supply Chain Management AAS degree.

Gainful Employment Information: www.pima.edu/ge-crtlgc

Location: East Campus

Department/Contact Information:

Dean: 520-206-7694

Program/Major Codes: **CRTLGC/LGC1**

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| LGM 101 | Principles of Logistics and Supply Chain Management | 3 |
| LGM 102* | Inventory Control | 3 |
| LGM 104 | Computerized Logistics | 3 |
| LGM 105 | Warehouse Management | 3 |
| LGM 106 or LGM 108 | Transportation and Traffic Management International Logistics | 3 |
| LGM 109 | Readiness Skills for Logistics Careers | 1 |
| Total credits as displayed | | 16 |
| Required Support Courses | | |
| GTM 105* | Applied Technical Mathematics | 3 |
| WRT 101* or WRT 154* | English Composition I SUN# ENG 1101 Career Communications | 3 |
| Subtotal | | .6 |
| Total credits as displayed | | 22 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Logistics and Supply Chain Management — Associate of Applied Science Degree for Direct Employment

Learn fundamental principles of logistics and transportation, as well as skills in inventory control, warehouse management, business, and supervision.

What can I do with this degree?

Career Options: Entry-level to supervisory-level positions in inventory control, transportation, and warehouse management.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: East Campus

Department/Contact Information:

Dean: 520-206-7694

Program/Major Codes: **AASLGM/LGM1**

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|------------|
| Communication Requirement | † |
| WRT 101 or 154 fulfills this requirement. | |
| Arts and Humanities Requirement | † |
| PHI 101 fulfills this requirement | |
| Social and Behavioral Science Requirement | † |
| GEO 103 or 104 fulfill this requirement. | |
| Mathematics and Science Requirement | † |
| GTM 105 fulfills this requirement. | |
| Other Requirements | |
| SOC 110 fulfills this requirement | † |
| Special Requirements | |
| GEO 103 or 104 fulfills this requirement. | |
| Subtotal. | .0‡ |

| | | |
|----------------------|---------------------|---------------------|
| Course Number | Course Title | Credit Hours |
|----------------------|---------------------|---------------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|--------------------------|---|------------|
| LGM 101 | Principles of Logistics and Supply Chain Management | 3 |
| LGM 102* | Inventory Control | 3 |
| LGM 103 | Contracts and Freight Claims | 3 |
| LGM 104 | Computerized Logistics | 3 |
| LGM 105 | Warehouse Management | 3 |
| LGM 106 | Transportation and Traffic Management | 3 |
| LGM 107 | Introduction to Purchasing | 3 |
| LGM 108 | International Logistics | 3 |
| LGM 109 | Readiness Skills for Logistics Careers | 1 |
| LGM 290* | Logistics and Supply Chain Internship | 3 |
| or LGM 296 | Independent Study in Logistics and Supply Chain Management | |
| Subtotal. | | .28 |

Required Support Courses

| | | |
|---|---|------------|
| BUS 100 | Introduction to Business | 3 |
| BUS 125 | eCommerce | 3 |
| BUS 148 | Ethics in the Workplace | 3 |
| CSA 110* | Spreadsheets: Microsoft Excel. | 3 |
| GEO 103 | Cultural Geography | 3 |
| or GEO 104 | World Regional Geography | |
| GLS/SOC 110 | Introduction to Cities and Global Society | 3 |
| GTM 105* | Applied Technical Mathematics | 3 |
| MGT 110 | Human Relations in Business and Industry | 3 |
| MGT/STU 230 | Dynamics of Leadership | 3 |
| PHI 101 | Introduction to Philosophy SUN# PHI 1101 | 3 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| or WRT 154* | Career Communications | |
| Subtotal. | | .33 |
| Total credits as displayed | | .61 |

† Core or support course(s) fulfill this requirement.
‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.
* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Machine Tool Technology

Gain skills and experience needed for employment as a machinist.

Machining Inspection and Quality Assurance — Certificate for Direct Employment

Learn inspection skills in machine shop parts and applied measurement and technology.

What can I do with this certificate?

Career Options: Entry-level employment in a variety of machine tool technology careers.

Academic Options: Continue your studies with the AAS in Machine Tool Technology.

Gainful Employment Information: www.pima.edu/ge-crtmin-min

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead Faculty: 520-206-7139

Program/Major Codes: **CRTMIN/MIN**

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CAD 117 | Print Reading with CAD for Manufacturing | 4 |
| CAD 172* | Geometric Dimensioning and Tolerancing..... | 3 |
| GTM 105* | Applied Technical Mathematics | 3 |
| MAC 100 | Introduction to Machine Tool | 3 |
| MAC 125* | Inspection Quality Assurance | 4 |
| Total credits as displayed | | 17 |

Computer Numerical Control (CNC) Operator — Certificate for Direct Employment

Learn fundamental skills Computer Numerical Control (CNC).

What can I do with this certificate?

Career Options: Entry-level employment in a variety of machine tool technology careers.

Academic Options: Continue your studies with the AAS in Machine Tool Technology.

Gainful Employment Information: www.pima.edu/ge-crtcno-cno

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead Faculty: 520-206-7139

Program/Major Codes: **CRTCNO/CNO**

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| CAD 117 | Print Reading with CAD for Manufacturing | 4 |
| CAD 172* | Geometric Dimensioning and Tolerancing | 3 |
| GTM 105* | Applied Technical Mathematics | 3 |
| MAC 100 | Introduction to Machine Tool | 3 |
| MAC 125* | Inspection Quality Assurance | 4 |
| MAC 150* | Computer Numerical Control (CNC) Mill Programming I | 4 |
| MAC 155* | Computer Numerical Control (CNC) Mill Programming II | 4 |
| MAC 160* | Computer Numerical Control (CNC) Lathe Programming | 4 |
| Total credits as displayed | | .29 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Machine Tool Technology — Associate of Applied Science Degree for Direct Employment

Learn fundamental skills in machine shop operations, specializing in one of the concentrations listed below.

What can I do with this certificate?

Career Options: Begin a career in machine tool technology.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima’s Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead Faculty: 520-206-7139

Program/Major/Concentration Codes: **AASMAC/MAC1**

| Course Number | Course Title | Credit Hours |
|---|--------------|--------------|
| General Education Requirements - A grade of C or better is required for graduation. | | |
| <i>Course lists for each General Education category listed below can be found starting on page 74.</i> | | |
| Communication Requirement | | † |
| GTW 101 fulfills this requirement | | |
| Arts and Humanities | | 3 |
| Recommend: HIS 101 | | |
| Social and Behavioral Science Requirement | | 3 |
| Recommend: ARC 205 | | |
| Mathematics and Science | | † |
| GTM 105 fulfills this requirement | | |
| Other Requirement | | † |
| MAC 275 fulfills this requirement | | |
| Special Requirements | | |
| The C or G requirement should be fulfilled by completing an appropriate course in the above categories. | | |
| Subtotal | | .6† |

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| MAC 100 | Introduction to Machine Tool | 3 |
| MAC 110* | Manual Machine Shop | 4 |
| MAC 125* | Inspection Quality Assurance | 4 |
| MAC 130* | Machine Set-Up and Fixture Making..... | 3 |
| MAC 150* | Computer Numerical Control (CNC) Mill Programming I | 4 |
| MAC 155* | Computer Numerical Control (CNC) Mill Programming II | 4 |
| MAC 160* | Computer Numerical Control (CNC) Lathe Programming | 4 |
| MAC 257* | Computer-Aided Machining (CAM) I | 4 |
| MAC 258* | Computer-Aided Machining (CAM) II..... | 4 |
| MAC 259* | Computer-Aided Machining (CAM) III | 4 |
| MAC 275* | Applied Metallurgy | 4 |
| Subtotal. | | 42 |
| Required Support Courses | | |
| CAD 117 | Print Reading with CAD for Manufacturing | 4 |
| CAD 172* | Geometric Dimensioning and Tolerancing | 3 |
| GTM 105* | Applied Technical Mathematics | 3 |
| GTW 101 | Writing for Trades and Technical Occupations | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| Subtotal. | | 14 |
| Total credits as displayed | | 62 |

† Core or support course(s) fulfill this requirement.

‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Medical Assistant

Medical Assistant — Certificate for Direct Employment

Learn advanced skills in patient care and prepare to take exams for licensure.

Before enrolling in this program, students achieve passing scores on required College assessment tests and submit the following:

- Health Declaration
- Signed acknowledgement of receipt of drug screening policy
- Residency affidavit
- CPR at Health Care Provider Level (BLS)/first aid certification from a recognized training provider
- Proof of health insurance
- Proof of immunizations: Hepatitis B, MMR, Varicella, TDAP
- TB Test (negative result or a negative chest X-ray)

What can I do with this certificate?

Career Options: Upon completion of this certificate, students are eligible to take the Certified Medical Assistant (CMA) exam, through the American Association of Medical Assistants, or the Registered Medical Assistant (RMA) exam through the American Medical Technologists. Work as a Medical Assistant in physicians’ offices, medical centers, urgent care facilities, and outpatient clinics.

Academic Options: Continue your studies by taking courses to qualify as a practical nurse, registered nurse, or medical coding and billing specialist.

Gainful Employment Information: www.pima.edu/ge-crthpm

Location: Desert Vista Campus

Department/Contact Information:

Dean: 520-206-5105

Lead Faculty: 520-206-5072

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| HCA 103 | Orientation to Pharmacology | 3 |
| HCA 119 | Orientation to Human Anatomy and Physiology | 3 |
| MDA 120 | Medical Assistant Profession | 2 |
| MDA 121 | Medical Assistant Skills for Success | 2 |
| MDA 122 | Medical Assistant Clinical Care | 2 |
| MDA 123 | Medical Assistant Clinical Procedures | 3 |
| MDA 124 | Medical Terminology for Health Care Workers | 2 |
| MDA 125 | Orientation to ICD-10-CM and CPT Coding | 3 |
| MDA 127 | Administrative Procedures for Medical Assistants | 3 |
| MDA 128* | Medical Billing and Insurance for Medical Assistants | 2 |
| MDA 190A* | Medical Assistant Front Office Externship | 1 |
| MDA 190B* | Medical Assistant Back Office Externship | 1 |
| Subtotal | | .27 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Medical Laboratory Technician

Medical Laboratory Technician — Associate of Applied Science Degree for Direct Employment

Prepare for a career in medical laboratory technology through classroom study and supervised clinical experience. Learn about blood, analysis of body fluids, bacteriology, parasitology, clinical chemistry and other aspects of medical laboratory technology.

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

For more information on program accreditation:

NAACLS

8410 West Bryn Mawr, Suite 670

Chicago, IL 60631

(773) 714-8880

www.naacls.org

Before enrolling in this program, you must meet certain requirements.

- This degree program requires a special program application. Students may request a program application when all prerequisites are complete. In addition, students must have completed the preparatory coursework (with grades posted) before they may begin the application process.

To participate in the clinical portion of the program, students must:

- Obtain an Arizona Department of Public Safety Fingerprint Clearance Card.
- Pass a urine toxicology screening exam from a certified laboratory.
- Provide proof of immunity status to Measles, Mumps, Rubella and Hepatitis B Virus.
- Provide proof of immunization to Tetanus, Diphtheria, Pertussis, and Influenza.
- Provide proof of a two-step negative TB skin test or alternate documentation of TB status, including a chest x-ray or blood work.
- Provide proof of health insurance coverage.
- Provide a declaration of health from a licensed care provider.

Essential Functions

To successfully participate in the PCC MLT program and become employable in a medical facility, the student should be able to perform essential functions expected of the working professional. Some examples of these essential functions are:

- **Vision:** Should possess visual acuity, color, shade and depth perception to accurately perform and interpret laboratory tests. Must be able to read computer screens, specimen/reagent labels, and warning signs.
- **Communication:** Should possess the ability to clearly and accurately communicate with patients and health care professionals, and to accurately follow verbal and written instructions.
- **Physical Activity:** Should be able to stand and/or sit for prolonged periods and move freely and safely through the laboratory. Should be able to grasp, sit, squat, stoop, bend, reach, push, pull, and lift and carry up to 50 pounds.
- **Manual Dexterity:** Should possess sufficient hand-eye coordination to efficiently, accurately and safely operate laboratory equipment, such as pipettes, inoculating loops, precision instrumentation, and perform phlebotomy procedures.

NOTE: Students in the Medical Laboratory Technician program may be exposed to potentially infectious blood, tissues, and body fluids.

What can I do with this degree?

Career Options: Work in the clinical laboratory of a hospital, clinic, reference laboratory, blood bank, coroner's office or in biomedical research.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: West Campus

Department/Contact Information:

Dean: 520-206-6916

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and below and have been officially admitted to the program. See the website or an advisor for details.

Preparatory Coursework

Students must have completed the following preparatory coursework before they may begin the application process.

| | |
|--|-------------|
| REA 112HP* or REA 112* or an Accuplacer Reading score of 92 or higher | 0-4 |
| BIO 201IH* Human Anatomy, Physiology and Histology with a grade of B or better within the last eight years | 4 |
| CHM 151IN* General Chemistry I with a grade of B or better within the last eight years | 4 |
| MAT 151* or 188* or test into MAT 189 | 0-4 |
| Subtotal. | 8-16 |

General Education Requirements A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|------------|
| Communication Requirement | † |
| WRT 101* fulfills this requirement. | |
| Arts and Humanities Requirement | † |
| PHI 123 or SPA 101HC fulfills this requirement. | |
| Social and Behavioral Sciences Requirement | † |
| PHI 130 or PSY 218 or PSY/SOC 215 fulfills this requirement. | |
| Mathematics and Science Requirement | † |
| BIO 205IN* and the Math Preparatory Coursework fulfill this requirement. | |
| Other/Special Requirement | † |
| ANT 210 or GEO 130 or PSY 132 fulfills this requirement. | |
| Special Requirements | † |
| ANT 210 or GEO 130 or PSY 132 fulfills this requirement. | |
| Subtotal. | .0‡ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|--|------------|
| MLT 100IN*# ^Δ | Phlebotomy for Medical Laboratory Technology | 4 |
| MLT 199*# | Introductory Co-op: Phlebotomy Lab Assisting | 1.5 |
| MLT 199*WK*# | Introductory Co-op Work: Phlebotomy Lab Assisting | 1.5 |
| MLT 200*# | Urinalysis/Body Fluids | 3 |
| MLT 211*# | Hematology | 5 |
| MLT 221*# | Clinical Chemistry | 4 |
| MLT 231*# | Immunohematology/Immunology | 5 |
| MLT 251*# | Clinical Microbiology | 5 |
| MLT 260*# | Parasitology and Immunology/Serology | 3 |
| MLT 299*# | Advanced Co-op: Medical Laboratory Technician | 6.5 |
| MLT 299WK*# | Advanced Co-op Work: Medical Laboratory Technology | 7.5 |
| Subtotal. | | .46 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|--|--------------|
| ANT 210* | Cultural Anthropology | 3 |
| or GEO 103 | Cultural Geography | |
| or PSY 132 | Psychology and Culture | |
| BIO 205IN* | Microbiology with a grade of B or better within the last eight years SUN# BIO 2205 | 4 |
| PHI 123 | Philosophical Foundations of Science | 3-4 |
| or SPA 101 | Elementary Spanish I SUN# SPA 1101 | |
| PHI 130 | Introductory Studies in Ethics and Social Philosophy SUN# PHI 1105 | 3 |
| or PSY 218 | Health Psychology | |
| or PSY/SOC 215 | Human Sexuality | |
| STU 100 | College Success and Career Planning | 1 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| Subtotal. | | 17-18 |

Total credits as displayed (not including preparatory coursework) 63-64

Total credits as displayed (including preparatory coursework) 71-80

† Core or support course(s) fulfill this requirement.

‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Only one of these courses may be repeated one time. If a course needs to be repeated, re-entry into the remaining courses will be based on space availability.

Δ MLT 100IN is the integrated version of the combined lecture and lab courses. MLT 100 and MLT 100LB combined are equivalent to MLT 100IN, and together may be substituted for MLT 100IN.

The goal of the Associate of Applied Science in Nursing: PN Exit Option program is to prepare the learner for employment as a registered nurse (RN), licensed practical nurse (LPN), and/or a licensed or certified nursing assistant (LNA/CNA) through a stackable credential model curriculum.

Associate of Applied Science in Nursing — PN Exit Option Degree for Direct Employment

Receive comprehensive education and practical experience in nursing, and prepare to become licensed as a registered nurse. Students who choose to leave the program before completing the degree may qualify for other certificates through the AAS in Nursing; PN Exit Option stackable credential model.

This program is approved by the Arizona State Board of Nursing (AZBN) located at 1740 W. Adams, Phoenix, AZ. 85007 (www.azbn.gov) and is accredited by the Accreditation Commission for Education in Nursing, Inc., (ACEN), 3343 Peachtree Rd. NE, Suite 850, Atlanta, GA 30326 (www.acenursing.org)

Before enrolling in this program you must meet certain requirements:

This degree program requires a special program application available at www.pima.edu/nursing. Once all prerequisites are complete, students can access the program application at www.pima.edu/nursing.

To participate in the clinical portion of the program, the students must:

1. Obtain an Arizona Department of Public Safety (DPS) fingerprint clearance card.
2. Pass a toxicology screen.
3. Be able to perform a number of physical activities. At a minimum, students will be required to lift patients, stand for several hours at a time and perform bending activities.
4. The clinical nursing experience places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting the lives of others. 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.
5. Present proof of a variety of immunizations, including but not limited to, MMR, Varicella,, Hepatitis B, TDap, and Influenza.
6. Show proof of negative Tuberculosis (TB) skin test or negative chest x-ray for TB.
7. Maintain active health insurance throughout the program.
8. Maintain a Healthcare Provider Basic Life Support (BLS) credential from the American Heart Association for the duration of the program.
9. Students will be assigned to any clinical site throughout the region at the discretion of the program. Therefore, students who are unable to be placed at a clinical site (i.e. restricted from access to the facility) will not be able to enter the program.

Licensed Practical Nursing (LPN) Transition into AAS in Nursing:

Licensed Practical Nurses with work experience, including graduates from Pima's Center for Training and Development, are eligible to apply for entry into the second year of the Associate of Applied Science in Nursing; PN Exit Option program by completing the prerequisites listed above and NRS 188/188LC/188LS transition course.

After entry into the program, LPN Transition students will be required to complete a NRS 155 (Pharmacology) challenge examination administered by the Department of Nursing. A passing score on the NRS 155 challenge exam will result in the student entering into the transition course, NRS 188 and allow completion of the program in three semesters. Unsuccessful passing of the NRS 155 challenge exam will result in the candidate having to successfully complete NRS 155 as a corequisite after entry into the nursing program, resulting a fourth semester extension to the program, to progress into the NRS 188 transition course.

To apply, candidates must complete 14 to 15 credits of preparatory/prerequisites (MAT 142, BIO 201IN/BIO 201IH, BIO 202IN, WRT 101) and complete the Accuplacer Reading and HESI A2 assessments. Successful candidates granted entry into the program will be required to take WRT 102 during their NRS 188/188LC/188LS transition semester. If accepted, the student must successfully complete a nine credit transition course (NRS 188/188LC/188LS) and 9 credits of co-requisites (HCA 100, WRT 102, PSY 101, and BIO 127IN) for a total of 19 credits.

The candidate must complete 576 hours of employment (verified by official letter from their employer) as a Licensed Practical Nursing (LPN). A valid, unencumbered Licensed Practical Nurse (LPN) license provides advanced placement for practicing LPN's which bypasses NRS 104/104LC/104LS and NRS 108, or the first semester of the AAS in Nursing program.

Program Transfer and Re-entry

Students currently enrolled in another accredited ADN Nursing Program wishing to transfer to Pima, or students wishing to re-enter the program, should contact the Nursing Department Office at 520-206-6661.

If a student initiates a withdraw from, or withdrawal while failing, a core nursing class during a semester, they will be withdrawn from all nursing core classes within that semester and will have to repeat all the core courses within the semester (core nursing courses, NRS 108, or NRS 155). This action may have an effect on the student's status in the program, financial aid, and community sponsored support.

Pima Community College and various university partners have partnered to offer qualified students the opportunity to earn a Bachelor of Science in Nursing (BSN) or Master of Science in Nursing (MSN) while pursuing their Associate's Degree in Nursing.

For more information go to: <http://www.pima.edu/programs-courses/credit-programs-degrees/health-professions/nursing/nursing-concurrent.html>

What can I do with this degree?

Career Options: Students who complete the Associate of Applied Science in Nursing; PN Exit Option program are eligible to apply to take the National Council Licensure Examination for Registered Nursing (NCLEX-RN) to be eligible to work as a registered nurse. Students who complete block three of the program are eligible to take the National Council Licensure Examination for Practical Nurses (NCLEX-PN).

Academic Options: Students may pursue a Bachelor's of Science in Nursing (BSN) or a Master's of Science in Nursing (MSN) at a university or complete their BSN or MSN concurrently in the Associate of Applied Science in Nursing; PN Exit Option program.

Location: Pima Community College West Campus

Department/Contact Information:

Department of Nursing
2202 W. Anklam Road
Tucson, AZ. 95709-0150

520-206-6661 (Main and Department Head)
520-206-6663 (Dean of Critical Care)

www.pima.edu/nursing

Selective Admissions Program: Students will not be fully and officially entered into this program until they have fulfilled the requirements noted above. See the www.pima.edu/nursing website or a West Campus advisor for details. Students are encouraged to attend an information session for the Department of Nursing.

Program Preparatory Requirements -

Students must have completed the following before they may begin the application process.

| | |
|--|--------------|
| MAT 142 or MAT 151 or any Math that requires MAT 142 or MAT 151 or MAT 188 as a prerequisite or assessment into a higher math with a grade of C or higher | 3-4 |
| BIO 201IN* or BIO 201IH* with a grade of B or higher | 4 |
| BIO 202IN* with a grade of B or higher | 4 |
| WRT 101 with a grade of C or higher | 3 |
| Or College Level Examination Program (CLEP with a passing grade) | |
| Accuplacer Reading Assessment | |
| HESI A2 Assessment for Math, Reading, and Anatomy/Physiology with a 75% or higher HESI A2 assessment results are only able to be used for one year from assessment date for application | |
| Subtotal. | 14-15 |

General Education Requirements - A grade of C or better is required for graduation.

| | |
|---|-----------|
| Communication Requirement | † |
| WRT 102 fulfills this requirement. | |
| Arts and Humanities Requirement | † |
| ANT 112, ANT/AIS 206, HIS 101 or 141 fulfills this requirement | |
| Social and Behavioral Science Requirement | † |
| PSY 101 fulfills this requirement | |
| Other Requirements | † |
| PSY 240 or ECE 107 fulfills this requirement | |
| Mathematics and Science | † |
| BIO 205IN and the Math program prerequisite fulfill this requirement. | |
| Special Requirements | |
| AIS/ANT 206, ANT 112, HIS 101 or 141 fulfills this requirement | |
| Subtotal. | 0† |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|------------------------------------|------------|
| NRS 104*/104LC*/ 104LS* | Nursing Process I | 8 |
| NRS 105*/105LC*/ 105LS* | Nursing Process II | 9 |
| Or NRS 188/188/LC/188LS*** | | |
| NRS 108** | Drug Calculations | 1 |
| NRS 155* | Introduction to Pharmacology | 3 |
| NRS 201*/201LC* | Nursing Process III | 9 |
| NRS 202*/202CA*/ 202CB* | Nursing Process IV | 9 |
| NRS 203* | Nursing Trends and Issues | 1 |
| Subtotal. | | .40 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|---|--|---------------|
| ANT 112 | Exploring Non-Western Cultures | 3 |
| or ANT/AIS 206 | Contemporary Native Americans of the Southwest | |
| or HIS 101 | Introduction to Western Civilization | |
| or HIS 141 | History of the United States I SUN# HIS 1132 | |
| BIO/FSN 127IN | Human Nutrition and Biology | 3-4 |
| or FSN 154 | Nutrition | |
| BIO 205IN* | Microbiology SUN# BIO 2205 | 4 |
| HCA 100 | Strategies for Academic Success | 1 |
| PSY 101 | Introduction to Psychology SUN# PSY 1101 | 3 |
| PSY 240* | Developmental Psychology | 3 |
| or ECE 107* | Human Development and Relations | |
| WRT 102* | English Composition II SUN# ENG 1102 | 3 |
| Subtotal. | | .20-21 |
| Total credits as displayed (not including program prerequisites or preparatory coursework) | | 60-61 |
| Total credits as displayed (including program prerequisites and preparatory coursework) | | .74-76 |

† Support or core course(s) fulfill this requirement.
 ‡ General Education requires 19-21 credits. This subtotal shows the Gen Ed credits not fulfilled by other program requirements.
 * This course has a prerequisite, co-requisite, or recommendation. See course description section.
 ** NRS 108 requires a grade of A.
 *** NRS 188/188LC/188LS is only available to Licensed Practice Nurse advanced placement.

Paralegal

Prepare for entry-level paralegal or legal assistant positions with these programs approved by the American Bar Association.

Paralegal — Associate of Applied Science Degree for Direct Employment

Learn to investigate legal cases, draft legal documents, prepare for trial, perform legal research and other law related projects the supervision of an attorney. Program may include a Paralegal Internship.

What can I do with this degree?

Career Options: Become a paralegal or legal assistant, title examiner, trust officer, contract manager, legal investigator, or perform a wide variety of functions in any time of court or corporation.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima’s Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Gainful Employment Information: www.pima.edu/ge-crdlegalasst

Location: Dometown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead Faculty: 520-206-7298

Program/Major Codes: **AASLEGALASST/LAS1**

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|----------|
| Communication Requirement | † |
| WRT 101 fulfills this requirement. | |
| Arts and Humanities Requirement | † |
| PHI 101 fulfills this requirement | |
| Social and Behavioral Sciences Requirement | † |
| POS 201 fulfills this requirement | |
| Mathematics and Sciences Requirement | † |
| MAT 142 fulfills this requirement | |
| Other Requirement | † |
| CIS104 or CIS 120 fulfill this requirement | |
| Special Requirement | |
| POS 201 fulfills this requirement | |
| Subtotal. | 0 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|---|-----------|
| PAR 101 | Introduction to Paralegal Careers | 3 |
| PAR 102* | Civil Litigation Procedures I | 3 |
| PAR 103* | Legal Research | 3 |
| PAR 104 | Paralegal Ethics | 3 |
| PAR 106 | Civil and Criminal Evidence | 3 |
| PAR 202* | Civil Litigation Procedures II | 3 |
| PAR 211* | Legal Writing | 3 |
| PAR 213* | Computer Assisted Legal Research | 3 |
| Subtotal. | | 24 |

| | | |
|---|--------------------------------------|---|
| PAR ELEC | PAR Specialty Area Electives | |
| Complete 15-16 credits from the following PAR specialty area electives course list: (Specialty courses are not offered every semester. Consult with a PAR faculty advisor or counselor to determine class offerings.) | | |
| PAR 203* | Tort Law Procedures | 3 |
| PAR 204* | Wills, Trusts, and Estates | 3 |

| | | |
|---|-------------------------------------|--------------|
| PAR 206* | Criminal Law and Procedures I | 3 |
| PAR 207* | Criminal Law and Procedures II | 3 |
| PAR 208* | Domestic Relations and Family Law | 3 |
| PAR 209* | Bankruptcy Procedures | 3 |
| PAR 212* | Law Office Computerization | 3 |
| PAR 215* | Corporate Law Procedures | 3 |
| PAR 217* | Real Estate Legal Procedures | 3 |
| PAR 218* | Administrative Law: Employment | 1 |
| PAR 219* | Administrative Law: Immigration | 1 |
| PAR 220* | Administrative Law: Social Security | 1 |
| PAR 290* | Paralegal Internship | 4 |
| (The internship is designed to give the students work experience at an approved site. For students in their final semester of course work. Application and acceptance required.) | | |
| Subtotal. | | 15-16 |

Required Support Courses

| | | |
|-----------------------------------|--|--------------|
| ACC 100 | Practical Accounting Procedures | 3 |
| or ACC 211* | Financial Accounting SUN# ACC 2201 | |
| CIS/CSA 104* | Computer Fundamentals | 3-4 |
| or CIS 120 | Computer Applications for Business | |
| MAT 142** | Topics in College Mathematics SUN# MAT 1142 | 3 |
| PHI 101 | Introduction to Philosophy SUN# PHI1101 | 3 |
| POS 201 | American National Government and Politics SUN# POS1110 | 3 |
| STU 100 | College Success and Career Planning | 1 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| WRT 102* | English Composition II SUN# ENG 1102 | 3 |
| Subtotal. | | 22-23 |
| Total credits as displayed | | 61-63 |

† Core or support course(s) fulfill this requirement.
 ‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.
 * This course has a prerequisite, co-requisite, or recommendation. See course description section.
 ** MAT 151 or higher will also meet this requirement

Paralegal — Post-Degree Certificate for Direct Employment

Learn to investigate legal cases, draft legal documents, and perform legal research under the supervision of an attorney. This program includes a paralegal internship.

Before enrolling in this program, you must have earned a bachelor’s degree or an Associate of Arts or Science from an accredited post-secondary institution.

What can I do with this certificate?

- Career Options:** Seek a position as a paralegal or legal assistant, title examiner, trust officer, contract clerk, legal investigator or law firm administrator.
- Academic Options:** Continue your studies by taking additional professional development courses.
- Gainful Employment Information:** www.pima.edu/ge-crdlegalasst
- Location:** Downtown Campus
- Department/Contact Information:**
Dean: 520-206-7134; Lead Faculty: 520-206-7352
- Special Admissions Program:** You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------------|-----------------------------------|-----------|
| PAR 101 | Introduction to Paralegal Careers | 3 |
| PAR 102* | Civil Litigation Procedures I | 3 |
| PAR 103* | Legal Research | 3 |
| PAR 104* | Paralegal Ethics | 3 |
| PAR 106* | Civil and Criminal Evidence | 3 |
| PAR 202* | Civil Litigation Procedures II | 3 |
| PAR 211* | Legal Writing | 3 |
| PAR 213* | Computer Assisted Legal Research | 3 |
| Subtotal. | | 24 |

PAR ELEC PAR Specialty Area Electives

Complete 15 credits from the following PAR specialty area electives course list:
 (Specialty courses are not offered every semester. Consult with a PAR faculty advisor to determine class offerings.)

| | | |
|----------|-------------------------------------|---|
| PAR 203* | Tort Law Procedures | 3 |
| PAR 204* | Wills, Trusts, and Estates | 3 |
| PAR 206* | Criminal Law and Procedures I | 3 |
| PAR 207* | Criminal Law and Procedures II | 3 |
| PAR 208* | Domestic Relations and Family Law | 3 |
| PAR 209* | Bankruptcy Procedures | 3 |
| PAR 212* | Law Office Computerization | 3 |
| PAR 215* | Corporate Law Procedures | 3 |
| PAR 217* | Real Estate Procedures | 3 |
| PAR 218* | Administrative Law: Employment | 1 |
| PAR 219* | Administrative Law: Immigration | 1 |
| PAR 220* | Administrative Law: Social Security | 1 |
| PAR 290* | Paralegal Internship | 4 |

(The internship is designed to give the students work experience at an approved site. For students in their final semester of course work. Application and acceptance is required.)

| | | |
|------------------|--|-----------|
| Subtotal. | | 15 |
|------------------|--|-----------|

Required Support Course

| | | |
|-------------------------|---|---|
| WRT 101* or WRT 102* | English Composition I SUN# ENG 1101 English Composition II SUN# ENG 1102 | 3 |
|-------------------------|---|---|

| | | |
|------------------|--|----------|
| Subtotal. | | 3 |
|------------------|--|----------|

| | | |
|-----------------------------------|--|-----------|
| Total credits as displayed | | 42 |
|-----------------------------------|--|-----------|

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Pharmacy Technology

Learn how to assist pharmacists in packaging and distributing medications.

Pharmacy Technology — Certificate for Direct Employment

Learn to work as a pharmacy technician assisting a pharmacist. This program includes training within laboratory and clinical settings.

Before enrolling in this program, you must submit a Pharmacy Technology application, which is available online in two formats.

NOTE: Some PHT courses have reading and/or math prerequisites. Before beginning PHT coursework, students will need to have either completed REA 091 (or higher) and MAT 092 (or higher); or meet course prerequisite requirements through assessment (i.e. assessment score at the REA 112 level or higher, or Mathematics assessment score at MAT 097 or higher).

Prospective students with a criminal background see www.pima.edu/programs-courses/credit-programs-degrees/health-professions/pharmacy-tech/pharmacy-tech-aas-admission.html for licensure and clinical practice eligibility.

What can I do with this certificate?

Career Options: Work in hospitals, nursing care facilities and drug stores and with drug manufacturers, wholesale drug houses and health maintenance organizations.

Academic Options: Continue taking classes toward earning a Pharmacy Technology AAS degree.

Gainful Employment Information: www.pima.edu/ge-crtpharmtech

Location: East Campus

Department/Contact Information:

Dean: 520-206-5105

Lead Faculty: 520-206-7850

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| PHT 170* | Introduction to Pharmacy Technology | 2 |
| PHT 171IN* | Pharmaceutical Calculations | 4 |
| PHT 172* | Drug Therapy I | 4 |
| PHT 175IN* | Pharmacy Operations | 5 |
| PHT 179IN* | Sterile Products | 5 |
| PHT 181* | Interprofessional Relations in Pharmacy | 3 |
| PHT 182* | Drug Therapy II | 4 |
| PHT 187* | Pharmacy Law and Ethics | 3 |
| PHT 190LB* | Pharmacy Technician Internship | 4 |
| PHT 197* | Clinical Seminar | 2 |
| Subtotal. | | 36 |
| Required Support Courses | | |
| CHM 130IN* | Fundamental Chemistry I SUN# CHM1130..... | 4 |
| STU 100 | College Success and Career Planning..... | 1 |
| MGT/STU 230 | Dynamics of Leadership | 3 |
| Subtotal. | | 8 |
| Total credits as displayed | | 44 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Phlebotomy

Phlebotomy — Certificate for Direct Employment

Learn skills to prepare for employment in the area of phlebotomy and prepare to take exams for national certification.

Before enrolling in this program, students must submit the following:

- Health Declaration
- Signed acknowledgement of receipt of drug screening policy
- Proof of health insurance
- Residency affidavit
- Proof of Immunizations: Hepatitis B, MMR, Varicella, TDAP (recommended)
- TB Test (negative result or a negative chest X-ray)

What can I do with this certificate?

Career Options: Once eligible, students are encouraged to take one of the national certification exams in phlebotomy. Work as a phlebotomist in physician’s offices, medical centers, clinics, and medical laboratories.

Academic Options: Take courses in medical laboratory technology, medical assisting, registered nursing or practical nursing.

Location: Desert Vista Campus

Department/Contact Information:

Dean: 520-206-5105

Lead Faculty: 520-206-5072

Special Admissions Program: See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|--------------------------------------|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| PHB 160 | Foundations of Phlebotomy | 3 |
| PHB 162* | Safety Standards in Phlebotomy | 3 |
| PHB 164* | Professional Practices in Phlebotomy | 3 |
| PHB 166LB* | Phlebotomy Laboratory Practice | 2 |
| PHB 190LC* | Clinical Internship in Phlebotomy | 1-3 |
| Total Credits as Displayed | | 12-14 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Radiologic Technology

Become a certified Radiologic Technologist in the field of diagnostic medical imaging.

Radiologic Technology — Associate of Applied Science Degree for Direct Employment

Learn diagnostic medical imaging, equipment operation, radiographic procedures, patient care, and radiation protection. This program is accredited by the Joint Review Committee of Education for Radiologic Technology.

Students will be required to complete 1800 clinical clock-hours in order to be eligible for the national certification examination.

Before enrolling in this program, you must complete certain requirements:

In addition to the course prerequisites listed below, this degree program requires a special program application. Once all preparatory coursework is complete, students can access the program application on the MyPima Academics tab in the Degree and Programs section.

Prospective students with misdemeanor or felony convictions see www.pima.edu/programs-courses/credit-programs-degrees/health-professions/radiologic-technology/admissions.html for important information on licensure.

To participate in the program, the students must:

- Provide and maintain an Arizona DPS Fingerprint Clearance Card.
- Upon request pass an annual urine toxicology screening exam.
- Be able to perform a number of physical activities in the clinical portion of the program. At a minimum, students will be required to lift patients, stand for several hours at a time and perform bending activities. The clinical Radiologic Technology program also places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting patients' 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.
- Provide own transportation to various clinical facilities throughout the Tucson regional area.
- Present proof of immunizations or immunity for MMR/Varicella/TDaP.
- Obtain an annual flu shot.
- Negative PPD Tuberculosis initial 2-step process.
- Clinical rotations are at various clinical facilities throughout the Tucson regional area.
- Maintain health insurance and a current CPR card for the Health Care Provider Level throughout the program.

What can I do with this degree?

Career Options: Eligibility to apply for the National Certification exam by the American Registry of Radiologic Technologists and qualify to work in hospitals, clinics, and doctors' offices.

Academic Options: While this program is not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: West Campus

Department/Contact Information:

Dean: 520-206-6916
Lead Faculty: 520-206-3105

Selective Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

**Preparatory Coursework – These courses may be eligible for Title IV loans only; see a financial aid specialist.
International students must score higher than 450 on the institutional TOELF (Test of English as a Second Language)**

Students must have completed the following (with grades posted) before they may begin the application process.

| | | |
|------------------|--|-------------|
| REA 112HP** | with a grade of B or higher, or Accuplacer reading assessment score of 92 or higher | 0-4 |
| BIO 156IN* | Intro Biology Allied Health with a grade of B or higher | 4 |
| MAT 151* | or higher with a grade of C or higher within the last four years; or placement into MAT 189 in the last four years | 0-4 |
| HCA 100 | Strategies for Academic Success | 1 |
| or STU 100 | College Success and Career Planning with a grade of C or higher | |
| Subtotal. | | 5-13 |

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|------------|
| Communication Requirement | † |
| WRT 101 fulfills this requirement. | |
| Art and Humanities Requirement | † |
| AIS/HIS 122 or AIS/ANT 206 fulfills this requirement | |
| Social and Behavioral Science Requirement | † |
| PSY 101 fulfill this requirement. | |
| Mathematics and Science Requirement | † |
| BIO 201IN and the Math Preparatory coursework fulfill this requirement. | |
| Other Requirement | † |
| WRT 102 fulfills this requirement | |
| Special Requirement | † |
| AIS/HIS 122 or AIS/ANT 206 fulfills this requirement. | |
| Subtotal. | .0¥ |

| | | |
|----------------------|---------------------|---------------------|
| Course Number | Course Title | Credit Hours |
|----------------------|---------------------|---------------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|--------------------------|---|-----------|
| RAD 170/170LB* | Medical Imaging Fundamentals/Lab | 3 |
| RAD 171/171LB* | Radiographic Positioning I/Lab | 3.75 |
| RAD 172/172LB* | Medical Imaging Technology I/Lab | 3.5 |
| RAD 173LC* | Clinical Education I | 6 |
| RAD 174/174LB* | Radiographic Positioning II/Lab | 3.75 |
| RAD 175/175LB* | Medical Imaging Technology II/Lab | 3.5 |
| RAD 176LC* | Clinical Education II | 6 |
| RAD 177LC* | Clinical Education III | 4.5 |
| RAD 180* | Introduction to Radiation Biology | 1 |
| RAD 181* | Radiographic Positioning III | 3 |
| RAD 182* | Medical Imaging Technology III | 3 |
| RAD 183LC* | Clinical Education IV | 5 |
| RAD 184/184LB* | Radiographic Positioning IV/Lab | 3.5 |
| RAD 185* | Clinical Seminar | 2 |
| RAD 186LC* | Clinical Education V | 6.5 |
| Subtotal. | | 58 |

Required Support Courses - A grade of C or better is required for graduation.

| | | |
|-------------------------------|---|---|
| AIS/HIS 122 or AIS/ANT 206 | Tohono O'odham History and Culture Contemporary Native Americans of the Southwest | 3 |
| BIO 201IN or BIO 201IH | Human Anatomy and Physiology I SUN# BIO 2201 Human Anatomy, Physiology and Histology | 4 |
| PSY 101 | Introduction to Psychology SUN# PSY 1101 | 3 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| WRT 102* | English Composition II SUN# ENG 1102. | 3 |

| | | |
|--|--|--------------|
| Subtotal. | | 16 |
| Total credits as displayed (not including preparatory coursework) | | 74 |
| Total credits as displayed (including preparatory coursework) | | 79-87 |

† Core or support course(s) fulfill this requirement.
 ¥ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.
 * This course has a prerequisite, co-requisite, or recommendation. See course description section.
 ** REA 112 will also be accepted.

Respiratory Care

Respiratory Care — Associate of Applied Science Degree for Direct Employment

Develop skills through classroom, laboratory, and clinical experience to become a Registered Respiratory Therapist (RRT). The Pima Community College Respiratory Care program is accredited by the Commission on Accreditation for Respiratory Care (CoARC).

Commission on Accreditation for Respiratory Care
1248 Harwood Road, Bedford, Texas 76021-4244
(817) 283-2835 (telephone), (817) 354-8519 (fax)

Before enrolling in this program, you must complete certain requirements. In addition to the course prerequisites listed below, this program requires a special Respiratory Care – AAS program application. Once all prerequisites are complete, you can access the program application on the MyPima Academics tab in the Degrees and Programs section.

To participate in the program, you must complete the following requirements by the program orientation date:

- Provide and maintain an Arizona DPS Fingerprint Clearance Card.
- Pass an initial toxicology screening and adhere to the chemical impairment policy.
- Complete a physical within one year of start date.
- Provide proof of immunization or immunity for MMR, Varicella, Hep-B, Tdap, and seasonal influenza.
- Provide proof of a negative two-step TB skin test or negative chest x-ray for TB.
- Maintain health insurance.
- Provide and maintain an American Heart Association Basic Life Support certification.

Important Information on Licensure

- The Arizona State Legislature declares that the practice of respiratory care affects public health, safety, and welfare and should be subject to regulation and control by the Arizona State Board of Respiratory Care. This is in the public interest in order to protect the public from unauthorized practice of respiratory care, and from unprofessional conduct by persons licensed to practice respiratory care. In order to practice as a respiratory therapist you will be required to obtain a state license.

What can I do with this degree?

Credentials: Graduates are eligible to earn the National Board of Respiratory Care certified respiratory therapist (CRT) and registered respiratory therapist (RRT) credential.

Career Options: Respiratory therapists work in hospitals, intensive care units, emergency rooms, sleep laboratories, special-care facilities, doctor's offices, air transport, case management, and other clinical settings caring for cardiopulmonary patients.

Academic Options: This program offers an Associate of Applied Science (AAS) Degree in Respiratory for direct employment as well as a Bachelor of Science in Respiratory Therapy Degree as a Degree Advancement partnership with Northern Arizona University. Go to Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: West Campus

Department/Contact Information:

Dean: 520-206-6661

Program Director: 520-206-3106

Selective Admissions Program: You will not be admitted to this program until you have fulfilled the requirements listed above and below, and are accepted into the program. See the website or an advisor for details.

Program Prerequisites - These courses are not eligible for Title IV aid.

Students must have completed the following (with grades posted) before they may begin the application process.

International students must score higher than 450 on the institutional TOEFL (Test of English as a Second Language)

| | |
|--|------------|
| MAT 097* or placement into MAT 151 or higher | 0-3 |
| Subtotal. | 0-3 |

Preparatory Coursework - These courses may be eligible for Title IV loans only; see a financial aid specialist.

Students must have completed the following, with a grade of C or higher (with grades posted) before they may begin the application process.

| | |
|---|------------|
| REA 112HP** or REA 112 or Accuplacer reading assessment score of 92 or higher | 0-4 |
| BIO 156IN or BIO 201IH or BIO 201IN or BIO 156 bypass exam score of 70% or higher | 0-4 |
| HCA 100 or STU 100 | 1 |
| Subtotal | 1-9 |

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|------------|
| Communication Requirement | † |
| WRT 101 fulfills this requirement | |
| Arts and Humanities Requirement | † |
| HIS 141 or HUM 260 fulfills this requirement | |
| Social and Behavioral Sciences Requirement | † |
| PSY 101 fulfills this requirement | |
| Mathematics and Science Requirement | † |
| BIO 205IN fulfills this requirement | |
| Other Requirement | † |
| WRT 102 fulfills this requirement | |
| Special Requirement | † |
| The C or G requirement is fulfilled with either HIS 141 or HUM 260 | |
| Subtotal | 0-9 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|-----------------------|--|-----------|
| HCA 152 | Advanced Cardiovascular Life Support | 1 |
| RTH 110* | Introduction to Respiratory Therapy | 2 |
| RTH 112* | Respiratory Pathophysiology | 4 |
| RTH 121/121LB* | Basic Therapeutics/Lab | 4 |
| RTH 123/123LB* | Basic Assessment and Monitoring/Lab | 4 |
| RTH 124* | Pharmacology for Respiratory Care | 3 |
| RTH 135LC* | Clinical Procedures I | 4 |
| RTH 156* | Cardiopulmonary Diseases I | 3 |
| RTH 162* | Principles of Mechanical Ventilation | 3 |
| RTH 241/241LB* | Application of Mechanical Ventilation/Lab | 4 |
| RTH 243/243LB* | Advanced Assessment and Monitoring/Lab | 4 |
| RTH 245LC* | Clinical Procedures II | 4 |
| RTH 251/251LB* | Neonatal and Pediatric Specialty Therapeutics/Lab | 5 |
| RTH 255LC* | Clinical Procedures III | 4 |
| RTH 256* | Cardiopulmonary Diseases II | 2 |
| RTH 257LB* | Clinical Applications and Professional Development | 1 |
| Subtotal | | 52 |

Required Support Courses

| | | |
|-----------------------|---|-----------|
| HIS 141 | History of the United States I SUN# HIS1131 | 3 |
| or HUM 260 | Intercultural Perspectives | |
| BIO 205IN* | Microbiology SUN# BIO 2205 | 4 |
| PSY 101 | Introduction to Psychology SUN# PSY 1101 | 3 |
| WRT 101* | English Composition I with a C or better SUN# ENG 1101 | 3 |
| WRT 102* | English Composition II with a C or better SUN# ENG 1102 | 3 |
| Subtotal | | 16 |

Total credits as displayed (not including program prerequisites or preparatory coursework) 68

Total credits as displayed (including program prerequisites and preparatory coursework) 69-80

† Core or support course(s) fulfill this requirement.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Science — Associate of Science Degree for Transfer

Complete lower-division science and general education requirements for transferring to a university to pursue a major in the life sciences, physical sciences, or engineering. Students interested in preparing for professional degrees in dentistry, medicine or veterinary science also should complete this degree. For the concentrations below, Pima requirements are aligned most closely with those at the University of Arizona. Substitutions are available for students planning to transfer to other schools. See an advisor.

Program/Major/Concentration Code: **AOSASI/AS11/******

Science — General Concentration

Complete this concentration if you are unsure which Bachelor of Science degree you plan to pursue, or if your major is not included in the other concentrations offered.

What can I do with this concentration?

Academic Options: Transfer to a university in a life or physical sciences program, computer science or engineering program.

Locations: All campuses

Department/Contact Information:

Dean: 520-206-2180

Contact any campus Student Services office (www.pima.edu/mhtml/email/advising).

Concentration Code: **ASIG**

Arizona General Education Curriculum Requirements (AGEC-S) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|--------------|
| English Composition | 6 |
| Humanities and Fine Arts..... | 6 |
| Biological and Physical Sciences** | † |
| The combination of BIO 181IN & 182IN, or CHM 151IN & 152IN, or PHY 210IN & 216IN fulfill this requirement. | |
| Mathematics..... | † |
| MAT 220 fulfills this requirement. | |
| Social and Behavioral Sciences | 6 |
| Other Requirement Options..... | 6 |
| Complete MAT courses above MAT 220 and/or additional Science courses from the Biological and Physical Sciences list. | |
| AGEC Special Requirements | |
| The I, C, and G requirements should be fulfilled by completing appropriate courses in the above categories. | |
| Subtotal. | .24 ¥ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses: A grade of C or better is required in all courses for graduation.

| | | |
|---|--|---------------|
| BIO 181IN* and BIO 182IN* or | General Biology I: (Majors) SUN# BIO 1181 | 8 |
| | General Biology II: (Majors) SUN# BIO 1182 | |
| CHM 151IN* and CHM 152IN* or | General Chemistry I SUN# CHM 1151 | |
| | General Chemistry II SUN# CHM 1152 | |
| PHY 210IN* and PHY 216IN* | Introductory Mechanics SUN# PHY 1121 | |
| | Introductory Electricity and Magnetism SUN# PHY 1131 | |
| MAT 220* Calculus I SUN# MAT 2220 | | 5 |
| Major/Electives | | 20-24 |
| Complete additional science and math courses, and second language^ courses if needed, to meet major requirements for a bachelor's degree. | | |
| Subtotal. | | .33-37 |

Required Support Courses

| | | |
|-----------------------------------|--|--------------|
| STU 100 | College Success and Career Planning..... | 1 |
| or STU 107 | University Transfer Preparation | |
| STU 210 | Transfer Strategies | 2 |
| Subtotal. | | 3 |
| Total credits as displayed | | 60-64 |

† Core or support course(s) fulfill this requirement.

‡ AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** See the university major requirements for selection of the appropriate science course sequence.

^ Bachelor of Science majors at the UA require two semesters of a second language. For some majors it is recommended to take the language courses in the first two years, and others not until the third or fourth year. See the Degree Search pages (<https://degreesearch.arizona.edu/>) for details about the major you plan to pursue.

Associate of Science — Biology Concentration

Study biology and life sciences while preparing to transfer to a 4-year university.

What can I do with this degree?

Career Options: Transfer to a university in a life sciences program.

Academic Options: Transfer to a university to complete a bachelor's degree.

Location: All Campus

Department/Contact Information:

Dean: 520-206-2180

Contact any campus Student Services office (www.pima.edu/mhtml/email/advising).

Concentration Code: **ASIB**

Arizona General Education Curriculum Requirements (AGEC-S) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|------------|
| English Composition | 6 |
| Humanities and Fine Arts..... | 6 |
| Biological and Physical Sciences | † |
| BIO 181IN and 182IN fulfill this requirement. | |
| Mathematics..... | † |
| MAT 220 fulfills this requirement. | |
| Social and Behavioral Sciences | 6 |
| Other Requirements | † |
| CHM 151IN and 152IN fulfill this requirement. | |
| Special Requirements | |
| The I, C, and G requirements should be fulfilled by completing appropriate courses in the above categories. | |
| Subtotal. | 18‡ |

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------------|--|-----------|
| BIO 181IN* | General Biology I SUN# BIO 1181..... | 4 |
| BIO 182IN* | General Biology II SUN# BIO 1182 | 4 |
| CHM 151IN* | General Chemistry I SUN# CHM 1151..... | 4 |
| CHM 152IN* | General Chemistry II SUN# CHM 1152 | 4 |
| CHM 235IN* | General Organic Chemistry I SUN# 2235..... | 4 |
| CHM 236IN* | General Organic Chemistry II SUN# 2236 | 4 |
| MAT 220* | Calculus I SUN# MAT 2220 | 5 |
| MAT 231* | Calculus II SUN# MAT 2230..... | 4 |
| Subtotal. | | 33 |

Required Support Courses

| | | |
|-----------------------------------|---|-----------|
| PHY 121IN* | Introductory Physics I SUN# PHY 1111 | 4 |
| or | First Semester Language Course*^ | |
| PHY 122IN* | Introductory Physics II SUN# PHY 1112 | 4 |
| or | Second Semester Language Course*^ | |
| STU 100 | College Success and Career Planning | 1 |
| or | STU 107 University Transfer Preparation | |
| STU 210 | Transfer Strategies | 2 |
| Subtotal. | | 11 |
| Total credits as displayed | | 62 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

^ Bachelor of Science majors at the UA require two semesters of a second language. For some majors it is recommended to take the language courses in the first two years, and others not until the third or fourth year. See the Degree Search pages (<https://degreesearch.arizona.edu/>) for details about the major you plan to pursue.

Associate of Science — Chemistry Concentration

Study chemistry while preparing to transfer to a 4-year university.

What can I do with this degree?

Career Options: Transfer to a university in a chemistry sciences program.

Academic Options: Transfer to a university to complete a bachelor's degree.

Location: All Campus

Department/Contact Information:

Dean: 520-206-2180

Contact any campus Student Services office (www.pima.edu/mhtml/email/advising).

Concentration Code: **ASIC**

Arizona General Education Curriculum Requirements (AGEC-S) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|------------|
| English Composition | 6 |
| Humanities and Fine Arts | 6 |
| Biological and Physical Sciences | † |
| CHM 151IN and 152IN fulfill this requirement. | |
| Mathematics | † |
| MAT 220 fulfills this requirement. | |
| Social and Behavioral Sciences | 6 |
| Other Requirements | † |
| CHM 235IN and 236IN fulfill this requirement. | |
| Special Requirements | |
| The I, C, and G requirements should be fulfilled by completing appropriate courses in the above categories. | |
| Subtotal. | 12¥ |

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------------|--|-----------|
| CHM 151IN* | General Chemistry I SUN# CHM 1151 | 4 |
| CHM 152IN* | General Chemistry II SUN# CHM 1152 | 4 |
| CHM 235IN* | General Organic Chemistry I SUN# 2235 | 4 |
| CHM 236IN* | General Organic Chemistry II SUN# 2236 | 4 |
| MAT 220* | Calculus I SUN# MAT 2220 | 5 |
| MAT 231* | Calculus II SUN# MAT 2230 | 4 |
| PHY 210IN* | Introductory Mechanics SUN# PHY1121 | 4 |
| PHY 216IN* | Introductory Electricity and Magnetism SUN# PHY 1131 | 4 |
| CHM 295LB | Independent Research in Chemistry | 1 |
| Subtotal. | | 34 |

Required Support Courses

| | | |
|--|--------------------------------------|--------------|
| BIO 181IN* [^] | General Biology I SUN# BIO 1181 | 4 |
| or MAT 241* [^] | Calculus III SUN# MAT 2241 | |
| or MAT 262* [^] | Differential Equations SUN# MAT 2262 | |
| or First Semester Language Course* [^] | | |
| BIO 182IN* [^] | General Biology II SUN# BIO 1182 | 3-4 |
| or MAT 241* [^] | Calculus III SUN# MAT 2241 | |
| or MAT 262* [^] | Differential Equations SUN# MAT 2262 | |
| or Second Semester Language Course* [^] | | |
| STU 100 | College Success and Career Planning | 1 |
| or STU 107 | University Transfer Preparation | |
| Subtotal. | | 8-9 |
| Total credits as displayed | | 60-61 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

[^] Bachelor of Science majors at the UA require two semesters of a second language. For some majors it is recommended to take the language courses in the first two years, and others not until the third or fourth year. For details about the major you plan to pursue see the Degree Search pages <https://degreesearch.arizona.edu/>.

Associate of Science — Pre-Engineering Concentration

Prepare to transfer to a university to complete a bachelor's degree in engineering.

What can I do with this concentration?

Academic Options: Transfer to a college or university to complete a bachelor's degree in Engineering[^].

Location: West Campus

Department/Contact Information:

Dean: 520-206-2180

Lead Faculty: 520-206-6679

Concentration Code: **ENGR**

Arizona General Education Curriculum Requirements (AGEC-S) - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|-------------|
| English Composition | 6 |
| Humanities and Fine Arts | 6 |
| Biological and Physical Sciences | † |
| The combination of CHM 151IN & 152IN or PHY 210IN & 216IN fulfill this requirement. | |
| Mathematics | † |
| MAT 220 fulfills this requirement. | |
| Social and Behavioral Sciences | 6 |
| Other Requirements | † |
| MAT 231 and MAT 241 fulfill this requirement | |
| AGEC Special Requirements | |
| The I, C, and G requirements should be fulfilled by completing appropriate courses in the above categories. | |
| Subtotal. | 18 ¥ |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses: A grade of C or better is required in all courses for graduation.

| | | |
|------------|--|---|
| CHM 151IN* | General Chemistry I SUN# CHM 1151 | 4 |
| ENG 102IN* | Problem-Solving and Engineering Design SUN# EGR 1102 | 3 |
| MAT 220* | Calculus I SUN# MAT 2220 | 5 |
| MAT 231* | Calculus II SUN# MAT 2230 | 4 |
| MAT 241* | Calculus III SUN# MAT 2241 | 4 |
| PHY 210IN* | Introductory Mechanics SUN# PHY 1121 | 4 |

| | | | |
|---|--|---------------|--------------|
| CHM 152IN | General Chemistry II | SUN# CHM 1152 | 4 |
| or PHY 216IN | Introductory Electricity and Magnetism | SUN# PHY 1131 | |
| Engineering Electives** | | | 11-15 |
| Select transfer courses from university requirements for the specific branch of Engineering that you plan to pursue. Consult with Department faculty or use one of the university web sites below for assistance in selecting appropriate courses from the subjects below: BIO, CHM, CIS, ENG, GLG, MAT, or PHY | | | |
| Subtotal. | | | 39-43 |

Required Support Courses

| | | |
|-----------------------------------|-------------------------------------|--------------|
| STU 100 | College Success and Career Planning | 1 |
| or STU 107 | University Transfer Preparation | |
| STU 210 | Transfer Strategies | 2 |
| Subtotal. | | 3 |
| Total credits as displayed | | 60-64 |

† Core or support course(s) fulfill this requirement.

¥ The AGEC requires 35 credits. This subtotal shows the AGEC credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

** CHM 151IN and PHY 201IN are required for all Engineering majors at the UA. Choose the appropriate CHM or PHY course to meet AGEC-S Biological & Physical Science requirements. Some of the UA Engineering degrees require concurrent enrollment in the 3rd and 4th semesters. See an advisor or major guide to complete the required courses in the appropriate sequence to complete this degree in a timely manner.

^ ASU: <https://engineering.asu.edu/advising/>; NAU: <https://nau.edu/cefns/engineering/>; UA: <http://www.advising.arizona.edu> or <http://engineering.arizona.edu> or see the UA's Degree Search for specific course information: <http://degreesearch.arizona.edu>

Social Services

Gain knowledge and skills for employment in social service organizations that provide community services including service delivery, community outreach and intervention.

Social Services — Associate of Applied Science Degree for Direct Employment

Learn core principles and skills in social work, community services and casework management.

What can I do with this degree?

Career Options: Entry-level employment in social service positions.

Academic Options: Students intending to transfer to a four-year university should pursue the Social Services Associate of Arts degree.

Location: West Campus

Department/Contact Information:

Dean: 520-206-7666

Lead Faculty: 520-206-6958

Program/Major Codes: **AASSOCIALSRV/SSE1**

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|--------------|
| Communication Requirement | † |
| WRT 101 fulfills this requirement | |
| Arts and Humanities Requirement | 3 |
| Recommend: PHI 101 or PHI 130 | |
| Social and Behavioral Science Requirement | 3 |
| Recommend: ECN 150 or PSY 101 or SOC 101 | |
| Mathematics and Science Requirement | 3-4 |
| Recommend: BUS 151 or BIO 156IN or BIO 160IN | |
| NOTE: The Math Competency must be met. | |
| Other Requirement | 3 |
| Recommend: ANT 112 or HIS/MAS/ANT 127 | |
| Special Requirement | |
| The C or G requirement should be fulfilled by completing an appropriate course in the above categories. | |
| Subtotal. | 12-13 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|--|---|-----------|
| SSE 110 | Introduction to Social Welfare | 3 |
| SSE 111 | Group Work | 3 |
| SSE 205 | Case Report Writing and Documentation | 3 |
| SSE 210* | Community Organization and Development | 3 |
| SSE 281* | Social Service Delivery Systems (was SSE 212) | 3 |
| SSE 285* | Foundations of Social Work Practice (was SSE 202) | 3 |
| SSE 292* | Social Services Field Experience | 4 |
| SSE Electives | | 9 |
| Complete 9 credits from the following: SSE 121, SSE 160, SSE 211, or SSE 242 | | |
| Subtotal. | | 31 |

| Required Support Courses | | |
|---|------------------------|--------------|
| WRT 101 | English Composition I | 3 |
| WRT 102 | English Composition II | 3 |
| Electives - Complete 11-13 credits so the total credits for the degree are 60-62. | | 11-13 |
| Please see an advisor to select appropriate course work. | | |
| Subtotal. | | 17-19 |
| Total credits as displayed | | 60-62 |

¥ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.
 * This course has a prerequisite, co-requisite, or recommendation. See course description section.

Associate of Arts Degree for Transfer - Social Services Concentration

See the Liberal Arts section for details on the degree requirements.

Social Services Substance Use Disorder Specialty — Associate of Applied Science Degree for Direct Employment

Learn principles and skills in social work with an emphasis on drug and alcohol treatment and prevention.

What can I do with this degree?

- Career Options:** Entry-level employment in positions providing substance use disorder services and related community outreach.
- Academic Options:** Students intending to transfer to a four-year university should pursue the Social Services AA degree.
- Location:** West Campus
- Department/Contact Information:**
 Dean: 520-206-7666
 Lead Faculty: 520-206-6958
 Program/Major Codes: **AASSUBSTABUS/SSS**

| General Education Requirements - A grade of C or better is required for graduation. | | |
|---|--|---------------|
| <i>Course lists for each General Education category listed below can be found starting on page 74.</i> | | |
| Communication Requirement | | † |
| WRT 101 fulfills this requirement | | |
| Arts and Humanities Requirement | | 3 |
| Recommend: PHI 101 or PHI 130 | | |
| Social and Behavioral Science Requirement | | 3 |
| Recommend: ECN 150 or PSY 101 or SOC 101 | | |
| Mathematics and Science Requirement | | 3-4 |
| Recommend: BUS 151 or BIO 156IN or BIO 160IN | | |
| NOTE: The Math Competency must be met. | | |
| Other Requirement | | 3 |
| Recommend: ANT 112 or HIS/MAS/ANT 127 | | |
| Special Requirement | | |
| The C or G requirement should be fulfilled by completing an appropriate course in the above categories. | | |
| Subtotal. | | 12-13¥ |

| Course Number | Course Title | Credit Hours |
|--|---------------------------------------|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| SSE 110 | Introduction to Social Welfare | 3 |
| SSE 111 | Group Work | 3 |
| SSE 121 | Study of Substance Use Disorders | 3 |
| SSE 123 | Prevention of Substance Use Disorders | 3 |
| SSE 205 | Case Report Writing and Documentation | 3 |

| | | |
|------------------|---|-----------|
| SSE 210* | Community Organization and Development | 3 |
| SSE 220 | Treatment of Substance Use Disorders | 3 |
| SSE 222 | Political, Legal and Ethical Aspects of Substance Use | 3 |
| SSE 224 | Substance Use Disorders Among Diverse and Special Needs Populations | 3 |
| SSE 281* | Social Service Delivery Systems (was SSE 212) | 3 |
| SSE 285* | Foundations of Social Work Practice (was SSE 202) | 3 |
| SSE 292* | Social Services Field Experience | 4 |
| SSE Elective | | 3 |
| Subtotal. | | 40 |

Required Support Courses

| | | |
|-----------|--------------------------------------|-----|
| WRT 101 | English Composition I SUN# ENG 1101 | 3 |
| WRT 102 | English Composition II SUN# ENG 1102 | 3 |
| Electives | | 2-5 |

Please see an advisor to select appropriate course work.

| | | |
|-----------------------------------|--|--------------|
| Subtotal. | | 8-11 |
| Total credits as displayed | | 60-64 |

¥ General Education requires 19-21 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Basic Social Services Certificate for Direct Employment

Gain skills and knowledge in dealing with social welfare, service agencies and community groups and the needs of individual clients.

What can I do with this certificate?

Career Options: Enhance employment and promotion opportunities in industry, business and human services.

Academic Options: Pursue other Social Services certificates or a Social Services degree.

Gainful Employment Information: www.pima.edu/ge-crtsocialsrv

Location: West Campus

Department/Contact Information:

Dean: 520-206-7666

Lead Faculty: 520-206-6958

Program/Major Codes: **CRTSOCIALSRV/SSC**

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| SSE 110 | Introduction to Social Welfare | 3 |
| SSE 111 | Group Work | 3 |
| SSE 205 | Case Report Writing and Documentation | 3 |
| SSE 210* | Community Organization and Development | 3 |
| SSE 281* | Social Service Delivery Systems (was SSE 212) | 3 |
| SSE 285* | Foundations of Social Work Practice (was SSE 202) | 3 |
| Total credits as displayed | | 18 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Social Services Substance Use Disorders — Certificate for Direct Employment

Understand drug and alcohol abuse and treatment methods.

What can I do with this certificate?

Career Options: Seek employment or promotion in agencies that provide substance abuse intervention for substance use disorders.

Academic Options: Pursue other Social Services certificates or a Social Services degree.

Gainful Employment Information: www.pima.edu/ge-crtsubstabus

Location: West Campus

Department/Contact Information:

Dean: 520-206-7666

Lead Faculty: 520-206-6958

Program/Major Codes: **CRTSUBSTABUS/SSA**

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| SSE 110 | Introduction to Social Welfare | 3 |
| SSE 121 | Study of Substance Use Disorders | 3 |
| SSE 123 | Prevention of Substance Use Disorders | 3 |
| SSE 220* | Treatment of the Substance Use Disorders | 3 |
| SSE 222* | Political, Legal and Ethical Aspects of Substance Use | 3 |
| SSE 285* | Foundations of Social Work Practice (was SSE 202) | 3 |
| Total credits as displayed | | 18 |

* This course has a prerequisite, co-requisite or recommendation. See course description section.

Social Services Community Health Advisor — Certificate for Direct Employment

Learn how to promote health in a community context and provide direct services to clients.

What can I do with this certificate?

Career Options: Seek employment or promotion in health agencies and disease prevention education services.

Academic Options: Pursue other Social Services certificates or a Social Services degree.

Gainful Employment Information: www.pima.edu/ge-crthealthadv

Location: West Campus

Department/Contact Information:

Dean: 520-206-7666

Lead Faculty: 520-206-6958

Program/Major Codes: **CRTHEALTHADV/CHA**

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| SSE 110 | Introduction to Social Welfare | 3 |
| SSE 170 | Community Health Advisor | 3 |
| SSE 205 | Case Report Writing and Documentation | 3 |
| SSE 293* | Community Health and Development Field Experience | 4 |
| Social Services Elective: Select one course below for 3 credit hours: | | |
| SSE 121, 160, 210* or 242 | | 3 |
| Total credits as displayed | | 16 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Therapeutic Massage

Therapeutic Massage — Certificate for Direct Employment

Learn techniques to alleviate chronic pain, reduce stress, strengthen the immune system, and promote healing through therapeutic massage. Program includes clinical practice in a professional atmosphere and prepares students for the national therapeutic massage and bodywork exam and state licensure.

Before enrolling in this program, you must meet certain requirements.

- Be at least eighteen years old.
- Must have a high school diploma or GED.
- Attend a Therapeutic Massage Program orientation session.
- Complete advising session with Therapeutic Massage faculty.
- Submit application form by due date.
- Complete health declaration, immunizations, drug screening and fingerprinting.
- Obtain an Arizona DPS Fingerprint Clearance Card.
- Be able to perform a number of physical activities in the clinical portion of the program. At a minimum, students will be required to lift patients, stand for several hours at a time and perform bending activities. Students must be able to lift, carry, set up and take down massage tables and chairs. The clinical experience also places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting clients' wellness. Students must be able to demonstrate rational and appropriate behavior in day-to-day situations and under stressful conditions. Students will be required to receive massage which results in increased local and systemic circulation, increased venous return, relaxed muscles and overall relaxation. Individuals should give careful consideration to the mental and physical demands of the program prior to making application.
- Present proof of immunization or immunity for MMR/Varicella/Hep-B.
- Show proof of negative TB skin test or negative chest x-ray for TB.
- Pass a urine toxicology screening exam.
- Maintain health insurance and a CPR card at the Health Care Provider Level throughout the program.
- Complete prerequisite coursework with a grade of C or better prior to entry into the Massage Therapy Practice courses.

What can I do with this certificate?

Career Options: Work as a massage therapist in a variety of wellness, medical and corporate facilities, on cruise ships or as a private practitioner.

Gainful Employment Information: www.pima.edu/ge-crttma

Location: Northwest Campus

Department/Contact Information:

Dean: 520-206-6916

Lead Faculty: 520-206-2263

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| TMA 101 | Introduction to Massage Therapy | 2 |
| TMA 120 | Professionalism and Ethics for Massage Therapists | 2 |
| TMA 201IN* | Therapeutic Massage Practice I | 6 |
| TMA 202IN* | Therapeutic Massage Practice II | 6 |
| TMA 202LC* | Therapeutic Massage Practice Clinical Lab I | 1 |
| TMA 210* | Fundamentals of Kinesiology | 3 |
| TMA 215* | Introduction to Pathology for Massage and Bodywork | 3 |
| TMA 222* | Business Management for Massage and Bodywork | 2 |
| TMA 290LC* | Therapeutic Massage Clinical | 3 |
| TMA 291* | Therapeutic Massage Internship | 1 |
| WED 110 | Introduction to Complementary and Alternative Medicine | 3 |
| WED 111 | Self Care for Personal Wellness | 2 |
| Subtotal. | ..... | 34 |

| Required Support Courses | | |
|-----------------------------------|---|-----------|
| BIO 160IN** | Introduction to Human Anatomy and Physiology..... | 4 |
| MAT 106*** | Elementary Data Analysis with Spreadsheets | 2 |
| STU 100 | College Success and Career Planning..... | 1 |
| WRT 101* | English Composition I SUN# ENG 1101 | 3 |
| Subtotal. | | 10 |
| Total credits as displayed | | 44 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.
 ** BIO 201IN, 201IH, 202IN, or 203IN may substitute for BIO 160IN.
 *** Any MAT class 100 or higher may substitute for MAT 106.

Translation and Interpretation

Translation and Interpretation Studies — Certificate for Direct Employment

Develop your skills in Spanish-English and English-Spanish written translation in the health care, legal, literary and business fields. Courses include both hands-on and theoretical classes, as well as internship opportunities.

Before enrolling in this program, you must score a minimum of 601 on the Spanish WebCAPE (Computerized Adaptive Placement Test) – see <http://www.perpetualworks.com/webcape/overview>.

What can I do with this certificate?

Career Options: Translate written documents between English and Spanish.

Academic Options: Continue your studies by completing the Associate of Arts in Liberal Arts, Translation and Interpretation concentration.

Gainful Employment Information: www.pima.edu/ge-crttranslate

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead Faculty: 520-206-7274

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| TRS 101 | Introduction to Translation and Interpretation | 3 |
| TRS 120IN | Technology for Translation and Interpretation | 2 |
| TRS 160 | Translation in Specialty Areas | 4 |
| TRS 161 | Medical Spanish/English Interpreting | 3 |
| TRS 162 | Introduction to Legal Spanish/English Interpretation | 3 |
| TRS 202 | Interpretation Techniques | 3 |
| TRS 270 | Simultaneous Interpretation | 4 |
| TRS 282 | Advanced Project in Translation | 4 |
| Total credits as displayed | | 26 |

AA in Liberal Arts — Translation and Interpretation Studies Concentration

See the Liberal Arts section for details on the degree requirements.

Truck Driver Training

Become a professional truck driver and prepare for commercial license tests.

Class A Vehicle Driver — Certificate for Direct Employment

Learn the basics of vehicle operation, commercial driver's license requirements, and driving maneuvers. Classes include driving time.

Before you enroll you must: meet admission requirements as outlined by the Truck Driver Training Program

What can I do with this certificate?

Career Options: Driver trainee or co-driver

Location: Community Campus

Department/Contact Information:

Dean: 520-206-6424

Lead Faculty: 520-206-2744

Prerequisite(s): Meet admission requirements as outlined by the Truck Driver Training Program.

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| TDT 118 | Basic Vehicle Operations and Commercial Driver's License Req | 5 |
| TDT 119* | Basic Driving Maneuvers – Class A CDL | 3.5 |
| Total credits as displayed | | 8.5 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Coach/Transit Bus Driver — Certificate for Direct Employment

Gain basic knowledge of coach and transit bus driving. Classes include driving time.

Before you enroll you must: meet admission requirements as outlined by the Truck Driver Training Program

What can I do with this certificate?

Career Options: Coach/Transit Bus driver

Location: Community Campus

Department/Contact Information:

Division Dean: 520-206-6321

Lead Faculty: 520-206-2744

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed above and have been officially admitted to the program. See the website or an advisor for details.

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| TDT 116 | Basic Vehicle Operations - Coach/Transit Bus | 3 |
| TDT 117 | Basic Driving Maneuvers - Coach/Transit Bus | 3 |
| Total credits as displayed | | 6 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Veterinary Technology

Learn to provide veterinary care to animals and how to work in the front office area of veterinary practices.

Veterinary Practice Assistant — Certificate of Direct Employment

Learn how to work in the front office area of veterinary practices. This certificate focuses on medical concepts and communication skills in a veterinary practice.

What can I do with this certificate?

Career Options: Work in the front office area of veterinary practices.

Academic Options: Transfer 6 credits of this certificate to the Associate of Applied Science Degree in Veterinary Technology.

Location: East Campus

Department/Contact Information:

Dean: 520-206-7694

Program Director: 520-206-7414

Program/Major Code: CRTVEP/VEP

| Course Number | Course Title | Credit Hours |
|--|---|--------------|
| Required Core Course - A grade of C or better is required for graduation. | | |
| VET 106* | Veterinary Practice Assistant I | 3 |
| VET 107* | Veterinary Practice Assistant II | 3 |
| VET 108*‡ | Introduction to Veterinary Facility Practices | 6 |
| Total credits as displayed | | 12 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

‡ VET 108 with a grade of C or better may be substituted for VET 100 and 225 in the AAS Veterinary Technician Program.

Veterinary Technician — Associate of Applied Science Degree for Direct Employment

Learn to provide veterinary care to animals, including nutrition, nursing, anesthesiology, radiography and clinical laboratory procedures. Gain practical experience in clinic settings. This program is accredited by the American Veterinary Medical Association.

Before enrolling in this program, in addition to the preparatory coursework listed below you must meet certain requirements:

- Meet the requirements for admission as a credit student at Pima Community College.
- Have preparatory coursework completed with the grade of C or higher.
- Have proof of personal medical insurance. Student health insurance is available through Pima. If you are not able to obtain insurance under your parents' or an employer's policy, student insurance coverage may be available to you from various carriers.
- Have proof of immunizations: pre-exposure rabies vaccination series and tetanus toxoid. Proof of tetanus toxoid in the last 8 years. Rabies immunizations will need to be completed while in the program.
- Complete program admissions procedures. Submit a Program Admission Form.
- Be able to meet physical requirements of lifting at least forty pound animals; restraining dogs, cats, exotic animals, horses, cows, birds, etc.; standing for long periods of time; bending and lifting; having manual dexterity to assist in surgery and having ability to communicate with veterinarians and clients. This is a physically demanding occupational field.

What can I do with this degree?

Career Options: Work as a certified veterinary technician for veterinarians, biological research workers, scientists and business or organizations that provide care for animals. After completion of the program, students apply to take state and national board exams for certification.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima’s Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transfer-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: East Campus

Department/Contact Information:

Dean: 520-206-7694

Program Director: 520-206-7414

Special Admissions Program: You are not fully admitted to this program until you have fulfilled the requirements listed below and have been officially admitted to the program. See the website or an advisor for details.

Program Prerequisites

| | |
|---|------------|
| REA 091* or placement into REA 112*..... | 0-4 |
| MAT 095* or 097* or Module 35 in MAT 089A or 089B or higher, or placement into MAT 151 or higher..... | 0-3 |
| Subtotal. | 0-7 |

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|------------|
| Communication Requirement | † |
| WRT 101 fulfills this requirement. | |
| Arts and Humanities Requirement | 3 |
| Social and Behavioral Sciences Requirement | 3 |
| Mathematics and Science Requirement | † |
| BIO 156IN or 181IN, and the MAT program prerequisite fulfill this requirement. | |
| Other Requirement | † |
| CHM 130IN or 151IN fulfills this requirement | |
| Special Requirement | |
| The C or G requirement should be fulfilled by completing an appropriate course in the above categories. | |
| Subtotal. | .6† |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|----------------------------|---|------------|
| VET 100*† | Introduction to Veterinary Technology | 3 |
| VET 110* | Veterinary Nursing Procedures I | 3 |
| VET 111* | Veterinary Nursing Procedures II | 3 |
| VET 120* | Clinical Pathology I | 3 |
| VET 121* | Clinical Pathology II | 3 |
| VET 130* | Animal Anatomy and Physiology I | 4 |
| VET 131* | Animal Anatomy and Physiology II | 3 |
| VET 150* | Pharmacology | 3 |
| VET 191* | Veterinary Technician Clinical Experience I | 3 |
| VET 200* | Anesthetic and Surgical Nursing | 2 |
| VET 200LB* | Anesthetic and Surgical Nursing Lab | 1 |
| VET 205* | Radiology and Imaging Techniques | 2 |
| VET 205LB* | Radiology and Imaging Techniques Lab | 1 |
| VET 210* | Veterinary Nursing Procedures: Large Animal Care | 1 |
| VET 210LB* | Veterinary Nursing Procedures Lab: Large Animal Care. | 1 |
| VET 211* | Veterinary Nursing Procedures: Avian, Exotic, and Lab Animals | 1 |
| VET 211LB* | Veterinary Nursing Procedures Lab: Avian, Exotic, Lab Animals | 1 |
| VET 220* | Clinical Pathology III | 3 |
| VET 225*† | Veterinary Hospital Procedures | 3 |
| VET 291* | Veterinary Technician Clinical Experience II | 3 |
| Subtotal. | | .47 |

Required Support Courses

| | | | |
|---|----------------------------|---|---------------|
| BIO | 156IN* ^Δ | Introductory Biology for Allied Health..... | 4 |
| | or BIO 181IN* ^Δ | General Biology I: (Majors) SUN# BIO 1181 | |
| CHM | 130IN* ^Δ | Fundamental Chemistry SUN# CHM 1130 | 4 |
| | or CHM 151IN* ^Δ | General Chemistry I SUN# CHM 1151 | |
| STU | 100 | College Success and Career Planning..... | 1 |
| WRT | 101 | English Composition I SUN# ENG1101..... | 3 |
| Subtotal. | | | 12 |
| Total credits as displayed (not including program prerequisites) | | | .65 |
| Total credits as displayed (including program prerequisites) | | | .65-72 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

† Preparatory coursework, core, or support course(s) fulfill this requirement.

‡ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.

‡ VET 108 with a grade of C or better may be substituted for VET 100 and 225.

Δ Biology and Chemistry within the last eight years with a C or better, or met by assessment. If met through assessment, additional courses will be needed to fulfill the General Education Mathematics and Science Requirement and/or the Other Requirement; see advisor for guidance.

Welding

Welding and Fabrication— Associate of Applied Science Degree for Direct Employment

Learn various welding and pipe fabrication techniques.

What can I do with this degree?

Career Options: Entry-level employment as a welder.

Academic Options: While this program was not designed to transfer to a 4-year university, it may apply toward Bachelor of Applied Science (BAS) or other programs. See Pima's Transfer Partnerships (www.pima.edu/current-students/transferring-from-pima/transferring-partnerships.html) page to determine which universities offer BAS programs, and research how the universities may accept this program in transfer.

Location: Downtown Campus

Department/Contact Information:

Dean: 520-206-7134

Lead Faculty: 520-206-7159

Program/Major Codes: **AASWELDING/WLD**

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|------------|
| Communication Requirement | † |
| GTW 101 fulfills this requirement. | |
| Arts and Humanities Requirement | 3 |
| Social and Behavioral Sciences Requirement | 3 |
| Recommend ANT/ARC 205 or HIS 101 | |
| Mathematics and Sciences | † |
| GTM 105 fulfills this requirement. | |
| Other Requirements | † |
| CMN 120 fulfills this requirement | |
| Special Requirement | |
| CMN 120 fulfills this requirement | |
| Subtotal. | .6* |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------------------|--|------------|
| MAC 275* | Applied Metallurgy | 4 |
| WLD 110 | Basic Arc and Oxyacetylene Welding | 4 |
| WLD 115* | Blueprint Reading/Estimating | 4 |
| WLD 160* | Arc Welding | 4 |
| WLD 250* | Pipe Welding | 4 |
| WLD 261 | Gas Metal Arc Welding | 4 |
| WLD 262* | Gas Tungsten Arc Welding | 4 |
| WLD 263* | Layout and Fabrication Welding | 4 |
| Subtotal. | | .32 |

Required Support Courses

| | | |
|---|--|------------|
| CAD 101 | Computer-Aided Drafting..... | 4 |
| CMN 120 | Business and Professional Communications | 3 |
| GTM 105* | Applied Technical Mathematics | 3 |
| GTW 101* | Writing for Trades and Technical Occupations | 3 |
| STU 100 | College Success and Career Planning..... | 1 |
| Technical Electives | ..... | 9 |
| Complete 9 credit hours from the following: BCT, CAD, CSA, MGT, MAC, WLD. | | |
| Subtotal. | | .23 |

Total credits as displayed61

- † Core or support course(s) fulfill this requirement.
- ¥ General Education requires a minimum of 15 credits. This subtotal shows the Gen Ed credits not fulfilled by core or support courses.
- * This course has a prerequisite, co-requisite, or recommendation. See course description section.



Educational Courses

Credit Courses

Credit Course Numbering System and Prerequisites

Courses numbered from 001-099 are those unique to the community college, are considered developmental in nature, are not transferable, and do not satisfy degree requirements.

Courses numbered 100-199 are considered to be on the freshman level. Courses numbered 200-299 are considered to be on the sophomore level.

NOTE: SUN System: SUN# (Shared Unique Number) is a prefix and number assigned to certain courses that represents course equivalency at all Arizona community colleges and the three public universities, no matter what prefix or number is used at the individual institutions. Learn more at www.aztransfer.com/sun.

Sample course listing:

| | | Introduction to American Indian Studies | /3 cr. hrs., /3 periods (3 lec.) | |
|------------------|------------------|---|--|--|
| AIS | 101 | | | |
| course prefix | course number | course title | semester hours of credit | hours of lecture and/or lab per week |
| | | | | |

A student registering for a course must meet the prerequisites or otherwise satisfy the instructor of his or her preparation to take the course. After notification, an instructor may withdraw a student who does not have the proper prerequisites for the class as stated in the catalog. Prerequisites may be waived by the instructor.

Consult the semester Schedule of Classes for specific offerings each semester.

Topics Courses

Courses designated with the numbers **098, 198, 298** are courses created by a Pima Community College faculty member to offer a specific subject not found in the regular courses of the college catalog.

Students should be aware that these courses are NOT designed for transfer to a university, nor does Pima Community College articulate them with any university to seek transfer status.

Legend for Courses

| | | |
|----------|-------|------------------------|
| HC/HN | ..... | Honors Course |
| IN/IH | ..... | Integrated lecture/lab |
| LB | ..... | Lab |
| LC/CA/CB | ..... | Clinical Lab |
| LS | ..... | Skills Lab |
| WK | ..... | Coop Work |

Listing of Course Prefixes

| | |
|--------------------------------------|-----|
| Accounting | ACC |
| Administration of Justice | AJS |
| Agriculture | AGR |
| American Indian Studies | AIS |
| American Sign Language | ASL |
| Anthropology | ANT |
| Arabic | ARB |
| Archaeology | ARC |
| Art | ART |
| Art for Personal Development | APD |
| Astronomy | AST |
| Automotive Technology | AUT |
| Aviation Technology | AVM |
| Avionics Technician Training | ATT |
| Behavioral Health Services | BHS |
| Biology | BIO |
| Building and Construction Technology | BCT |
| Business | BUS |
| Chemistry | CHM |
| Child Development Associate | CDA |
| Chinese | CHI |
| Clinical Research Coordinator | CRC |
| Communication | CMN |
| Computer-Aided Drafting/Design | CAD |
| Computer Information Systems | CIS |
| Computer Software Applications | CSA |
| Crime Scene Management | CSM |
| Culinary Arts | CUL |
| Dance | DNC |
| Dental Assisting Education | DAE |
| Dental Hygiene | DHE |
| Dental Laboratory Technology | DLT |
| Digital Arts | DAR |
| Early Childhood Education | ECE |
| Economics | ECN |
| Education | EDU |
| Education – General/Post Degree | EDC |
| Education – Special/Post Degree | ESE |
| Educational Technology Training | ETT |
| Electrical Utilities Technology | EUT |
| Emergency Medical Technology | EMT |
| Engineering | ENG |
| English as a Second Language | ESL |
| Fashion Design and Clothing | FDC |

| | |
|--|-----|
| Finance | FIN |
| Fire Science | FSC |
| Fitness and Sport Sciences | FSS |
| Fitness and Wellness | FAW |
| Food Science and Nutrition | FSN |
| French | FRE |
| Game Design | GAM |
| Gender and Women's Studies | GWS |
| General Technical Writing | GTW |
| General Technologies Mathematics | GTM |
| Geography | GEO |
| Geology | GLG |
| Geospatial Information Studies | GIS |
| German | GER |
| Global Studies | GLS |
| Health Care | HCA |
| Health Education | HED |
| Health Information Technology | HIT |
| History | HIS |
| Honors Program | HON |
| Hotel and Restaurant Management | HRM |
| Human Resources Management | HRS |
| Humanities | HUM |
| Industrial and Commercial Technologies | ICT |
| Industrial Maintenance | IMO |
| Integrated College Skills | ICS |
| Interpreter Training | ITP |
| Japanese | JPN |
| Journalism | JRN |
| Korean | KOR |
| Landscape Technician | LTP |
| Law Enforcement Academy | LEA |
| Library and Information Sciences | LIS |
| Literature | LIT |
| Logistics and Supply Chain Management | LGM |
| Machine Tool Technology | MAC |
| Management | MGT |
| Marketing | MKT |
| Mathematics | MAT |
| Mechatronics | MCT |
| Medical Assistant | MDA |
| Medical Laboratory Technician | MLT |
| Mexican-American Studies | MAS |
| Music | MUS |
| Music Studio Instruction | MUP |
| Nursing | NRS |
| Nursing Assistant | NRA |
| Paralegal | PAR |
| Pharmacy Technology | PHT |
| Philosophy | PHI |

| | |
|--|-----|
| Phlebotomy | PHB |
| Physics | PHY |
| Political Science | POS |
| Psychology | PSY |
| Radiologic Technology | RAD |
| Reading | REA |
| Religion | REL |
| Reserve Officers Training Corps – ROTC Air Force | MLA |
| Reserve Officers Training Corps – ROTC Army | MLS |
| Reserve Officers Training Corps – ROTC Navy | NSP |
| Respiratory Therapy | RTH |
| Science for Teachers | SCT |
| Social Services | SSE |
| Sociology | SOC |
| Solar Technologies | SLR |
| Spanish | SPA |
| Student Success | STU |
| Surgical Technology | SGT |
| Technology | TEC |
| Theater | THE |
| Therapeutic Massage | TMA |
| Translation and Interpretation Studies | TRS |
| Travel and Tourism Operations | TVL |
| Truck Driver Training | TDT |
| Veterinary Technology | VET |
| Welding | WLD |
| Wellness Education | WED |
| Writing | WRT |
| Yaqui | YAQ |

Accounting

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ACC 100 Practical Accounting Procedures

3 cr. hrs. 3 periods (3 lec.)

Introduction to accounting systems for small businesses. Includes different types of accounts, the general journal and general ledger, adjusting entries, closing entries and the post-closing trial balance; bank accounts, cash funds, and internal control; employee earnings and deductions, accounting for cash and payroll, sales and purchases, cash receipts and cash payments, work sheet and adjusting entries; and financial statements, and closing entries.

ACC 150 Payroll Accounting

3 cr. hrs. 3 periods (3 lec.)

Current practices in payroll accounting and tax reporting. Includes payroll and personnel records, computing and paying wages and salaries, analyzing and journalizing payroll transactions, and computerized payroll systems and payroll projects.

Prerequisite(s): ACC 100 or 211 (or concurrent enrollment in ACC 100 or 211).

ACC 200 Computerized Accounting I

3 cr. hrs. 3 periods (3 lec.)

Fundamental accounting applications using commercial applications software. Includes commercial accounting program modules, accounting projects, electronic spreadsheet as the accounting tool, and accounting information on the Internet.

Prerequisite(s): ACC 100, ACC 150 (or concurrent enrollment in ACC 150) and CSA 110 (or concurrent enrollment in CSA 110).

Information: Prerequisites may be waived with consent of instructor.

ACC 204 Individual Tax Accounting

3 cr. hrs. 3 periods (3 lec.)

Individual income taxes with concentration at federal level. Includes history, assumptions and objectives of federal income tax law. Also includes determination of filing status, exemptions, inclusions, exclusions, adjustments, deductions, credits, tax liability, and reporting requirements; completion of tax returns, and tax planning; use of commercial tax-preparation software; determination of sole proprietorship income and taxes thereon.

ACC 205 Corporate and Partnership Tax Accounting

4 cr. hrs. 4 periods (4 lec.)

Introduction to taxation of business entities and transactions. Also includes taxation of property transactions; various tax issues that apply to different tax entities; tax administration and practice; and the taxation effects of formation, operation, and dissolution of corporations, partnerships, S corporations, trusts and estates.

ACC 206 Topics in Tax Accounting

3 cr. hrs. 3 periods (3 lec.)

Introduction to advanced tax issues facing both individual taxpayers and various taxable entities, including: corporations, partnerships, estates, and trusts. Also includes an emphasis the U.S. tax code and regulations that relate to these parties, examining the complex tax transactions that may affect them. Also included practice and procedure, taxpayer representation, and the filing process.

Information: This course assists in preparation for the IRS Enrolled Agent exam.

ACC 207 IRS Enrolled Agent Exam

3 cr. hrs. 3 periods (3 lec.)

Advanced tax theory and its application in different areas and situations as they relate to passing the IRS Enrolled Agent Exam. Includes individual tax, corporate tax, advanced topics in taxation of individuals, sole proprietorships, partnerships, corporations, fiduciaries, estates, trusts, gifts, representation, practices, and procedures.

Information: This course is designed for students that have taken ACC 204, 205, and 206, OR for tax professionals with extensive experience wishing to take the Enrolled Agent Exam. Upon successful completion of this course, students will be able to sit for the IRS Enrolled Agent exam.

ACC 211 Financial Accounting

3 cr. hrs. 3 periods (3 lec.)

Introduction to accounting as a service activity, analytical discipline, and information system. Includes financial statements and the accounting profession, recording accounting and transactional data, merchandising operations, internal control and ethical issues, asset reporting, reporting and analyzing liabilities and stockholder's equity, statements of cash flow, and performance measurement.

Prerequisite(s): With a C or better: BUS 151, GTM 105, or MAT 092 or completion of module 26 in MAT 089A or 089B or placement into MAT 097 or higher.

ACC 212 Managerial Accounting**3 cr. hrs. 3 periods (3 lec.)**

Accounting information for managers. Includes managerial accounting environment, systems design, cost behavior analysis and use, profit planning, standard costs, and decision making.

Prerequisite(s): ACC 211 with a C or better.

ACC 221 Intermediate Accounting I**3 cr. hrs. 3 periods (3 lec.)**

Comprehensive coverage of financial accounting topics. Includes the accounting environment, accounting information systems, present value applications to accounting problems, cash control, receivables and investments, inventory valuation methods, tangible fixed assets, current and long-term liabilities, and intangible assets.

Prerequisite(s): ACC 211.

ACC 233 Cost Accounting**3 cr. hrs. 3 periods (3 lec.)**

Analysis of cost data for management planning, coordination and control. Includes the role of accounting information in management decision making, the cost function, cost-volume-profit analysis, relevant information for decision making, job costing, process costing, and costing methods. Also includes measuring and assigning support department costs, static and flexible budgets, standard costs and variance analysis, and strategic investment decisions.

Prerequisite(s): ACC 212.

ACC 250 Certified Bookkeeper**3 cr. hrs. 3 periods (3 lec.)**

Advanced topics in the areas of accruals, deferrals, and the adjusted trial balance; correcting common transaction recording errors and the bank reconciliation; payroll accounting and the related Federal and State payroll law requirements; accounting for depreciation with regard to financial and tax accounting purposes; inventory valuation methods; and internal controls and fraud prevention.

Prerequisite(s): ACC 100 or 211.

Information: Upon successful completion, students will be able to sit for a national exam administered by the American Institute of Professional Bookkeepers (AIPB).

ACC 260 Principles of Fraud Examination**3 cr. hrs. 3 periods (3 lec.)**

Overview of the field of fraud examination and examination methodology and detailed examination of the most prevalent fraud schemes. Includes categories of occupational fraud and abuse, asset misappropriation, corruption schemes, accounting principles and fraud examination strategies, fraudulent financial statement schemes, and interviewing witnesses.

Prerequisite(s): ACC 211.

ACC 273 Governmental Accounting**3 cr. hrs. 3 periods (3 lec.)**

Accounting practices and procedures used in governmental units. Includes accounting and financial reporting for governmental and not-for-profit entities, operating state accounts, operating activities, general capital assets and projects, general long term liabilities and debt service, business-type activities of state and local governments, fiduciary activities, financial reporting of state and local governments, and accounting for the non-profit sector.

Prerequisite(s): ACC 211.

ACC 281 QuickBooks Computer Accounting**3 cr. hrs. 3 periods (3 lec.)**

Hands-on experience utilizing current QuickBooks software with accounts receivable, accounts payable, inventory and payroll features to set up and maintain accounting records for a small business.

Prerequisite(s): ACC 100, 150, and 211 (or concurrent enrollment in ACC 211).

Information: Prerequisite(s) may be waived with consent of instructor.

ACC 290 Internship in Accounting**3 cr. hrs. 9 periods (9 lab)**

Supervised internship in an accounting workplace. Includes experiences supervised by a professional in the field.

Information: Consent of instructor is required before enrolling in this course.

ACC 292 Volunteer Income Tax Preparation Field Experience**3 cr. hrs. 9 periods (9 lec.)**

Supervised placement in a volunteer income tax preparation program. Includes tax preparer trainings and preparing free basic income tax returns with electronic filing to qualified individuals. Also includes regular supervisory service with an instructor and agency supervisors.

Information: This course requires 135 hours of training in a volunteer income tax preparation program.

ACC 296 Independent Study in Accounting**.25-3 cr. hrs. .25-3 periods (.25-3 lec.)**

Independent study projects or special interest areas in accounting under the supervision of a faculty member.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of six credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Administration of Justice

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

AJS 101 Introduction to Administration of Justice Systems**3 cr. hrs. 3 periods (3 lec.)**

History and philosophy of administration of justice in America. Includes identifying the various subsystems, role expectations, and their interrelationships, theories of crime, punishment and rehabilitation, ethics, education and training for professionalism in the system, and career opportunities related to local criminal justice agencies.

AJS 109 Criminal Law**3 cr. hrs. 3 periods (3 lec.)**

Historical development and philosophy of law and constitutional provisions. Includes definitions, classifications of crime and their application to the system of administration of justice, legal research, study of case law, methodology, and concepts of law as a social force.

AJS 113 Criminal Justice Crime Control Policies and Practices**3 cr. hrs. 3 periods (3 lec.)**

Focus on changing the distribution of crime opportunities rather than offender motivation. Topics include application of situational crime prevention strategies, problem-oriented crime control approaches, and crime prevention through defensible space.

AJS 115 Criminal Procedures**3 cr. hrs. 3 periods (3 lec.)**

Overview of the criminal justice system used in the United States to adjudicate criminal cases. Includes implications for defendant's rights, the arrest process, the prosecuting attorney, the defense attorney, courts, grand jury, trial jury, judicial process, and its aftermath.

Prerequisite(s): AJS 101 and 109.

AJS 123 Corrections as a Process**3 cr. hrs. 3 periods (3 lec.)**

Overview of corrections as a process and its appropriate place in the criminal justice system. Includes the study of inmate characteristics, prison culture, correctional history and philosophies. Also includes community corrections, supervision and career opportunities in corrections.

AJS 124 Ethics and the Administration of Justice**3 cr. hrs. 3 periods (3 lec.)**

Exploration of ethical issues and the justice system. Includes elements of moral and ethical behavior, principles of justice, and theories of moral development. Also includes ethics of the police, courts, corrections, and modern issues in the administration of justice.

AJS 201 Rules of Evidence**3 cr. hrs. 3 periods (3 lec.)**

The origin, development, philosophy and constitutional basis of evidence. Includes constitutional and procedural considerations affecting arrest and search and seizure. Also includes degrees of evidence and rules governing admissibility, judicial decisions interpreting individual rights, and case studies.

Prerequisite(s): AJS 115.

AJS 204 Criminal Investigations**3 cr. hrs. 3 periods (3 lec.)**

Fundamentals of modern criminal investigation. Includes procedures and skills in search and investigation, conduct at the crime scene, collection and preservation of evidence, developing sources of information, preparation of cases for court prosecution, and report-writing requirements for administration and court use.

AJS 205 Forensic Pathology and Death Investigation**3 cr. hrs. 3 periods (3 lec.)**

Basic principles of forensic pathology, demonstrating the use of autopsy findings and death scene investigation to determine the cause and manner of death for deaths that fall under the jurisdiction of the medical examiner in the state of Arizona. Includes postmortem changes; sudden and unexpected, suspicious and violent deaths; and postmortem identification.

Prerequisite(s): AJS 204.

AJS 210 Police Community and Human Relations**3 cr. hrs. 3 periods (3 lec.)**

Survey of the police officer's role in attaining and maintaining public support. Includes recognition and understanding of community problems, community action programs, methods of coping with crisis situations, ethnic and minority cultures, various environments, crime prevention, and police operations in relation to these cultures and environments.

AJS 212 Juvenile Justice Procedures**3 cr. hrs. 3 periods (3 lec.)**

The course will examine the causes, responses and prevailing legal and social practices concerning delinquency in America. Includes issues pertaining to the family, schools, gang membership, drug use and youth victimization. Also includes the juvenile justice system including the history and philosophy of the juvenile court, court decision-making, sentencing practices, diversion, institutionalization, community supervision and how it interfaces with the administration of justice.

AJS 225 Criminology**3 cr. hrs. 3 periods (3 lec.)**

Survey of the nature, extent and control of crime and delinquency. Includes comparison of theoretical and practical approaches to causation, prevention, punishment and treatment, and current problems.

AJS 246 Race and Ethnicity Issues in the Administration of Justice**3 cr. hrs. 3 periods (3 lec.)**

The course examines the impact of cultural diversity on law enforcement to include a discussion of cultural awareness, bias, prejudice, training, recruitment and cross cultural communication. Police challenges in engaging with specific racial/ethnic groups are examined, to include Asian/Pacific Americans, African-Americans, Latino/Hispanic Americans, Arab Americans, Native Americans and others. Homeland security concerns, racial profiling and hate crimes are also addressed.

AJS 260 Criminal Justice Management**3 cr. hrs. 3 periods (3 lec.)**

A practical examination of the challenges of criminal justice management. Includes unique requirements for these agencies and departments, as differentiated from non-governmental organizations; management theories as applied to criminal justice agencies; effective communication, leadership styles, budgets, decision making, and model management practices. Also includes special problems such as managing difficult or unethical employees; use of force issues; sexual and gender harassment; and work force issues including recruitment, retention, diversity, and training.

Information: Consent of instructor is required before enrolling in course.

AJS 265 Issues in Administration of Justice**1 cr. hrs. 2 periods (.5 lec., 1.5 lab)**

Capstone course for the Administration of Justice Studies program. Students wishing to receive an Associate of Arts degree in Administration of Justice Studies, must successfully complete the projects that encompass the competencies assigned to the six AJS program outcomes.

Prerequisite(s): AJS 101, AJS 109, AJS 115, AJS 124, AJS 201, AJS 204, AJS 225.

Information: Completion of all core AJS courses is required before enrolling in this course. Student may repeat course until passing. Application and acceptance to program is required.

AJS 280 Terrorism in the 21st Century**3 cr. hrs. 3 periods (3 lec.)**

Exploration into the definition, history, cause, and goals of terrorism. Includes identification of terrorists and their motivations and examination of tactics used by terrorists in pursuit of their goals. Also includes methods used to combat terrorism including intelligence collection, security measures, diplomacy, legal and political responses.

AJS 290 Administration of Justice Studies Internship**3 cr. hrs. 9- periods (9 lab)**

Supervised internship in a governmental, private or non-profit justice-related organization. Includes placement with law offices, courts, law enforcement agencies, investigative agencies, or corrections agencies (to include probation and reentry) and with organizations responsible for criminal rehabilitation, crime prevention, victim services, or crime policy.

Prerequisite(s): WRT 101, AJS 101, 109, 124

Information: Completion of 12 credit hours of Administration of Justice Studies courses are required before enrolling in this course. May take this course one time during last year of full-time study in the Administration of Justice Studies (AJS) program. Application and acceptance to program is required.

Agriculture

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

AGR 185 Careers in Crop Production**1 cr. hrs. 1 periods (1 lec.)**

Exploration of career opportunities in crop production. Includes exposure to a broad array of relevant careers working with field crops, permanent tree crop production, turf science, and a variety of horticultural crops grown throughout the western United States and other regions of the world. Also includes career management; and preparation of a resume, cover letter, and internship proposal.

AGR 200IN Introduction to Soil Science**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Basic principles of soil as a component of terrestrial ecosystems. Includes the composition of soil and its operation within the overall biosphere. Also includes soil as a medium for plant growth in croplands, rangelands, and forest lands. Also includes the role of soils in environmental quality, health, water resources, erosion, recreation, and wildlife.

Prerequisite(s): CHM151IN

Information: IN is the integrated version of the course with the lecture and lab taught simultaneously.

American Indian Studies

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

AIS 101 Introduction to American Indian Studies I**3 cr. hrs. 3 periods (3 lec.)**

Examination of the diversity of American Indian tribes. Includes origins and traditions, Native American cultures and geographic subsistence, women's roles and responsibilities, spirituality and world views, and values and value systems. Also includes early education, socialization, and importance of extended family, history of tribal sovereignty and governance, health and curing, and encounters and reactions with early Europeans.

AIS 122 Tohono O'odham History and Culture**3 cr. hrs. 3 periods (3 lec.)**

Survey of Tohono O'odham culture, historical development, and modern issues. Includes development of culture and world view, sources of Tohono O'odham history, role in economic and social development of Northwestern Mexico and Southwestern United States, and contemporary Tohono O'odham issues.

Information: Same as HIS 122.

AIS 124 History and Culture of the Yaqui People**3 cr. hrs. 3 periods (3 lec.)**

Survey of the cultural heritage of the Yaqui people and the history of their struggles to protect Yaqui land and customs. Includes Yaqui origins, pre-Columbian Yaqui society, oral traditions and world view, early Spanish contacts, Catholic influences, economic development; rebellions, resistance and leadership; and policies regarding Native Americans. Also includes the deportation and enslavement of the Yaqui from the 17th to the 20th centuries by the Spanish and American governments and the deportation of the Yaqui by the United States in the 1880's. Also examines acts of genocide and subjugation against the Yaqui in revolutionary Mexico, 20th century relocation and adaptation strategies of the Yaqui in the United States and the Yaqui culture of the 21st century.

Information: Same as HIS 124.

AIS 148 History of Indians of North America**3 cr. hrs. 3 periods (3 lec.)**

History of the cultural development of Native Americans of North America and the interrelations of cultures. Includes Native American origins, early economic and social development, Europeans, eras in Native American history, modern leadership, and research studies.

Information: Same as ANT/HIS 148.

AIS 205 Introduction to Southwestern Prehistory**3 cr. hrs. 3 periods (3 lec.)**

Study of the prehistory of the American Southwest from its earliest inhabitants to European contact. Includes anthropology and its subfields, basics of archaeology, the Southwest, Paleoindians, archaic peoples; Hohokam, Mogollon, Anasazi, and other Southwestern cultures; and late prehistoric and historic cultural change.

Information: Same as ANT/ARC 205.

AIS 206 Contemporary Native Americans of the Southwest**3 cr. hrs. 3 periods (3 lec.)**

Survey of Native American cultures with emphasis on peoples of the Southwestern United States and northern Mexico. Includes overview of Native groups in the Southwestern United States and northern Mexico, environmental zones and modes of production, cultural and linguistic diversity, cultural configurations, Pan- Native American issues, and frameworks for understanding Native American culture and experience.

Information: Same as ANT 206.

American Sign Language

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ASL 050 Conversational Sign Language I**3 cr. hrs. 3 periods (3 lec.)**

Introduction to conversational sign language skills. Includes basic sign vocabulary, d/Deaf culture, and an overview of communications systems.

ASL 101 American Sign Language I**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to American Sign Language (ASL). Includes: parameters; syntax; sentence types; facial expressions and body language; pronominalization; nouns and verbs; modals; sign space; time line and time modulations; classifiers; pluralizations; and deaf history and culture. Also includes: fingerspelling numbers; lexicalized fingerspelling; conceptual accuracy; sign modulation; conversational regulators; basic compounds and contractions; and existence of regional dialects/sign and language variations. Because language and culture are inextricably linked, this course will also demonstrate how ASL conveys the values, beliefs, customs, and history of American Deaf culture.

Information: Students will be required to perform an additional 10 lab hours outside of the regular classroom schedule.

This lab experience is designed to provide a "signing only" environment for students to practice classroom skills with Deaf tutors; expose students to communication in a Deaf environment; and provide students with real life exposure to the Deaf community. This class is conducted primarily without voice.

ASL 102 American Sign Language II**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of ASL 101. Includes: parameters; syntax; sentence types; facial expression and body language; sign space; pronominalization; nouns/verbs; time line; classifiers; pluralizations; deaf culture; and fingerspelling numbers. Also includes conceptual accuracy, modulations, sight line, lexicalized fingerspelling, contractions, direct address, conjunctions, model stories, history of sign, language variations, sign continuum, and how people hear. Because language and culture are inextricably linked, this course will also demonstrate how ASL conveys the values, beliefs, customs, and history of American Deaf culture.

Prerequisite(s): ASL 101 with a grade of C or better.

Information: Students will be required to perform an additional 10 lab hours outside of the regular classroom schedule.

This lab experience is designed to provide a "signing only" environment for students to practice classroom skills with Deaf tutors; expose students to communication in a Deaf environment; and provide students with real life exposure to the Deaf community. This class is conducted primarily without voice.

ASL 105 Beginning Fingerspelling and Numbers**3 cr. hrs. 3 periods (3 lec.)**

Enhancement of receptive and expressive ASL skills with a focus on fingerspelling and numbers. Also includes practice in specific skills that underlie the fingerspelled word recognition process. Also includes contextual practice for correctly recognizing and producing fingerspelled and numbered words.

Prerequisite(s): ASL 102.

Information: Additional lab hours are required outside of regularly scheduled class.

ASL 200 Introduction to the Deaf Community**3 cr. hrs. 3 periods (3 lec.)**

Macroscopic view of culture and microscopic view of the Deaf life experience through culture and language. Includes cross-cultural interactions between deaf and hearing people. Also includes the history of the Deaf community, Deaf education, Deaf technologies, Deaf employment, historical trends and Deaf services.

Prerequisite(s): ASL 201 with a grade of B or better.

ASL 201 American Sign Language III**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of ASL 102. Includes sentence order, modulation/inflection, prosody, sign space usage, conceptual accuracy, sign vocabulary, and deaf culture and history. Because language and culture are inextricably linked, this course will also demonstrate how ASL conveys the values, beliefs, customs, and history of American Deaf culture.

Prerequisite(s): ASL 102 with a grade of C or better.

Information: Students will be required to perform an additional ten lab hours outside of regular classroom schedule. The lab experience is designed to provide a "signing only" environment for students to practice classroom skills with Deaf tutors; expose students to communication in a Deaf environment; provide students with real life exposure to the Deaf community. This class is conducted primarily without voice.

ASL 202 American Sign Language IV**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of ASL 201. Includes: use of sign space; conceptual accuracy; directionality; mimetic description; dialects; numerical applications; American Sign Language (ASL) expansions; English words with no direct ASL translation; English passive voice to ASL active voice; rendering ASL and English passages; current cultural issues; and the field of interpreting. Because language and culture are inextricably linked, this course will also demonstrate how ASL conveys the values, beliefs, customs, and history of American Deaf culture.

Prerequisite(s): ASL 201 with a grade of C or better.

Information: Students will be required to perform an additional ten lab hours outside of regular classroom schedule. The lab experience is designed to provide a "signing only" environment for students to practice classroom skills with Deaf tutors; expose students to communication in a Deaf environment; provide students with real life exposure to the Deaf community. This class is conducted primarily without voice.

ASL 203 Comparative Analysis of ASL and English**3 cr. hrs. 3 periods (3 lec.)**

Enhanced study of the fundamental principles and cognitive processing of American Sign Language. Includes a further study of the Deaf community and Deaf culture.

Prerequisite(s): ASL 201 with a grade of B or better, and WRT 102.

Information: This course is recommended for students who have finished ASL 202 or ASL departmental approval and desire further study and review. Students may be expected to attend outside events at their own expense.

ASL 204 Discourse Features in ASL**3 cr. hrs. 3 periods (3 lec.)**

This course is an overview of ASL discourse. Includes discourse structure, language, variation, genre, register, prosody, cohesion, take-turning, back-channeling and gendered communication. Also includes transcription conventions for noting language samples.

Prerequisite(s): ASL 202 with a grade of B or better

ASL 205 Advanced Fingerspelling and Numbers**3 cr. hrs. 3 periods (3 lec.)**

Continued enhancement of both receptive and expressive ASL skills with a focus on fingerspelling and numbers. Includes improved fingerspelled word recognition and expression by providing theoretical information, practice in specific skills that underlie the fingerspelled word recognition process. Also includes practice in correctly recognizing and producing fingerspelled words in context.

Prerequisite(s): ASL 202 with a grade of B or higher.

ASL 206 American Sign Language V**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Development of ASL receptive and expressive fluency. Also includes understanding the linguistic features of ASL and in enhancing understanding of deaf community and culture.

Prerequisite(s): ASL 202 with a grade of C or higher

ASL 215 ASL Literature: Narratives**3 cr. hrs. 3 periods (3 lec.)**

This course is a continuation of the major grammatical features of American Sign Language (ASL) to develop communicative and interactive competencies in the culture and language of the Deaf. Includes a focus on ASL literature by introducing students to ASL storytelling techniques, film analysis, story analysis, and its techniques. Also includes ASL narratives, classifiers and perspectives.

Prerequisite(s): ASL 200 and 202 with a grade of B or better.

Information: This course is taught in ASL and utilizes receptive skills through ASL literature and media. Students are expected to experiment with ASL storytelling and the use of classifier techniques. Additional hours may be required outside of the regularly scheduled class.

ASL 296 Independent Study in Sign Language**1-3 cr. hrs. 3-9 periods (3-9 lab)**

Exploration of special interest areas in sign language and deaf cultures. Includes extensive practice of sign language skills and in depth study of deaf cultures involving literature, grammar, and special projects under the supervision of the instructor.

Prerequisite(s): ASL 102.

Information: Student must have consent of instructor.

Anthropology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ANT 101 Human Origins and Prehistory**3 cr. hrs. 3 periods (3 lec.)**

Survey of biological anthropology and archaeology. Includes Anthropology and its subfields, the development of evolutionary theory, modern human variation, primates, paleoanthropology and archaeology, and the emergence of the human species from its origins.

Information: Same as ARC 101.

ANT 102 Introduction to Cultural Anthropology and Linguistics**3 cr. hrs. 3 periods (3 lec.)**

Survey of human societal structure. Includes sub-fields of anthropology, sub-disciplines and topics, historical origins, influences, key figures, theory and methods. Also includes an introduction to the comparative study of cultures.

ANT 110 Buried Cities and Lost Tribes**3 cr. hrs. 3 periods (3 lec.)**

Exploration of some of the most important events in the human past around the world. Includes an introduction to the methods of archaeology and how archaeologists learn about the past, origins and spread of modern humans, origins of domestication, and the development of social complexity in different times and places, and current issues in archaeology.

Information: Same as ARC 110.

ANT 112 Exploring Non-Western Cultures**3 cr. hrs. 3 periods (3 lec.)**

Anthropological survey of non-Western cultures. Includes major terms and concepts used in sociocultural anthropology, research methods, and relevant theories of the field. Also includes major cultural characteristics of pre-colonial, non-Western, subsistence cultures; cross-cultural comparisons and contrasts with the post-colonial era; and considering a global context.

Prerequisite(s): WRT 101.

Information: Course meets the AGEC Special Requirements of "I" (Intensive Writing), "C" (Cultural Diversity) and "G" (Global Awareness). Students will have writing assignments that require college level skills, and writing quality will be graded.

ANT 127 History and Culture of the Mexican-American in the Southwest**3 cr. hrs. 3 periods (3 lec.)**

Historical survey of Mexicano(a)/Chicano(a) people from their indigenous origins in Meso-America and the Gran Chichimeca to the present in the United States. Includes historical writings, movements north under Spain and Mexico, repression and resistance. Also covers the political, economic, religious and social movements of the 19th, 20th and early 21st centuries.

Prerequisite(s): WRT 101.*Information:* Same as HIS 127 and MAS 127.**ANT 148 History of Indians of North America****3 cr. hrs. 3 periods (3 lec.)**

History of the cultural development of Native Americans of North America and the interrelations of cultures. Includes Native American origins, early economic and social development, Europeans, eras in Native American history, modern leadership, and research studies.

Information: Same as AIS/HIS 148.**ANT 180 Artifact Identification: Tucson Basin****1 cr. hrs. 2 periods (.5 lec., 1.5 lab)**

Introduction to the recognition, identification, and classification of the various types of artifacts recovered from local archaeological sites. Includes an overview of prehistoric ceramics in the Tucson Basin, flaked stone technology, ground stone tool identification, animal bone, marine shell artifacts and historical artifacts.

Information: Same as ARC 180.**ANT 181 Global Positioning Systems Basics****1 cr. hrs. 1 periods (1 lec.)**

Introduction to the use of Global Positioning Systems (GPS) receivers in a field setting for non-technical applications. Includes GPS vocabulary, operation, field data collection and data transfer. Also includes using equipment, resources and facilities of the Archaeology Centre.

Information: Same as ARC/GIS 181.**ANT 202 Sexuality, Gender and Culture****3 cr. hrs. 3 periods (3 lec.)**

Anthropological examination of gender identity, roles, relations, and variation. Includes theories and methods of the anthropology of sex and gender, historical origins and development of the sub-discipline, and sex, gender and sexuality in cross-cultural, ethnographic perspective. Also includes selected case studies and cross-cultural frameworks for analysis.

Information: Same as GWS 202.**ANT 204IN Human Evolution: Ape Men, Cave Women and Missing Links****4 cr. hrs. 5 periods (3 lec., 2 lab)**

Study of human evolution and variation. Includes human genetics and variation, the human skeleton, primate anatomy and behavior, the fossil evidence for human evolution, biocultural evolution, and application of the concepts of biological anthropology in a laboratory setting.

Information: Same as ARC 204IN.**ANT 205 Introduction to Southwestern Prehistory****3 cr. hrs. 3 periods (3 lec.)**

Study of the prehistory of the American Southwest from its earliest inhabitants to European contact. Includes anthropology and its subfields, basics of archaeology, the Southwest, Paleoindians, archaic peoples; Hohokam, Mogollon, Anasazi, and other Southwestern cultures; and late prehistoric and historic cultural change.

Information: Same as AIS/ARC 205.**ANT 206 Contemporary Native Americans of the Southwest****3 cr. hrs. 3 periods (3 lec.)**

Survey of Native American cultures with emphasis on peoples of the Southwestern United States and Northern Mexico. Includes overview of Native groups in the Southwestern United States and northern Mexico, environmental zones and modes of production, cultural and linguistic diversity, cultural configurations, Pan- Native American issues, and frameworks for understanding Native American culture and experience.

Information: Same as AIS 206.

ANT 210 Cultural Anthropology**3 cr. hrs. 3 periods (3 lec.)**

Exploration of the study of culture. Includes discussion of cultural anthropology as a subfield of anthropology, theoretical perspectives and analysis, survey of research methods for collection and analysis of data, an examination of cultural diversity through ethnographic studies, and ethical issues in anthropological research and ethnographic studies.

Prerequisite(s): WRT 101.

ANT 215 The Nature of Language**3 cr. hrs. 3 periods (3 lec.)**

Introduction to anthropological linguistics. Includes the history of linguistics, descriptive linguistics, sociolinguistics, and language and culture. Also includes key topics in linguistics, including language acquisition, cultural diversity, language and education, and ethical issues.

ANT 225 Principles of Archaeology**3 cr. hrs. 4 periods (2.5 lec., 1.5 lab)**

Survey of the concepts and methods which archaeologists use to reconstruct human prehistory. Includes a history of archaeology; overview of archaeological theory, discussion of methods of archaeological survey, remote sensing, and excavation; dating methods; archaeological analysis and classification; interpretation of archaeological data; and the role of archaeology in the protection of archaeological resources.

Information: Same as ARC 225.

ANT 250 Archaeology Laboratory**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Laboratory experience in the curating, processing and analysis of artifacts recovered from archaeological sites. Includes human osteology, zooarchaeology, lithic analysis, prehistoric ceramics, shells, historic artifacts, and usage of the Archaeology Centre.

Prerequisite(s): ANT/ARC 180 or 275 or 276.

Information: Prerequisite(s) may be waived with consent of instructor. Same as ARC 250.

ANT 253 Death and Dying Across Cultures**3 cr. hrs. 3 periods (3 lec.)**

Introduction to death and dying in various cultures. Includes developmental aspects of death and grieving, world view, cultural views of the dying process, ethical issues in death across cultures, socio-political implications in the treatment of dead bodies, disposition of the corpse, and grieving and bereavement.

ANT 265 Mapping Concepts**1 cr. hrs. 1 periods (1 lec.)**

Introduction to the practical use of maps. Includes map basics and attributes, scales and measurements, direction, geographic coordinate systems, relief and contours, and aerial photography.

Information: Same as ARC/GEO/GIS 265.

ANT 267 Introduction to Geographic Information Systems**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to geographic information systems (GIS) using the industry standard ESR software. Includes data types, data management, coordinate systems and map production. Also includes understanding attribute data, basic editing and queries using SQL.

Prerequisite(s): ANT/ARC/GEO/GIS 265 or concurrent enrollment.

Information: Prerequisite may be waived with consent of instructor. Basic computer skills are required before enrolling in this course. Same as GEO/GIS 267.

ANT 275 Archaeological Excavation I**3 cr. hrs. 9 periods (9 lab)**

Introduction to the techniques and principles of archaeological excavation. Includes field mapping, excavation, recording, and laboratory processing methods, with field experience in Southern Arizona. Also includes culture history, archaeological ethics, and an overview of cultural resource management. Uses museum collections, equipment, resources and facilities of the Archaeology Centre.

Information: Same as ARC 275.

ANT 276 Archaeological Surveying I**3 cr. hrs. 9 periods (9 lab)**

Introduction to the techniques and methods of archaeological surveying. Includes the application of field techniques for planning an archaeological survey; instrument use; identifying and recording artifacts, archaeological sites, and associated natural resources; survey methods; and site recording and mapping, with field experience in Southern Arizona. Also includes culture history, archaeological ethics, and an overview of cultural resource management. Uses museum collections, equipment, resources and facilities of the Archaeology Centre.

Recommendation: Completion of or concurrent enrollment in ANT/ARC 180.

Information: Same as ARC 276.

ANT 277 Archaeological Excavation II**3 cr. hrs. 9 periods (9 lab)**

Advanced techniques and principles of archaeological excavation. Includes advanced field mapping, excavation, recording, field crew supervision, and data synthesis, with field experience in Southern Arizona. Also includes culture history, archaeological ethics, and issues of cultural resource management. Uses museum collections, equipment, resources and facilities of the Archaeology Centre.

Prerequisite(s): ANT/ARC 275.

Recommendation: Completion of (or concurrent enrollment in): AIS/ANT/ARC 205 and ANT/ARC/GIS 265. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Same as ARC 277.

ANT 278 Archaeological Surveying II**3 cr. hrs. 9 periods (9 lab)**

Advanced techniques and principles of archaeological surveying. Includes advanced methods for survey planning, archival research, field survey, site recording, mapping, and data synthesis, with field experience in Southern Arizona. Also includes culture history, archaeological ethics, and issues of cultural resource management. Uses museum collections, equipment, resources and facilities of the Archaeology Centre.

Prerequisite(s): ANT/ARC 276.

Recommendation: Completion of (or concurrent enrollment in): AIS/ANT/ARC 205 and ANT/ARC/GIS 265. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Same as ARC 278.

ANT 281 Global Positioning Systems**1 cr. hrs. 3 periods (3 lab)**

Introduction to the technical use of Global Positioning Systems (GPS) receivers in a field setting. Includes review of GPS vocabulary and concepts, comprehensive initialization of handheld GPS receivers, data collection with handheld GPS, the use of mapping software with data from handheld GPS, concepts of differential GPS, operation of and field data collection with precision GPS, and use of software packages for differential correction and map production. Also includes using equipment, resources and facilities of the Archaeology Centre.

Prerequisite(s): ANT/ARC/GIS 181

Information: Prerequisite may be waived with equivalent experience or consent of instructor. Same as ARC/GIS 281.

ANT 284 Computer Cartography and CAD**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Cartographic techniques and hardware for computer generation of maps. Includes an introduction to: methods and techniques, and application projects.

Prerequisite(s): ANT/ARC/GEO/GIS 265 or concurrent enrollment.

Information: Same as ARC/GIS 284.

ANT 286 Electronic and Digital Field Mapping**3 cr. hrs. 6 periods (1.5 lec., 4.5 lab)**

Overview of the creation of electronic and digital maps in a field setting. Includes an introduction to: instrument operation, field data, producing maps, and computer applications.

Prerequisite(s): ANT/ARC 265 and ANT/ARC/GIS 281.

Recommendation: Consult instructor for alternative prerequisite(s).

Information: Same as ARC/GIS 286.

ANT 295 Field Projects**.5-4 cr. hrs. 1.5-12 periods (1.5-12 lab)**

Participation in a field project in one of the subfields of anthropology.

Information: Same as ARC 295. Consent of instructor is required before enrolling in this course.

ANT 296 Independent Studies in ANT/ARC**.5-4 cr. hrs. .5-4 periods (.5-4 lec.)**

Independent study in anthropology or archaeology. Includes topic identification, research plan, data gathering, and presentation of findings.

Information: Consent of instructor is required before enrolling in this course. May be taken three times for a maximum of 12 credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Same as ARC 296.

Arabic

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ARB 101 Elementary Modern Standard Arabic I**4 cr. hrs. 4 periods (4 lec.)**

Introduction to modern standard Arabic language. Includes modern standard Arabic alphabet, grammatical structures, interpersonal transactions, and cultural contexts. Also includes speaking, listening, reading, and writing of Arabic.

ARB 102 Elementary Modern Standard Arabic II**4 cr. hrs. 4 periods (4 lec.)**

Continuation of ARB 101. Includes additional uses of Modern Standard Arabic alphabet, grammatical structures interpersonal transactions and protocols, and cultural contexts. Also includes additional speaking, listening, reading, and writing of Arabic.

Prerequisite(s): ARB 101.

Archaeology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ARC 060 Artifacts and Sites of Tucson**.5 cr. hrs. .5 periods (.5 lec.)**

Overview of the artifacts and archaeological sites of the Tucson Basin. Includes using museum collections, equipment, resources and facilities of the Archaeology Centre.

Information: Field trip is part of the course.

ARC 062 Stone Tool Making**.5 cr. hrs. .5 periods (.5 lec.)**

Introduction to the production of chipped stone tools. Includes using museum collections, equipment, resources and facilities of the Archaeology Centre.

ARC 093 Archaeology Workshop**.5-3 cr. hrs. .5-3 periods (.5-3 lec.)**

Workshop with an emphasis on field and lab techniques. Includes using museum collections, equipment, resources and facilities of the Archaeology Centre or equivalent.

ARC 101 Human Origins and Prehistory**3 cr. hrs. 3 periods (3 lec.)**

Survey of biological anthropology and archaeology. Includes Anthropology and its subfields, the development of evolutionary theory, modern human variation, primates, paleoanthropology and archaeology, and the emergence of the human species from its origins.

Information: Same as ANT 101.

ARC 110 Buried Cities and Lost Tribes**3 cr. hrs. 3 periods (3 lec.)**

Exploration of some of the most important events in the human past around the world. Includes an introduction to the methods of archaeology and how archaeologists learn about the past, origins and spread of modern humans, origins of domestication, and the development of social complexity in different times and places, and current issues in archaeology.

Information: Same as ANT 110.

ARC 180 Artifact Identification: Tucson Basin**1 cr. hrs. 2 periods (.5 lec., 1.5 lab)**

Artifact Identification: Tucson Basin Introduction to the recognition, identification, and classification of the various types of artifacts recovered from local archaeological sites. Includes an overview of prehistoric ceramics in the Tucson Basin, flaked stone technology, ground stone tool identification, animal bone, marine shell artifacts and historical artifacts.

Information: Same as ANT 180.

ARC 181 Global Positioning Systems Basics**1 cr. hrs. 1 periods (1 lec.)**

Introduction to the use of Global Positioning Systems (GPS) receivers in a field setting for non-technical applications. Includes GPS vocabulary, operation, field data collection and data transfer. Also includes using equipment, resources and facilities of the Archaeology Centre.

Information: Same as ANT/GIS 181.

ARC 204IN Human Evolution: Ape Men, Cave Women and Missing Links**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Study of human evolution and variation. Includes human genetics and variation, the human skeleton, primate anatomy and behavior, the fossil evidence for human evolution, biocultural evolution, and application of the concepts of biological anthropology in a laboratory setting.

Information: Same as ANT 204IN.

ARC 205 Introduction to Southwestern Prehistory**3 cr. hrs. 3 periods (3 lec.)**

Study of the prehistory of the American Southwest from its earliest inhabitants to European contact. Includes anthropology and its subfields, basics of archaeology, the Southwest, Paleoindians, archaic peoples; Hohokam, Mogollon, Anasazi, and other Southwestern cultures; and late prehistoric and historic cultural change.

Information: Same as AIS/ANT 205.

ARC 225 Principles of Archaeology**3 cr. hrs. 4 periods (2.5 lec., 1.5 lab)**

Survey of the concepts and methods which archaeologists use to reconstruct human prehistory. Includes a history of archaeology; overview of archaeological theory, discussion of methods of archaeological survey, remote sensing, and excavation; dating methods; archaeological analysis and classification; interpretation of archaeological data; and the role of archaeology in the protection of archaeological resources.

Information: Same as ANT 225.

ARC 250 Archaeology Laboratory**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Laboratory experience in the curating, processing and analysis of artifacts recovered from archaeological sites. Includes human osteology, zooarchaeology, lithic analysis, prehistoric ceramics, shells, historic artifacts, and usage of the Archaeology Centre.

Prerequisite(s): ANT/ARC 180 or 275 or 276.

Information: Prerequisite(s) may be waived with consent of instructor. Same as ANT 250.

ARC 265 Mapping Concepts**1 cr. hrs. 1 periods (1 lec.)**

Introduction to the practical use of maps. Includes map basics and attributes, scales and measurements, direction, geographic coordinate systems, relief and contours, and aerial photography.

Information: Same as ANT/GEO/GIS 265.

ARC 267 Introduction to Geographic Information Systems**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to geographic information systems (GIS) using the industry standard ESR software. Includes data types, data management, coordinate systems and map production. Also includes understanding attribute data, basic editing and queries using SQL.

Prerequisite(s): ANT/ARC/GEO/GIS 265 or concurrent enrollment.

Information: Prerequisite may be waived with consent of instructor. Basic computer skills are required before enrolling in this course. Same as GEO/GIS 267.

ARC 275 Archaeological Excavation I**3 cr. hrs. 9 periods (9 lab)**

Introduction to the techniques and principles of archaeological excavation. Includes field mapping, excavation, recording, and laboratory processing methods, with field experience in Southern Arizona. Also includes culture history, archaeological ethics, and an overview of cultural resource management. Uses museum collections, equipment, resources and facilities of the Archaeology Centre.

Information: Same as ANT 275.

ARC 276 Archaeological Surveying I**3 cr. hrs. 9 periods (9 lab)**

Introduction to the techniques and methods of archaeological surveying. Includes the application of field techniques for planning an archaeological survey; instrument use; identifying and recording artifacts, archaeological sites, and associated natural resources; survey methods; and site recording and mapping, with field experience in Southern Arizona. Also includes culture history, archaeological ethics, and an overview of cultural resource management. Uses museum collections, equipment, resources and facilities of the Archaeology Centre.

Recommendation: Completion of or concurrent enrollment in ANT/ARC 180.

Information: Same as ANT 276.

ARC 277 Archaeological Excavation II**3 cr. hrs. 9 periods (9 lab)**

Advanced techniques and principles of archaeological excavation. Includes advanced field mapping, excavation, recording, field crew supervision, and data synthesis, with field experience in Southern Arizona. Also includes culture history, archaeological ethics, and issues of cultural resource management. Uses museum collections, equipment, resources and facilities of the Archaeology Centre.

Prerequisite(s): ANT/ARC 275.

Recommendation: Completion of (or concurrent enrollment in): AIS/ANT/ARC 205 and ANT/ARC/GIS 265. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Same as ANT 277.

ARC 278 Archaeological Surveying II**3 cr. hrs. 9 periods (9 lab)**

Advanced techniques and principles of archaeological surveying. Includes advanced methods for survey planning, archival research, field survey, site recording, mapping, and data synthesis, with field experience in Southern Arizona. Also includes culture history, archaeological ethics, and issues of cultural resource management. Uses museum collections, equipment, resources and facilities of the Archaeology Centre.

Prerequisite(s): ANT/ARC 276.

Recommendation: Completion of (or concurrent enrollment in): AIS/ANT/ARC 205 and ANT/ARC/GIS 265. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Same as ANT 278. Consult instructor for alternative prerequisite(s).

ARC 281 Global Positioning Systems**1 cr. hrs. 3 periods (3 lab)**

Introduction to the technical use of Global Positioning Systems (GPS) receivers in a field setting. Includes review of GPS vocabulary and concepts, comprehensive initialization of handheld GPS receivers, data collection with handheld GPS, the use of mapping software with data from handheld GPS, concepts of differential GPS, operation of and field data collection with precision GPS, and use of software packages for differential correction and map production. Also includes using equipment, resources and facilities of the Archaeology Center.

Prerequisite(s): ANT/ARC/GIS 181

Information: Prerequisite may be waived with equivalent experience or consent of instructor. Same as ANT/GIS 281.

ARC 284 Computer Cartography and CAD**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Cartographic techniques and hardware for computer generation of maps. Includes an introduction to: methods and techniques, and application projects.

Prerequisite(s): ANT/ARC/GEO/GIS 265 or concurrent enrollment.

Information: Same as ANT/GIS 284.

ARC 286 Electronic and Digital Field Mapping**3 cr. hrs. 6 periods (1.5 lec., 4.5 lab)**

Overview of the creation of electronic and digital maps in a field setting. Includes an introduction to: instrument operation, field data, producing maps, and computer applications.

Prerequisite(s): ANT/ARC 265 and ANT/ARC/GIS 281.

Recommendation: Consult instructor for alternative prerequisite(s).

Information: Same as ANT/GIS 286.

ARC 295 Field Projects**.5-4 cr. hrs. 1.5-12 periods (1.5-12 lab)**

Participation in a field project in one of the subfields of anthropology.

Information: Same as ANT 295. *Information:* Consent of instructor is required before enrolling in this course.

ARC 296 Independent Studies in ANT/ARC**.5-4 cr. hrs. .5-4 periods (.5-4 lec.)**

Independent study in anthropology or archaeology. Includes topic identification, research plan, data gathering, and presentation of findings.

Information: Consent of instructor is required before enrolling in this course. May be taken three times for a maximum of 12 credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Same as ANT 296.

Art

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ART 100 Basic Design**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to the elements and principles of visual design. Includes identifying and interpreting creative problems; emphasizing art and design skills; writing reviews of gallery visits/museum visits/artist lectures; articulating and demonstrating progressive skills in their own work; participating in individual and group critiques; and relating their work on a conceptual, interpersonal and global level.

ART 105 Exploring Art and Visual Culture**3 cr. hrs. 3 periods (3 lec.)**

Exploration of historical and contemporary art and the visual image within the context of culture. Includes selective perception; formal analysis; materials and techniques; art in a historical framework; visual culture; meaning and value in art and visual culture; and high and low culture art. Also includes contemporary issues; traditional and contemporary themes in art; museums, galleries, and public spaces; and process, form, and content in making art.

ART 106 Survey of Painting Materials and Techniques**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Technical and theoretical investigation of the most prominent painting methods from Ancient Greece to the present. Includes materials used in painting, the Fresco, Encaustic, Glair, Egg Tempera, the Indirect and Direct Oil, and Watercolor Techniques.

ART 109 Watercolor Painting**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introductory course in watercolor painting that explores basic materials, techniques, and development of students' personal style. Includes compositional elements, materials and tools, mixing colors and properties of watercolor pigments, application methods, developing subject matter and genres, and critique and artistic development.

ART 110 Drawing I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to drawing. Includes drawing and design problems, varied use of materials and techniques, perceptual skills, critique processes with critical thinking for personal growth, analysis of professional art events or galleries, and portfolio creation.

ART 115 Color and Composition**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to recognizing color principles and relationships and analyzing and duplicating colors. Includes values scale, color wheel, intensity, color relationships, transparency, dimension, luminosity, and creative projects.

Recommendation: Completion of ART 100 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 120 Sculptural Design**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to sculpture and three-dimensional design. Includes concepts and approaches, content development, visual literacy, critical analysis, art elements, exploration of a range of media and techniques, and basic sculptural design lab procedures.

Recommendation: Completion of ART 100 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 121 Figure Sculpture**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Beginning modeling techniques using clay and other media working partly from anatomical references and partly from the model. Includes visual literacy and critical analysis, range of media, approaches to figurative sculpture, technical understanding in working with human anatomy, content, and safety.

Recommendation: Completion of ART 120 and 213 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: There may be additional supply costs in addition to course fees.

ART 123 Lost Wax Sculpture Casting**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to metal casting of sculpture with emphasis on the ceramic shell method of mold making, historical and contemporary issues in cast sculpture, and individual artistic exploration. Includes major techniques, health and safety issues, verbalization of visual perceptions, project variations, and content.

Recommendation: Completion of ART 100 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 128 Digital Photography I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Introduction to digital photography emphasizing the technical and aesthetic issues and how these qualities form image content. Includes Adobe Photoshop basics, history of still photography, applications of digital cameras, aspects of the digital medium, camera and computer equipment requirements, digital still camera, memory and file formats, digital still camera lenses, and proper exposure. Also includes light, color, and temperature; depth of field, shutter speed effects, proper use of digital photography, lighting for digital stills, elements of composition, photographic rendering and reality, outputting and publishing, portfolio preparation, and career options in digital photography.

Recommendation: Adobe Photoshop experience is highly recommended before enrolling in this course.

Information: Same as DAR 128. It is recommended students have access to a digital camera with manual exposure control and a computer with image processing software. Professional photographic equipment, including cameras, are available for check out on a rotating basis. Professional quality computers, software, printers, lighting equipment, and studio will be provided for specific assignments. There will be additional supply costs beyond course fees.

ART 130 Art and Culture: Prehistoric through Gothic**3 cr. hrs. 3 periods (3 lec.)**

A survey of the development of art and architecture in Western Civilization from prehistoric through Gothic art with the inclusion of a global perspective. Includes identification and interpretation of cultural and stylistic characteristics, contextual functions and purposes of works of art, influences of cultural values on the production of art, art historical terminology, exemplars of non-Western culture, and critical methodologies.

Prerequisite(s): WRT 101.

ART 131 Art and Culture: Late Gothic through Modern Periods**3 cr. hrs. 3 periods (3 lec.)**

A survey of the development of art and architecture in western civilization from late Gothic through Modern periods. Includes recognition and interpretation of period and style characteristics, function and purposes of art, influences on art production, issues in production and content, historical terminology, and critical methodologies.

Prerequisite(s): WRT 101.

ART 136 Body and Art**3 cr. hrs. 3 periods (3 lec.)**

A visual cultural exploration of how humans utilize the body as a vehicle for communicating and displaying personal and group identities. Includes anthropological and art historical study of types of permanent and temporary body decorations, masks, and performance; and the ethical issues surrounding the study and use of imagery within and between cultures. Also includes the conceptual examination of global examples and an overview of practical projects to demonstrate the continued vitality of each mode of expression.

ART 140 Photography I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to black and white photography as an art form with an emphasis on fundamental technique of the camera and wet darkroom. Includes manual camera competencies, manual film development, basic darkroom procedures, portfolio building, visual literacy and critical analysis, and the role of photography.

Recommendation: Completion of ART 100 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 141 Photography II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Principles and processes of intermediate black and white photography. Includes use of various types of camera formats, development of film, creating a series, individual darkroom space, advanced darkroom techniques, portfolio production, exhibition presentation, copy slide production, and verbalization of visual perceptions.

Prerequisite(s): ART 140.

Information: Student is required to submit a portfolio for review.

ART 146 Lighting for Photography I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Introduction to creative professional lighting concepts and techniques for commercial and fine art photography. Includes lighting and studio equipment, light qualities, lighting for form, lighting for surface qualities, still- life photography, portrait photography, image composition, critical analysis, and portfolio.

Prerequisite(s): ART/DAR 128.

Information: Students are strongly recommended to own or have access to a digital camera with manual exposure control and a computer with image processing software. Professional quality cameras, computers and software, printers, lighting equipment and studio will be provided for specific assignments. There may be additional supply costs in addition to course fees. Same as DAR 146.

ART 147 Alternative Processes in Photography**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Designed for the advanced image maker interested in expanding knowledge of alternative photographic processes. Includes enlarging negatives for contact printing, nineteenth century processes, twentieth century processes, darkroom materials, and artwork presentation.

Prerequisite(s): ART 128 or 140.

ART 160 Ceramics I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to ceramics. Includes beginning handbuilding techniques and methods of fabrication, wheel throwing and trimming, projects involving formal elements, beginning ceramic techniques, reduction firing, raku firing, ceramic artist research, discussion, and exploration topics.

Recommendation: Completion of ART 100 before enrolling in this course or concurrent enrollment. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 170 Metalwork I: Jewelry**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Exploration of the basic techniques and design approaches used in the fabrication of jewelry and other metalwork. Includes information and background on historical and contemporary metalwork and jewelry, and techniques and processes of jewelry and metalwork.

Recommendation: Completion of ART 100 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 175 Ferrous Metalwork: Blacksmithing, Tool Making/Knife Making**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to the materials, design, techniques, safety habits, and methods used in ferrous metalwork. Includes basic tools and techniques of blacksmithing, metals lab procedures, tool design, and metallurgical theory and metalworking practice.

Information: Completion of ART 100 is recommended before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 180 Weaving I: Four-Harness Loom**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Weaving on a four-harness loom. Includes preparation of the loom; projects involving the use of tabby, twill, tubular, textural, and tapestry weaves in the creation of fiber art; and major creative projects using techniques learned in class.

Recommendation: Completion of ART 100 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 181 Mixed Media Fibers**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to fiber as an art medium. Includes fiber processes such as coiling, crochet, macramé, plaiting, and surface design which are used to create projects and artistic compositions.

Recommendation: Completion of ART 100 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 210 Drawing II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 110. Includes strengthening of drawing and critical thinking skills. Also includes intermediate drawing and design problems; intermediate use of materials and techniques; perceptual skill and personal development; critique process; engagement and analysis of professional art events or galleries; and portfolio creation.

Prerequisite(s): ART 110.

Information: Prerequisite(s) may be waived with consent of instructor.

ART 212 Printmaking I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to basic aesthetics and techniques of printmaking. Includes intaglio techniques, relief printing, monotype techniques, and final presentation.

ART 213 Life Drawing I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Drawing of human figures using the two-dimension concept as a graphic vehicle of expression. Includes gesture and contour drawing, varied time length poses, drawing problems, variety of materials, and individual and group critiques of work.

Recommendation: Completion of ART 110 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 214 Printmaking II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 212. Includes advanced problems in aesthetics and techniques of intaglio projects and techniques, relief printing, monotype techniques, and multi-process and alternative approaches to printmaking.

Prerequisite(s): ART 212.

ART 215 Painting I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to the fundamentals of oil painting. Includes basic painting techniques and processes, manipulation of compositional elements and formal and contemporary pictorial organization in various genres, surface preparation, personal direction and artistic expression, and health and safety in the painting studio.

Recommendation: Completion of ART 115 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 216 Screenprinting I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to screenprinting using water base and inks. Includes screen construction, direct stencil techniques, photographic techniques, one-color printing, multicolor printing and registration, overview of the types of printing papers, and final presentation.

ART 217 Painting II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 215. Includes intermediate development and reinforcement of basic oil painting techniques and processes, development of compositional elements and formal pictorial organization, manipulation of pictorial elements, artistic expression, and health and safety in the painting studio.

Prerequisite(s): ART 215.

Recommendation: Completion of ART 115 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Prerequisite(s) may be waived with consent of instructor.

ART 218 Screenprinting II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 216. Includes equipment orientation, advanced stencil-making techniques, printing, and types of printing papers and surfaces.

Prerequisite(s): ART 216.

Information: Students may select areas of interest for concentration and refinement of skills.

ART 219 Printmaking III**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 214. Includes experimentation with intaglio, multi-color possibilities with non-traditional compositions, relief and intaglio multi-processes, monoprint with multiple plates, and critical analysis.

Prerequisite(s): ART 214.

ART 220 Sculpture**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Exploration of methods, materials, and content used in sculpture. Includes studio project concept, media and technique, sculpture lab health and safety procedures, and visual literacy and critical analysis.

Prerequisite(s): ART 120.

ART 223 Life Drawing II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of Life Drawing I. Advanced drawing of human figures using the two-dimension concept as a graphic vehicle of expression. Includes proportional sight strategies, varied time-length poses, drawing problems and materials, figure as expression, and individual and group critiques of work.

Prerequisite(s): ART 213.

Recommendation: Completion of ART 210 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 227 Painting III**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of Painting II. Intermediate to advanced development of painting techniques and processes, balancing compositional elements and formal pictorial organization. Includes emphasis on establishing personal artistic expression for presentation of work. Also includes employ procedures for prolonged health and safety in a painting studio.

Prerequisite(s): ART 217.

ART 232 Digital Photography II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of ART/DAR 128. Includes intermediate digital cameras with manual functions, intermediate digital darkroom and digital output, quality of light, intermediate image composition, multiple images, intermediate portfolio development, and critical analysis. Also includes the intermediate use of state-of-the-art professional quality computers and image processing software, professional digital cameras, printers, and a lighting studio with professional lighting equipment.

Prerequisite(s): ART/DAR 128.

Recommendation: Completion of DAR 221 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Same as DAR 232. The prerequisite may be waived with consent of the instructor. It is recommended students have access to a digital camera with manual exposure control and a computer with image processing software. Professional photographic equipment, including cameras, are available for check out on a rotating basis. Professional quality computers, software, printers, lighting equipment, and studio will be provided for specific assignments. There will be additional supply costs beyond course fees.

ART 246 Lighting for Photography II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of ART/DAR 146. Includes lighting and equipment for studio and location, advanced lighting qualities and techniques, photographing with mixed light sources, lighting for mood and environment, set design and construction, photographing individuals and groups of people, photographing on location, photographing for montage images, advanced image composition, critical analysis, business practices, and portfolios.

Prerequisite(s): ART/DAR 146.

Information: Students are strongly recommended to own or have access to a digital camera with manual exposure control and a computer with image processing software. Professional quality cameras, computers and software, printers, lighting equipment and studio will be provided for specific assignments. There may be additional supply costs in addition to course fees. Same as DAR 246.

ART 248 Individual Projects in Photography**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Individual projects in photography at the advanced level. Includes defining a body of work, applying visual presentation formats, editing a print, and equipment and technical photographic skills.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 249 Artists' Books**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to the basics of the various styles of bookmaking. Includes historical and contemporary practices, bookbinding techniques, book styles, materials, text and image, unique and multiple edition book runs, and critique of artists' books

Recommendation: Completion of ART 100 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 250 Gallery and Museum Practices**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to practices and procedures of galleries and museums. Includes preparation of resume and artist statement, create press release and exhibition announcement, exhibition preparation, photographing artwork, frame artwork for exhibition, gallery and museum administration, present a body of work, and market artwork.

Prerequisite(s): ART 100.

Recommendation: Consult instructor for alternative prerequisites.

ART 260 Ceramics II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 160. Includes intermediate handbuilding techniques and methods of fabrication, wheel throwing and trimming, projects involving formal elements, intermediate ceramic techniques, reduction firing, raku firing, plaster press mold, ceramic artist research, and discussion and exploration topics.

Prerequisite(s): ART 160.

ART 261 Ceramics III**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 260. Includes intermediate and advanced handbuilding techniques and methods of fabrication, wheel throwing and trimming, projects involving formal elements, intermediate and advanced ceramic techniques, reduction firing, raku firing, plaster casting mold, ceramic artist research, and discussion and exploration topics.

Prerequisite(s): ART 260.

ART 262 Ceramics IV**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 261. Includes advanced handbuilding techniques and methods of fabrication, wheel throwing and trimming, projects involving formal elements, advanced ceramic techniques, reduction firing, raku firing, four test glazemaking, ceramic artist research, and discussion and exploration topics.

Prerequisite(s): ART 261.

ART 265 Furnace Glassblowing I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to the elements, tools, and basic principles of furnace glassblowing. Includes the glassblowing studio and cold working shop orientation, paperweights and solid glass forms, the blowpipe, cold working glass, a final project, and visual literacy and critical analysis.

Recommendation: Completion of ART 100 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Consent of instructor is required before enrolling in this course. This course requires a substantial special fee through Sonoran Glass School. Please contact the Arts, Communications and Humanities Division at the West Campus (206-6974) for further information.

ART 266 Furnace Glassblowing II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 265. Includes a review of the glassblowing studio and cold working shop orientation, advanced techniques with hollow and solid glass forms, continued development of blowpipe skills, refinement of cold working glass methods, final project, and visual literacy and critical analysis.

Prerequisite(s): ART 265.

Information: Consent of instructor is required before enrolling in this course. This course requires a substantial special fee through Sonoran Glass School. Please contact the Arts, Communications and Humanities Division at the West Campus (206-6974) for further information.

ART 270 Metalwork II: Jewelry**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 170. Includes design approaches to jewelry making, review of various intermediate techniques, functional considerations involved in jewelry design, and safety and health issues.

Prerequisite(s): ART 170.

ART 280 Weaving II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ART 180. Includes study and exercises using four-eight harness pattern weaves and advanced creative projects. Students may select areas of interest for in-depth exploration.

Prerequisite(s): ART 180

Information: May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 288 Portfolio Preparation**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Overview of the development and marketing of a professional portfolio. Includes definition and evaluation of coherent bodies of work, documentation of work, preparation of portfolio production, production of a portfolio, parts of a portfolio, and marketing.

Information: For advanced students who have completed coursework in their specific areas. Portfolio concentrations will be determined in a conference between student and instructor. Same as FDC 288.

ART 289 Portfolio Capstone**1 cr. hrs. 2 periods (.5 lec., 1.5 lab)**

Assembly and production of a professional quality portfolio of the student's own artwork with a focus on personal creativity and a coherent presentation. Includes review of assembly of portfolio materials, presentation of artwork, presentation of ideas and concepts, and a final capstone portfolio review.

Information: Consent of instructor is required before enrolling in this course. A minimum grade of C is required to complete this course.

ART 29611 Independent Study in ART: Art History**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced projects in art history. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 29612 Independent Study in ART: Ceramics**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced projects in ceramics. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 29613 Independent Study in ART: Metals**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced projects in metals. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 29614 Independent Study in ART: Painting, Drawing, and Design**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced projects in painting, drawing, and design. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 29615 Independent Study in ART: Photography**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced projects in photography. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 29616 Independent Study in ART: Printmaking**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced projects in printmaking. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 29617 Independent Study in ART: Sculpture**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced projects in sculpture. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 29618 Independent Study in ART: Fibers**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced projects in fibers. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ART 29619 Independent Study in ART: Glass**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced projects in glass. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. This course requires a substantial special fee through Sonoran Glass Art Academy. Please contact the Arts, Communications and Humanities Division at the West Campus (206-6974) for further information.

Art For Personal Development

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

APD 062 Acrylic and Oil Painting

2 cr. hrs. 4 periods (1 lec., 3 lab)

Introduction to oil and acrylic painting. Includes painting preparation, composing and building paintings, and developing a personal vision.

APD 065 Watercolor

2 cr. hrs. 4 periods (1 lec., 3 lab)

Introduction to watercolor painting for personal use. Includes watercolor materials, properties of watercolor pigments, and watercolor application methods.

Astronomy

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

AST 101IN Solar System

4 cr. hrs. 6 periods (3 lec., 3 lab)

Introduction to the science of the nature and origin of the solar system: the sun and its family of planets, along with comets and asteroids. Includes the history of astronomy and special topics regarding the space program. Also includes scientific thinking as an application of critical and quantitative thinking, and science in contrast to pseudoscience. Also includes in-class measurement and mathematical exercises, outside observation projects, independent studies, and self-initiated trips to local astronomy facilities.

AST 102IN Stars, Galaxies, Universe

4 cr. hrs. 6 periods (3 lec., 3 lab)

Introduction to the universe beyond the solar system. Includes the nature of light, how astronomers and telescopes work, and the possibilities of alien life in the universe. Also includes the lifetime of stars, exotic objects such as quasars, pulsars and black holes; and the origin, nature, and future of the universe. Also includes scientific thinking as an application of critical and quantitative thinking and science in contrast to pseudoscience. Also includes in-class measurement and mathematical exercises, outside observation projects, independent studies, and self-initiated field trips to local astronomy facilities.

Prerequisite(s): ICS 081 with a grade of B or better, or MAT 086 with a grade of C or better, or placement into MAT 092, or completion of module 22 in MAT 089A or 089B.

AST 105IN Life in the Universe

4 cr. hrs. 6 periods (3 lec., 3 lab)

The science of astronomy focusing on the formation of the universe, the solar system, and life. Includes Earth's location in space and time, nature of life, light and the spectrum, origin of the universe, galaxies and stars, origin of the solar system, planetary atmospheres, origin of life on Earth, life on other solar system planets, and life around other stars. Also includes observations, experiments, image analysis, scientific and photogeology laboratory exercise, group telescopic observation projects, and personal observation projects.

Prerequisite(s): ICS 081 with a grade of B or better, or MAT 086 with a grade of C or better, or completion of Module 22 in MAT 089A or 089B, or satisfactory score on the mathematics assessment.

AST 296LB Independent Study in Astronomy

1-4 cr. hrs. 3-12 periods (3-12 lab)

Experience in astronomical research, projects, or topical studies. Specific content to be determined by student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken three times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Automotive Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

AUT 100 Small Engine Troubleshoot and Repair**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Principles and procedures for overhauling, troubleshooting and repairing small engines. Includes safety and hazardous materials handling, engine types and identification, engine operation and maintenance, disassembly and inspection, engine reconditioning and assembly, fuel and ignition system assembly, mechanical operation and testing, multicylinder engines, and overhead valve (OHV) engines.

AUT 101 Automotive Maintenance**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Techniques of routine vehicle maintenance. Includes customer vehicle identification and handling, new vehicle pre-delivery inspection and preparation, safety inspection, lubrication tasks, light line tasks, and fluid flushing.

AUT 105 Light Line Maintenance**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Principles and procedures for light line service. Includes safety, transmission and driveline systems, air conditioning/heating systems, electrical systems, suspension/steering systems, engine performance, and tools and equipment.

AUT 120 Engine Diagnosis and Repair**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Techniques for light line engine service. Includes personal and environmental safety, general engine diagnosis, lubrication system diagnosis and repair, cooling system diagnosis and repair, cylinder head diagnosis and repair, and engine block diagnosis and repair.

AUT 122 Engine Remove and Install**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Techniques for heavy-line engine exchange. Includes personal and environmental safety, front wheel drive engine removal and installation, and rear wheel drive engine removal and installation.

AUT 124 Automotive Diesel Engine Tune-Up**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Diagnosis, repair, and maintenance of mechanical and electronic diesel engine systems. Includes personal and environmental safety, general engine controls, computerized engine controls, electronic diesel injection, air and fuel induction systems, emissions control systems and electronic communication systems.

AUT 126 Engine Performance and Driveability Troubleshooting**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Diagnosis and repair of On-board Diagnostics Generation One (OBDI) and Two (OBDII) systems. Includes personal and environmental safety, general engine, computerized engine controls, ignition system, fuel, air induction, and exhaust systems, emissions control systems, and engine related service.

AUT 128 Automotive Electrical Fundamentals and Applications**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Principles and procedures of electrical diagnosis and repair. Includes electrical fundamentals and test equipment, electrical system, battery, starting system, charging system, lighting systems, instrumentation, horn and wiper/ washer, integrated circuits, and computerized control systems.

AUT 129 Automotive Electrical Accessories**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Electrical circuit diagnosis, repair, and replacement. Includes electrical fundamentals and test equipment, accessory diagnosis and repair, tilt steering column repair, and electrical connectors and terminal replacement.

AUT 132 Automotive Drivetrain Removal and Replacement**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Principles and procedures for automotive driveline component exchange. Includes personal and environmental safety, general drivetrain diagnosis, and diagnosis and repair of the clutch, automatic and manual transmissions and transaxle, drive axle and differential, and four-wheel drive components.

AUT 133 Automatic Transmission/Transaxle Service and Rebuilding**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Principles and procedures for front- and rear-wheel drive automatic transmission overhaul. Includes personal and environmental safety, automatic transmission diagnosis and service, and transmission in-vehicle and off-vehicle repair.

AUT 136 Automotive Manual Transmission and Driveline Service**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Principles and procedures for automotive driveline component overhaul. Includes personal and environmental safety, general drivetrain diagnosis, and diagnosis and repair of manual transmission and transaxle, drive shaft and half-shaft, universal and constant-velocity (CV) joint, drive axle and differential, limited slip differential, and four-wheel drive.

AUT 138 Automotive Suspension Systems**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Principles and procedures for automotive suspension system service. Includes safety, adjustment and repair of front and rear suspension systems, and related suspension component service.

AUT 139 Automotive Steering and Alignment Systems**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Principles and procedures for automotive steering and alignment systems service. Includes safety, manual and power steering systems, wheel alignment diagnosis, adjustment, and repair. Also includes wheel and tire diagnosis and repair.

AUT 140 Automotive Brakes Diagnosis and Repair**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Diagnosis and repair of automotive hydraulic brake systems. Includes personal and environmental safety, hydraulic system diagnosis and repair, drum and disc brake diagnosis and repair, power assist units diagnosis and repair, wheel bearings, park brake, and brake electrical diagnosis and repair, and anti-lock brake systems (ABS) components and operation.

AUT 142 Automotive Heating, Ventilation, and Air Conditioning**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Diagnosis and repair of automotive heating, ventilation, and air conditioning (HVAC) systems. Includes personal and environmental safety, HVAC systems components, air conditioning (AC) diagnosis and repair, refrigeration system component diagnosis and repair, heating and engine cooling systems diagnosis and repair, operating systems and controls diagnosis and repair, and refrigerant recovery, recycling, and handling.

AUT 185 Automotive Shop Skills Application**.5-3 cr. hrs. 1.5-9 periods (1.5-9 lab)**

Light line diagnosis and repair of daily use vehicles. Includes preparing repair orders, complaint procedures, researching service data, vehicle service and repair tasks, and shop maintenance. Also includes the industry standard of complaint, cause, and correction.

Information: Completion of an AUT prefix course in the same specialty area and approval of automotive department chair or instructor is required before enrolling in this course.

Aviation Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

AVM 100 Aircraft Maintenance Fundamentals**6 cr. hrs. 12 periods (2 lec., 10 lab)**

Introduction to the fundamental knowledge and skill requirements of an Airframe and Powerplant mechanic. Includes fasteners, safety and rigging, aircraft maintenance tools, aircraft types and construction, aircraft materials, theory of flight, and aircraft structures. Also includes powerplant types, aircraft assembly, engine theory, aircraft repair, aircraft reciprocating engine overhaul/repair, aircraft maintenance, aircraft systems and components, rigging flight controls, and jacking aircraft.

Information: AVM 100A and 100B together constitute AVM 100.

AVM 100A Aircraft Maintenance Fundamentals: Module A**3 cr. hrs. 6 periods (1 lec., 5 lab)**

Introduction to the fundamental knowledge and skill requirements of an Airframe and Powerplant mechanic. Includes fasteners, safety and rigging, aircraft maintenance tools, aircraft types and construction, aircraft materials, theory of flight, and aircraft structures.

Information: Constitutes approximately the first one-half of AVM 100. AVM 100A and 100B together constitute AVM 100.

AVM 100B Aircraft Maintenance Fundamentals: Module B**3 cr. hrs. 6 periods (1 lec., 5 lab)**

Introduction to the fundamental knowledge and skill requirements of an airframe and powerplant mechanic. Includes powerplant types, aircraft assembly, engine theory, aircraft repair, aircraft reciprocating engine overhaul/repair, aircraft maintenance, aircraft systems and components, rigging flight controls, and jacking aircraft.

Prerequisite(s): AVM 100A.*Information:* Constitutes approximately the second one-half of AVM 100. AVM 100A and 100B together constitute AVM 100.**AVM 105 Aircraft Sheet Metal Repair I****4 cr. hrs. 8 periods (2 lec., 6 lab)**

Principles and procedures for fuselage, wing, and empennage sheet metal repair. Includes safety, hand tools, layout methods, materials, fasteners, repair techniques, parts fabrication, and corrosion prevention and control.

AVM 106 Aircraft Sheet Metal Repair II**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Continuation of AVM 105. Includes safety, bend allowance, layout, fasteners, machine usage, patching techniques and structural repair techniques.

Prerequisite(s): AVM 105.**AVM 110 Aircraft Blueprint Reading****3 cr. hrs. 3 periods (3 lec.)**

Theory and application of aircraft blueprint reading. Includes types of aircraft drawings, measuring tools, drawing and layout equipment, types of views, projections, reference lines, drawing format, title block, manufacturing codes, symbology for fasteners, hardware, and materials. Also includes production of aircraft drawing, sketches, usage of aircraft schematics, graphs, charts, detail, assembly and exploded diagrams.

AVM 114 Regulatory Requirements**3 cr. hrs. 3 periods (3 lec.)**

Federal Aviation Administration (FAA) regulatory requirements. Includes certification of aircraft and components, FAA regulations for aircraft maintenance, FAA publications, manufacturing standards, inspection requirements, maintenance, mechanic certification, maintenance publications and forms, and aircraft logs.

AVM 130 Aircraft Composite Repair I**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Construction and repair processes using advanced composite materials. Includes reinforcing fibers, matrix and core materials, manufacturing of components, composite safety, curing wet layup and prepreg repairs, tools and equipment, and inspection and damage assessment.

Information: Consent of instructor is required before enrolling in this course.**AVM 150 Aircraft Sheet Metal Repair III****4 cr. hrs. 8 periods (2 lec., 6 lab)**

Continuation of AVM 106. Includes repair publications, materials handling, cable fabrication, machining processes, protective coatings, hand forming and structural repair processes.

Prerequisite(s): AVM 106.**AVM 151 Aircraft Sheet Metal Repair IV****4 cr. hrs. 8 periods (2 lec., 6 lab)**

Continuation of AVM 150. Includes locking fasteners, damage classifications, and structural repair processes.

Prerequisite(s): AVM 150.**AVM 165 Aircraft Hardware and Fasteners****3 cr. hrs. 3 periods (3 lec.)**

Aircraft structural repair hardware and fasteners. Includes specifications and standards, types, control linkages, tubing, hose and packings.

AVM 180 General CFR 14 Part 65 Maintenance Review**7.75 cr. hrs. 8.75 periods (6.75 lec., 2 lab)**

Review of the General CFR 14 Part 65 testing topics required for licensure attainment. Includes nine interrelated module topics covering basic electricity, aircraft drawings, weight and balance, fluid lines and fittings, materials and processes, ground operation and servicing, mathematics, maintenance forms and records, and basic physics. Also includes cleaning and corrosion control, maintenance publications, and mechanic privileges and limitations. Each module has key areas of concentration for general aviation mechanics.

Information: AVM 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, and 180I comprise AVM 180. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification. This course has an option to test out of any individual module by scoring eighty percent or greater.

AVM 180A General CFR 14 Part 65 - Basic Electricity**1.5 cr. hrs. 1.7 periods (1.3 lec., .4 lab)**

Review basic electricity associated with General CFR 14 Part 65 testing topics for licensure attainment. Includes basic electricity, electron theory, direct and alternating currents, and measuring equipment. Also includes circuitry, antennas, and avionic suites and instruments.

Information: AVM 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, and 180I comprise AVM 180. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 180B General CFR 14 Part 65 - Aircraft Drawings**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review aircraft drawings associated with General CFR 14 Part 65 testing topics for licensure attainment. Includes aircraft drawings, manufactures' codes for hardware, fasteners, symbology, terms, and basic materials used in aircraft construction. Also includes aircraft reference points, blueprints, schematics, and graphs and charts.

Information: AVM 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, and 180I comprise AVM 180. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 180C General CFR 14 Part 65 - Weight and Balance**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review weight and balance associated with General CFR 14 Part 65 testing topics for licensure attainment. Includes aircraft weight and balance, documentation requirements, terminology, and variations in category. Also includes extremes, jacking, leveling, and calculating range and limitations.

Information: AVM 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, and 180I comprise AVM 180. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 180D General CFR 14 Part 65 - Fluid Lines and Fittings**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review fluid lines and fittings associated with General CFR 14 Part 65 testing topics for licensure attainment. Includes identification, MS and AN lines and fittings. Also includes rigid or flexible lines, high and low pressure applications, and temperature range.

Information: AVM 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, and 180I comprise AVM 180. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 180E General CFR 14 Part 65 - Materials and Processes**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review materials and processes associated with General CFR 14 Part 65 testing topics for licensure attainment. Includes materials and processes, cleaning and corrosion control, heat treatment, and non-destructive testing. Also includes manufacturing of aircraft using wood, aluminum, steel, and composites.

Information: AVM 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, and 180I comprise AVM 180. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 180F General CFR 14 Part 65 - Ground Operations/Service**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review ground operations and servicing associated with General CFR 14 Part 65 testing topics for licensure attainment. Includes ground operations and servicing, human factors, aircraft towing, electrical, hangar, and fire safety. Also includes servicing aircraft, aircraft taxiing, hand signals, airport signs and meanings, and tower light gun signals.

Information: AVM 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, and 180I comprise AVM 180. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 180G General CFR 14 Part 65 - Mathematics**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review mathematics associated with General CFR 14 Part 65 testing topics for licensure attainment. Includes mathematical functions, whole numbers, fractions, decimals, percentages, and ratios. Also includes area and volumes, and algebraic equations.

Information: AVM 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, and 180I comprise AVM 180. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 180H General CFR 14 Part 65 - Maintenance Forms/Records**1 cr. hrs. 1.1 periods (.9 lec., .2 lab)**

Review maintenance forms and records associated with General CFR 14 Part 65 testing topics for licensure attainment. Includes maintenance forms, records and publications, aviation mechanic privileges, and limitations. Also includes federal requirements for aircraft and maintenance personnel.

Information: AVM 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, and 180I comprise AVM 180. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 180I General CFR 14 Part 65-Basic Physics**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review basic physics associated with General CFR 14 Part 65 testing topics for licensure attainment. Includes matter, energy, sound, fluid, heat, and atmospheric considerations. Also includes mechanical advantages, simple machines, aerodynamics and structural identification.

Information: AVM 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, and 180I comprise AVM 180. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 181 Airframe CFR 14 Part 65 Maintenance Review**7.75 cr. hrs. 8.75 periods (6.75 lec., 2 lab)**

Review of the Airframe CFR 14 Part 65 testing topics required for licensure attainment. Includes ten module topics covering wood structure, aircraft covering and finishes, sheet metal and non-metallic structures (composites), assembly and rigging, airframe inspection, hydraulic and pneumatic power systems, cabin atmosphere control systems, aircraft fuel and electrical systems, and ice and rain control systems. Also includes fire protection systems, welding, aircraft instrument systems, communication and navigation systems, and position and warning systems. Each module has key areas of concentration for airframe aviation mechanics.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification. This course has an option to test out of any individual module by scoring eighty percent or greater.

AVM 181A Airframe CFR 14 Part 65-Aircraft Coverings**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review wood structure and aircraft coverings associated with Airframe CFR 14 Part 65 testing topics for licensure attainment. Includes aircraft finishes, welding types and techniques, strength requirements, and wooden structure defects. Also includes fabric coverings and application, aircraft paint compatibilities, and chemicals used in the covering process.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 181B Airframe CFR 14 Part 65 - Sheet Metal**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review sheet metal and non-metallic structures associated with Airframe CFR 14 Part 65 testing topics for licensure attainment. Includes rivet type, size and installation, layout fastener edge distance, and finishing materials for base. Also includes dimensional inspection of composite materials, drill size, and machining operations.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 181C Airframe CFR 14 Part 65 - Assembly and Rigging**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review assembly and rigging associated with Airframe CFR 14 Part 65 testing topics for licensure attainment. Includes aircraft landing gear systems, flight control balancing, and jacking and leveling. Also includes torqueing and safetying of hardware.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 181D Airframe CFR 14 Part 65 - Airframe Inspection**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review airframe inspection associated with Airframe CFR 14 Part 65 testing topics for licensure attainment. Includes parts conformity, continued airworthiness, and log books and records. Also includes technical publications, service manuals, and type certificate data sheets.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 181E Airframe CFR 14 Part 65 - Hydraulic/Pneumatic System**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review hydraulic and pneumatic power systems associated with Airframe CFR 14 Part 65 testing topics for licensure attainment. Includes fluid lines and fitting identification, rigid and flexible line fabrication, pump and valve types, along with trouble shoot and repair. Also includes selection and use of MS and AN fittings, and fluid identification by use of labels color coding and symbologies.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 181F Airframe CFR 14 Part 65 - Cabin Atmosphere Control**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review cabin atmosphere control systems associated with Airframe CFR 14 Part 65 testing topics for licensure attainment. Includes flight physiology, oxygen systems, pressurization, and conditioning of passenger and crew environments. Also includes trouble shooting and repair.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 181G Airframe CFR 14 Part 65 - Aircraft Fuel Systems**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review aircraft fuel systems associated with Airframe CFR 14 Part 65 testing topics for licensure attainment. Includes fuel system types, fuel jettison, transfer, and indicating systems. Also includes trouble shooting and repair.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 181H Airframe CFR 14 Part 65 - Aircraft Electrical System**1 cr. hrs. 1.1 periods (.9 lec., .2 lab)**

Review aircraft electrical systems associated with Airframe CFR 14 Part 65 testing topics for licensure attainment. Includes aircraft electrical, instrument, communication and navigation, and position and warning systems. Also includes power distribution, wire sizing and runs, and antennas, and indications.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 181I Airframe CFR 14 Part 65 - Ice and Rain Control**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review ice and rain control systems associated with Airframe CFR 14 Part 65 testing topics for licensure attainment. Includes environmental components for icing and rain systems detection, suppression, and removal.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 181J Airframe CFR 14 Part 65-Fire Protection System**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review fire protection systems associated with Airframe CFR 14 Part 65 testing topics for licensure attainment. Includes components of detection and suppression systems, fire detection, and fire suspension. Also includes components of fire necessary for fire to be environmentally sustained.

Information: AVM 181A, 181B, 181C, 181D, 181E, 181F, 181G, 181H, 181I, and 181J comprise AVM 181. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 182 Powerplant CFR 14 Part 65 Maintenance Review**7.75 cr. hrs. 8.75 periods (6.75 lec., 2 lab)**

Review of the Powerplant CFR 14 Part 65 testing topics required for licensure attainment. Includes eight interrelated module topics covering reciprocating engines, lubrication systems, turbine engines, engine inspection, engine instrument and electrical systems, ignition and starting systems, fuel metering systems, induction and engine airflow systems, engine cooling systems, and propellers. Also includes turbine powered auxiliary power units, engine exhaust and reverser systems, turbine engine lubrication systems, engine fire protection systems and engine fuel systems. Each module has key areas of concentration for powerplant aviation mechanics.

Information: AVM 182A, 182B, 182C, 182D, 182E, 182F, 182G, and 182H, comprise AVM 182. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification. This course has an option to test out of any individual module by scoring eighty percent or greater.

AVM 182A Powerplant CFR 14 Part 65 - Reciprocating Engines**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review reciprocating engines and lubrication systems associated with Powerplant CFR 14 Part 65 testing topics for licensure attainment. Includes engine component identification and position indication, engine dimensional inspection and engine firing order by published technical data. Also includes engine designs and their applications.

Information: AVM 182A, 182B, 182C, 182D, 182E, 182F, 182G, and 182H, comprise AVM 182. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 182B Powerplant CFR 14 Part 65 - Turbine Engines**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review turbine engines associated with Powerplant CFR 14 Part 65 testing topics for licensure attainment. Includes turbine engines, turbine powered auxiliary power units, engine exhaust, and reverser systems. Also includes turbine engine lubrication systems and component identification and location.

Information: AVM 182A, 182B, 182C, 182D, 182E, 182F, 182G, and 182H, comprise AVM 182. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 182C Powerplant CFR 14 Part 65 - Engine Inspection**.75 cr. hrs. .85 periods (.65 lec., .2 lab)**

Review engine inspection associated with Powerplant CFR 14 Part 65 testing topics for licensure attainment. Includes Non-Destructive Inspection (NDI), technical data, and conditional inspections.

Information: AVM 182A, 182B, 182C, 182D, 182E, 182F, 182G, and 182H, comprise AVM 182. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 182D Powerplant CFR 14 Part 65 - Engine Instrument System**1 cr. hrs. 1.1 periods (.9 lec., .2 lab)**

Review engine instrument and fire protection systems associated with Powerplant CFR 14 Part 65 testing topics for licensure attainment. Includes inspection, check service and repair of aircraft reciprocating powerplant installations. Also includes engine fire detection and suppression systems.

Information: AVM 182A, 182B, 182C, 182D, 182E, 182F, 182G, and 182H, comprise AVM 182. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 182E Powerplant CFR 14 Part 65 - Engine Electrical System**1.5 cr. hrs. 1.7 periods (1.3 lec., .4 lab)**

Review engine electrical, ignition, and starting systems associated with Powerplant CFR 14 Part 65 testing topics for licensure attainment. Includes magneto, starting and ignitions systems, and engine electrical instrumentation transmission. Also includes inspection criterion and duty cycles.

Information: AVM 182A, 182B, 182C, 182D, 182E, 182F, 182G, and 182H, comprise AVM 182. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 182F Powerplant CFR 14 Part 65 - Fuel Metering System**1 cr. hrs. 1.1 periods (.9 lec., .2 lab)**

Review fuel metering and engine fuel systems associated with Powerplant CFR 14 Part 65 testing topics for licensure attainment. Includes fuel injection, fuel pumps, and stoichiometric ratio. Also includes carburetor types and functions.

Information: AVM 182A, 182B, 182C, 182D, 182E, 182F, 182G, and 182H, comprise AVM 182. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 182G Powerplant CFR 14 Part 65 - Induction and Engine Airflow**1 cr. hrs. 1.1 periods (.9 lec., .2 lab)**

Review induction and engine airflow systems associated with Powerplant CFR 14 Part 65 testing topics for licensure attainment. Includes engine cooling system, inspection and maintenance, and cooling fins, hydraulics, and lubricants.

Information: AVM 182A, 182B, 182C, 182D, 182E, 182F, 182G, and 182H, comprise AVM 182. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 182H Powerplant CFR 14 Part 65 - Propellers**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Review propellers associated with Powerplant CFR 14 Part 65 testing topics for licensure attainment. Includes fixed and constant speed propellers and hub components. Also includes inspection and maintenance.

Information: AVM 182A, 182B, 182C, 182D, 182E, 182F, 182G, and 182H, comprise AVM 182. Course is designed to enhance and promote accelerated learning in deficient materials pertinent to aviation maintenance. Taking this course does not supplement the experience or knowledge requirements set forth in CFR 14 subpart 65 requirements for airmen other than flight crew. Completion of course does not imply that the student will pass their independent written, oral, or practical tests required for certification.

AVM 202 Aviation Safety**2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Introduction to aviation safety procedures. Includes personal safety issues, human factors, accident avoidance, facility fire protection, hazardous materials safety and handling procedures, ramp procedures for movement, and securing and servicing of aircraft and ramp support equipment. Also includes forklift and scissors lift training.

AVM 203 Aircraft Sheet Metal Repair V**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Continuation AVM 151. Includes jiggging, shoring and alignment, corrosion and heat treatment and structural repair processes.

Prerequisite(s): AVM 151.

AVM 204 Aircraft Sheet metal Repair VI**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Continuation of AVM 203. Includes sealants and sealant applications, heat treatment, plastics and plastic repairs and structural repair processes.

Prerequisite(s): AVM 203.

AVM 205 Motion Dynamics**2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Principles of hydraulic power. Includes basic physics, basic mechanics, heat and fluid dynamics, fabrication and installation of fluid lines and fittings, laws of motion, basic aerodynamics, and aircraft nomenclature.

AVM 206 Materials and Processes**2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Introduction to non-metallic and metallic structural materials for comparison of their structural properties. Includes structural materials, metal processing, heat treatment, heat treatment of alloys or limited use metals, non-destructive testing/inspection, corrosion, corrosion types and factors, corrosion-prone areas, corrosion control: steel, aluminum, and limited use metals, processes and materials for corrosion control, aircraft cleaning, and aircraft cleaning agents.

AVM 207 Weight and Balance**2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Preparation of aircraft for weight and balance. Includes service and maintenance manuals, type certificate data sheets, standard weight and balance practices, weighing an aircraft, calculating center of gravity, and correction of out of balance conditions. Also includes addition and subtraction of equipment, equipment lists, flight manual updates, control surface balancing, identification and selection of standard hardware, installation and assembly of specialty hardware, and use of precision measuring equipment.

Prerequisite(s): GTM 105V.

AVM 208 Basic Electricity**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Introduction to basic aircraft electricity. Includes the study of matter, electron theory, current/electron flow, direct and alternating current, Ohm's Law, Kirchoff's laws, circuit elements, use of testing equipment, and electrical calculation and measurements. Also includes interpretation of schematics and other wiring diagrams, battery theory and maintenance, aircraft electrical systems, and introduction to communication and navigation radio systems.

Prerequisite(s): GTM 105V.

AVM 209 Intermediate Electricity**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Intermediate electricity includes the study of aircraft airframe electrical components as well as airframe and powerplant electrical systems. Includes electric motors, generators and generator controls, alternators, inverters and related controls, power distribution systems, design and maintenance of aircraft electrical systems, digital electronics, analog electronics, communication and navigation systems, communications, weather warning systems, and electric instruments and autoflight systems.

Prerequisite(s): AVM 208.

AVM 211 Alternate Structures**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Aircraft structural fabrication using wood, tube steel and fabric processes and techniques. Includes structural types, wood and welded tube steel fabrication methods, welding of typical metals used in aircraft construction, fabric covering processes, inspection and maintenance typical repair procedures, and aircraft finishings.

AVM 218 Airframe Rigging and Landing Gear Systems**2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Identification, assembly, alignment, balancing and rigging of aircraft rigging and landing gear systems. Includes aircraft nomenclature, characteristics of flight, flight control system, airframe assembly, rigging, structural alignments, control surface balancing, landing gear, shock struts, landing gear retraction, wheel alignment and steering, brake system servicing, brake assemblies, wheels, tires, warning systems, and anti-skid system.

AVM 219 Airframe Inspections**2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Conformity inspections of airframes. Includes inspections of incoming spare parts and stock items, airframe and equipment conformity inspections, airframe and systems airworthiness and conformity inspections, conformity inspections of installed equipment, annual and 100-hour inspections of small aircraft, including research of all pertinent inspection documents, service or maintenance manuals, type certificate data sheets, airworthiness directives, service bulletins and additional instructions for continued airworthiness, inspection procedures for large aircraft work orders, non-routine job cards used by local aviation maintenance companies.

Prerequisite(s): AVM 114.**AVM 223 Hydraulic and Pneumatic Power****2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Hydraulic and pneumatic system components. Includes system operating principles, fluids, pressures, hydraulic powered flight controls, landing gear, braking and accessory power systems, pneumatically powered or assisted accessories, and system and component inspection servicing and repairs.

AVM 224 Atmospheric Controls**2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Atmospheric controls and its elements that are of concern to flight. Includes ice and rain detection and control systems, types of operations and maintenance, physiological requirements for flight crews and passengers and the human support systems, oxygen systems, cabin pressurization system and their operations, and safety and maintenance requirements.

AVM 225 Fire, Ice, Rain, and Fuel Systems**2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Theory and application of fire, ice, rain and fuel systems. Includes fire detection terms, extinguishing and protection systems, smoke detection, fire warning, fire extinguishing system components used, how systems function, inspection testing and maintenance, ice and rain protection terms, formation and conditions for icing of aircraft, ice and rain detection, protection systems components, functions, inspection and maintenance, fuel system terms, safety system requirements, fuel tank types and construction, indicating, fueling, and defueling inspection and maintenance.

AVM 226 Engine Electrical Systems**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Inspection, repair, and modification of engine electrical systems. Includes magneto(s) (components, tooling, wiring, and drives), ignition switches, ignition harness, ignition booster system, spark plugs, engine ignition analyzers, turbine engine (ignition transformers and igniter plugs), engine electrical controls (switches, fuses and circuit breaker, circuits, wiring, installation, and engine bulkhead), and technical data manuals and catalogs.

Prerequisite(s): AVM 208.**AVM 227 Engine Air Flow Systems****2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Fundamentals of engine air flow systems. Includes reciprocating engine induction systems, alternate induction air systems, induction systems maintenance, superchargers, turbochargers, turbo compound systems, reciprocating engine exhaust systems, exhaust subsystems, exhaust system maintenance, reciprocating engine cooling, turbine engine induction systems, turbine engine cooling, turbine engine exhaust systems, turbine engine exhaust systems maintenance, and turbine engine airflow subsystems.

AVM 228 Aircraft Propellers**2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Basics of aircraft propellers. Includes propeller theory, nomenclature, types, construction, and installation and maintenance. Also includes constant speed systems, feathering systems, reversing systems, icing systems, synchronizing systems, and unducted fans.

AVM 229 Engine Support Systems**2.5 cr. hrs. 5 periods (1.25 lec., 3.75 lab)**

Theory and application of support systems for gas turbine engines. Includes fire protection, fire detection systems, fire extinguishing agents and systems, and fire detection and extinguishing system maintenance. Also includes turbine engine pneumatic systems, pneumatic starting systems, thrust reversers, auxiliary power units, turbine engine removal and installation, and engine storage and transport.

AVM 231 Engine Principles, Monitoring and Inspection**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Principles, monitoring, and inspection of engines. Includes theory and construction of powerplants, requirements, types of engines, reciprocating engine design and construction, radial engine design and construction, reciprocating engine operating principles, engine power and efficiencies, turbine engine construction, turbine engine sub-assemblies, turbo prop engines, turbine engine operation principles, engine instrumentation, instrument principles of operation, maintenance of instruments and systems, and engine inspection requirements.

AVM 232 Reciprocating Engine Overhaul**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Basic aircraft reciprocating engine overhaul. Includes engine components, wrist pins, connection rods, crankshafts, case, cam shafts, lifters, valves, push rods and tubes, rocker assemblies, accessories, lubrication, overhaul options overhaul credentials, overhaul procedures, reassembly after overhaul, engine installations, engine break-in, and test cell procedures.

AVM 233 Turbine Engines**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Basic gas turbine engine and turbo propeller component makeup and repair. Includes inspection, servicing, and repairs performed on engine components: compressor, diffuser, combustion, accessory drive, and lubricating system. Also includes a reassembly overhaul.

AVM 234 Engine Fuel Metering and Operation**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Fundamentals of aircraft fuel systems. Includes fuel metering theory and requirements, aviation fuels, float type carburetion, float carburetor maintenance and installation, and pressure carburetor maintenance and installation. Also includes fuel injection systems, Bendix fuel injection and maintenance, and Teledyne Continental Motors (TCM) fuel injection and maintenance. Also includes fuel metering system components and maintenance, turbine engine fuel systems components and maintenance, jet fuel controls; and reciprocating, turbine, and turbo propeller engine operations.

AVM 260 Aircraft Composite Repair II**1 cr. hrs. 1 periods (1 lec.)**

Theory and application of composite and bonded metal structures utilized in aircraft construction. Includes repair methods selection, source documents, repair methods and design criteria, bonded metal repairs, tank and non-tank processing, priming, and environmental considerations. Also includes a heavy emphasis on repair performance utilizing the Structural Repair Manuals for composite monolithic and sandwich core, and bonded metal structures.

Prerequisite(s): AVM 130.*Corequisite(s):* AVM 260LB**AVM 260LB Aircraft Composite Repair II Lab****3 cr. hrs. 9 periods (9 lab)**

This is the Lab portion of AVM 260.

Prerequisite(s): AVM 130.*Corequisite(s):* AVM 260

Avionics Technician Training

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ATT 100 Basic Electricity for Avionics**3 cr. hrs. 3 periods (3 lec.)**

Basic electricity for Avionics. Includes the study of matter, electron theory, current/electron flow, direct and alternating current, Ohm's Law, Kirchoff's laws, circuit elements, use of testing equipment, and electrical calculation and measurements. Also includes interpretation of schematics and other wiring diagrams, battery theory and maintenance, aircraft electrical systems, and introduction of solid state components.

Prerequisite(s): GTM 105V.

ATT 101 Avionics Familiarization**3 cr. hrs. 3 periods (3 lec.)**

Overview of the evolution of modern avionics. Includes the role and responsibilities of the avionics technician; the classification and requirements of airports, airspace, and atmospheric environments; and types of avionics equipment used today. Also includes instrument layouts, crew cabin layouts, and advisory circulars and regulations pertaining to operation and management.

Information: Additional self-paced independent course study materials are required for non-certified Airframe and Powerplant students.

ATT 102 Aircraft Electrical Systems**3 cr. hrs. 3 periods (3 lec.)**

Overview of aircraft electrical systems, including AC and DC power generation and distribution for small general aviation (GA), corporate, and commercial airline transport aircraft. Includes electrical schematics, manuals, and diagrams. Also includes aircraft system power requirements for avionics; fuel and flight management; cabin atmospheric control; landing gear and flight controls; load; warning systems; cabin lighting; and entertainment systems.

Information: Additional self-paced independent course study materials are required for non-certified Airframe and Powerplant students.

ATT 103 Basics of Avionics Installation**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Concepts, techniques, and skills used to install electronic and avionics equipment. Includes avionics support structure installation and fabrication; instrument mounting; terminal installation; cutting, sizing, marking, bundling, and anchoring techniques and practices; handling precautions for sensitive devices; and selecting proper equipment and tools. Also includes a review of electrical equipment bays, wiring diagrams, installation drawings, circuit protection devices, lighting processes, and regulatory requirements.

Information: Additional self-paced independent course study materials are required for non-certified Airframe and Powerplant students.

ATT 104 Operating Systems I, Communication and Navigation**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Topical discussion on communication and navigation systems, schematic usage, special tooling and equipment, switching, circuit protection, and instrument panel features. Includes standard wiring practices of single and multiple flight instrumentation sources, location reporting equipment, and essential standard avionics flight devices.

Information: Additional self-paced independent course study materials are required for non-certified Airframe and Powerplant students.

ATT 201 Operating Systems II, GPS Navigation and Auto Pilot**3 cr. hrs. 3 periods (3 lec.)**

Principles of Global Positioning Systems (GPS) and autopilot systems operation and use by flight crews. Includes installation planning for electrical system requirements, typical mounting, wiring methods, connectors, and antenna installation. Also includes pre- and post-installation verification of system integration, functional testing, and troubleshooting on GPS and autopilot systems.

Prerequisite(s): ATT 104.

Information: Additional self-paced independent course study materials are required for non-certified Airframe and Powerplant students.

ATT 202 GPS Navigation and Auto Pilot Installation**5 cr. hrs. 7 periods (3 lec., 4 lab)**

Principles of Global Positioning Systems (GPS) and autopilot systems installation. Includes substantial application of systems, processes, and installations introduced in ATT201, such as installation planning for electrical system requirements, typical mounting, wiring methods, connectors, antenna installation, and operations and use by flight crews. Also includes pre- and post-installation verification of system integration, functional testing, and troubleshooting on GPS and autopilot systems. Also includes an introduction to the installation of engine indicating instruments and their relationship to the instrument console.

Prerequisite(s): ATT 104 and 201.

Information: Additional self-paced independent course study materials are required for non-certified Airframe and Powerplant students.

ATT 203 Avionics Test Equipment**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Overview of the evolution of modern avionics systems, test equipment, and operation of and training on test equipment. Includes functional testing of pitot static, transponder and altitude reporting units, Very High Frequency Omni-directional Range (VOR), Global Positioning Systems (GPS), and compass navigation devices installed in aircraft or functioning mockups. Also includes special tooling and test apparatuses, the handling of aircraft, and safety for personnel and equipment undergoing testing.

Prerequisite(s): ATT 104.*Information:* Additional self-paced independent course study materials are required for non-certified Airframe and Powerplant students.**ATT 204 Glass Cockpit Installer****5 cr. hrs. 7 periods (3 lec., 4 lab)**

Installation of glass cockpit systems. Includes panel installation, functional checks, troubleshooting, installation and handling practices for Multifunction Display Units (MFD), Primary Flight Displays (PFD), and Engine Indicating and Crew Alerting Systems (EICAS). Also includes glass cockpit upgrade training, to include the removal of older "steam" gauges and various other indication instruments and replacement with modern glass cockpit indicating systems.

Prerequisite(s): ATT 103 and 104.*Information:* Additional self-paced independent course study materials are required for non-certified Airframe and Powerplant students.**ATT 205 Operating Systems III, Infrared and Weather Radar****3 cr. hrs. 3 periods (3 lec.)**

Principles of infrared and weather radar systems operation and use by flight crews. Includes installation planning, electrical system requirements, typical mounting, wiring methods, connectors, and antenna installation. Also includes system integration, functional testing of Enhanced Vision Systems (EVS), Weather (Wx) Radar, and radio altimeter systems. Also includes safety training and the operation, installation, and troubleshooting of EVS systems.

Prerequisite(s): ATT 101 and 102.*Information:* Additional self-paced independent course study materials are required for non-certified Airframe and Powerplant students.**ATT 206 Infrared and Weather Radar Installation****5 cr. hrs. 7 periods (3 lec., 4 lab)**

Installation of weather radar systems, radio altimeter systems, and Enhanced Vision Systems (EVS). Includes schematic use, special tooling and equipment, switching, circuit protection, and instrument panel features for modification for installation. Also includes standard wiring and installation of stand-alone and integrated avionic devices and multifunctional display equipment. Also includes a mandatory requirement that all installed equipment be tested for functionality after installation.

Prerequisite(s): ATT 103 and 205.*Information:* Includes an emphasis on system operation, testing, and troubleshooting techniques demonstrated by technicians trained on the aircraft systems. Additional self-paced independent course study materials are required for non-certified Airframe and Powerplant students.

Behavioral Health Services

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

BHS 132 Communication Skills in Behavioral Health Services**3 cr. hrs. 3 periods (3 lec.)**

Development of communication skills important in establishing and maintaining effective helping relationships. Includes an emphasis on building rapport, improving effective listening skills, establishing trust, and delivering and receiving appropriate feedback. Also includes an overview of the helping process and the professional and physical environments in which counseling occurs.

BHS 154 Behavioral Health Lab and Safety Protocol**3 cr. hrs. 4 periods (2.5 lec., 1.5 lab)**

Introduction to the basic clinical procedures and safety precautions performed by a behavioral health specialist on site in a behavioral health setting. Includes facility, environmental, and patient safety; clinical and observational procedures such as taking vital signs and blood glucose monitoring (point of care testing); and observation and documentation of patients' behavior and physical condition. Also includes personal patient comfort and care, as well as basic medical terminology used in a behavioral healthcare clinical setting.

Prerequisite(s): SSE 128.**BHS 172 Clinical Behaviors****3 cr. hrs. 3 periods (3 lec.)**

Clinical Behaviors Overview of primary clinical behaviors encountered by behavioral health professionals, including substance use, violence and abuse, and grief and bereavement. Includes the spectrum of substance use issues, such as classification of drugs, theories of addiction, cultural perspectives, and treatment interventions. Also includes historical and contemporary causes of domestic violence, community resources, treatment centers and support groups, cultural awareness, and special populations at risk. Also includes techniques, strategies and treatment modalities for working with the bereaved and those affected by traumatic loss.

BHS 189LC Behavioral Health Clinical - Basic**1 cr. hrs. 2 periods (.75 lec., 1.25 lab)**

Provides students with hands on experience at a behavioral health organization. Includes an orientation to working in the behavioral health field; observation of professionals working directly with individuals receiving behavioral health care; professionalism in the behavioral health field; and application of the principles of care giving through hands on experience. Also includes direction in case management; patient relations; case documentation; and safety, clinical, and regulatory protocol.

Prerequisite(s): SSE 128.**BHS 250 Case Documentation****2 cr. hrs. 2 periods (2 lec.)**

Observation and documentation techniques necessary to maintain clinical records in a variety of community behavioral health settings. Includes appropriate terminology, technical forms, and the application of legal issues in case reports. Also includes an introduction to the types of clinical cases that behavioral health professionals encounter during the continuum of care, such as substance use and mental health issues.

Prerequisite(s): SSE 128, BHS 132 and 154.

Biology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

BIO 100HC Biology Concepts: Honors**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Basic principles and concepts of biology. Includes methods of scientific inquiry, cell structure, chemistry, metabolism, reproduction, genetics, molecular biology, evolution, ecology, and current issues in biology. Also includes additional Honors content.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in a format appropriate for the discipline with research presented in class or to a wider audience.

BIO 100IN Biology Concepts**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Basic principles and concepts of biology. Includes methods of scientific inquiry, cell structure and chemistry, metabolism, reproduction, genetics, molecular biology evolution, and ecology and current issues in biology.

BIO 104IN Animal Sexual Behavior**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Exploration of animal mating patterns via behavioral research. Includes animal behavior, evolutionary concepts, genetics of behavior, maximizing reproduction, and student research projects.

BIO 105HC Environmental Biology: Honors**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Fundamentals of ecology and their relevance to human impact on natural ecosystems. Includes ecosystem structure and function, population dynamics, and human impacts on air, water, land, and biodiversity. Also includes additional Honors content.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in a format appropriate for the discipline with research presented in class or to a wider audience.

BIO 105IN Environmental Biology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Fundamentals of ecology and their relevance to human impact on natural ecosystems. Includes ecosystem structure and function, population dynamics, and human impacts on air, water, land, and biodiversity.

BIO 108IN Plants, People and Society**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Past, present and future roles of plants in our lives. Includes basic principles of botany, modern, historical and regional perspectives on human use of plants, and present and future practices in plant cultivation.

BIO 109IN Natural History of the Southwest**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Study of the common plants and animals of the Southwest. Includes their identification, adaptation, behavior and ecology. Also includes physical geography and geological principles of the region.

BIO 112IN Bioscience Laboratory Fundamentals**4 cr. hrs. 8 periods (2 lec., 6 lab)**

Preparation of students to become lab technicians by introduction of fundamental skills, knowledge, and attitudes essential to any lab professional. Includes lab safety, documentation, quality control, lab math, validation and verification of results. Also includes understanding government regulations, biological solution preparation, assays, biological separations, and growing cells.

Prerequisite(s): MAT 089, complete module 35, or MAT 095, or MAT 097 (or placement into MAT 151 or higher on the Math assessment test).

BIO 115IN Wildlife of North America**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to the mammals, birds, fish, reptiles, amphibians, and selected invertebrates of North America. Includes habitats, wildlife interrelationships, population dynamics, and discussion of national, state, and private wildlife agencies. Also includes a laboratory emphasis on native Arizona species.

BIO 121IN Current Issues in Human Biology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Fundamental principles of human biology emphasizing the evolutionary processes that create human morphological and behavioral diversity. Includes an in-depth study of biological differences existing within and between human populations, focusing on genetic mechanisms and adaptive strategies. Topics of instructor and student interest will be examined through the lens of human evolutionary biology.

BIO 127HC Human Nutrition and Biology: Honors**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles of nutrition presented in the context of human biology. Includes chemistry, digestion, absorption, and metabolism of nutrients. Also includes biological and nutritional perspectives on various health issues such as cardiovascular disease, hypertension, cancer, diabetes, and osteoporosis, including genetic and epigenetic effects. Also covers analysis of scientific studies relating to nutrition. Also includes additional Honors content.

Information: Same as FSN 127HC. Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive research using the highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in format appropriate for the discipline with research presented in class or to a wider audience.

BIO 127IN Human Nutrition and Biology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles of nutrition presented in the context of human biology. Includes chemistry, digestion, absorption, and metabolism of nutrients. Also includes biological and nutritional perspectives on various health issues such as cardiovascular disease, hypertension, cancer, diabetes, and osteoporosis, including genetic and epigenetic effects. Also covers analysis of scientific studies relating to nutrition.

Information: Same as FSN 127IN.

BIO 131 Biosciences I: Laboratory Techniques**3 cr. hrs. 5 periods (2 lec., 3 lab)**

An introduction to a variety of techniques used in biotechnology, molecular biology, and recombinant DNA technology. Includes bioscience lab safety, lab documentation, lab mathematics, biochemical principles, proteins, and DNA. Also includes proper use of lab equipment necessary to work in a research or industrial setting.

Prerequisite(s): MAT 097 with a C or better (or placement into MAT 151 or higher on the Math assessment test), and CHM 130IN (or score of 34 or higher on CHM 130 assessment test: Banner Code CMAS).

BIO 132 Biosciences II: Laboratory Research**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of Biosciences I, with an emphasis in human genetics and biotechnology. Includes career exploration, history and application of recombinant DNA technology, fundamentals of cell biology and genetics, the Human Genome Project, and bioethics. Also includes an emphasis on a variety of advanced biotechniques and skills.

Prerequisite(s): BIO 112IN and 131.

BIO 135IN Genetics, Biotechnology and Human Affairs**4 cr. hrs. 6 periods (3 lec., 3 lab)**

An introduction to human genetics and biotechnology including career exploration, history and applications of recombinant DNA technology, the human genome project, and laboratory safe practices. Includes introduction to biotechnology, fundamentals of cell biology and genetics, applications of biotechnology, bioethics, careers in biotechnology, and laboratory techniques.

Recommendation: Completion of high school chemistry and high school biology before enrolling in this course.

BIO 156IN Intro Biology Allied Health**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introductory Biology for Allied Health Introduction to biology for the health professions. Includes principles of science, scientific measurement and laboratory techniques, chemistry of life, cell anatomy and physiology, cellular reproduction, patterns of inheritances and human tissues.

Recommendation: Completion of CHM130IN before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

BIO 157 Basic Histology for Anatomy and Physiology**1 cr. hrs. 1 periods (1 lec.)**

Structure and function of tissues found in the human body. Includes epithelial, connective, muscle, and nerve tissues.

Recommendation: Prior completion of or concurrent enrollment in BIO 181IN is recommended. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Completion of this course and BIO 181IN with grades of "C" or better will enable a student to enroll in BIO 201IN.

BIO 160IN Introduction to Human Anatomy and Physiology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Structure and dynamics of the human body. Includes foundations such as chemical, cellular and tissue levels of organization. Also includes major structures and functions of the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems.

BIO 181HC General Biology I (Majors): Honors**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles of structure and function of living things at the molecular and cellular levels of organization. Includes introduction to the scientific process, scientific measurements and laboratory techniques, chemistry of cells, organization of cells, metabolism, cell communication, patterns of cell division, patterns of inheritance, nucleic acids, gene expression, and biotechnology. Also includes additional Honors content.

Prerequisite(s): MAT 097 with a grade of C or better or placement into MAT 151 or higher, and REA 091 with a grade of C or better or placement into REA 112.

Recommendation: WRT 090 or 096 or assessment into WRT 101. CHM 151IN. BIO 100IN or 156IN is recommended for students who did not complete one year of general high school biology with a grade of B or better. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine if funding eligibility as appropriate.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in format appropriate for the discipline with research presented in class or to a wider audience.

BIO 181IN General Biology I: (Majors)**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles of structure and function of living things at the molecular and cellular levels of organization. Includes introduction to the scientific process, scientific measurements and laboratory techniques, chemistry of cells, organization of cells, metabolism, cell communication, patterns of cell division, patterns of inheritance, nucleic acids, gene expression, and biotechnology.

Prerequisite(s): MAT 097 with a grade of C or better or placement into MAT 151 or higher, and REA 091 with a grade of C or better or placement into REA 112.

Recommendation: WRT 090 or 096 or assessment into WRT 101. CHM 151IN. BIO 100IN or 156IN is recommended for students who did not complete one year of general high school biology with a grade of B or better. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

BIO 182HC General Biology II (Majors): Honors**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles of living things at the levels of organism, population, community, and ecosystem. Includes evolution of life, classification of organisms, survival strategies, interactions between organisms and with their environment, ecosystem structure, and human impacts upon the biosphere. Also includes additional Honors content.

Recommendation: Completion of BIO 181 before enrolling in this course.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before enrolling in this course. Honors Content may include: Intensive research using the highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in format appropriate for the discipline with research presented in class or to a wider audience.

BIO 182IN General Biology II: (Majors)**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles of living things at the levels of organism, population, community, and ecosystem. Includes evolution of life, classification of organisms, survival strategies, interactions between organisms and with their environment, ecosystem structure, and human impacts upon the biosphere.

Recommendation: Completion of BIO 181IN before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

BIO 183IN Marine Biology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Survey of marine environments and their biotic communities. Includes scientific measurements and laboratory techniques, principles of marine science, life in the marine environment, structure and function of marine ecosystems, and humans and the sea. Also includes an emphasis on the natural history of marine organisms.

BIO 184IN Plant Biology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Study of principles and processes in plant biology with emphasis on vascular plants. Includes plant structure, plant physiology and development, genetics, and evolution, and ecology.

BIO 201IH Human Anatomy, Physiology and Histology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Structure and function of the body. Includes introduction to the scientific process, scientific measurements, laboratory techniques such as microscope use, levels of organization, chemistry as applied to physiology, cell biology, gene regulation, homeostasis, anatomical terms, integumentary system, skeletal system and articulations, muscular and nervous systems, and special senses, as well as histology of these systems.

Prerequisite(s): MAT 097 with a grade of C or better or placement into MAT 151 or higher; and REA 091 with a C or better or placement into REA 112 or higher; and WRT 090 or 096 with a grade of C or better or placement into WRT 101.

Recommendation: One year of general high school biology with a grade of B or better; if student has not completed high school biology with a grade of B or better, it is recommended to register for BIO 156IN and BIO 201IN instead of BIO 201IH. If any recommended course is taken, see a financial aid or Veteran's Advisor to determine funding eligibility as appropriate.

Information: This course combines elements from BIO 156IN and meets the prerequisites for BIO 202IN.

BIO 201IN Human Anatomy and Physiology I**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Structure and function of the body. Includes levels of organization, homeostasis and disease, anatomical terms, integumentary system, skeletal system and articulations, muscular and nervous systems, autonomic nervous system, and special senses.

Prerequisite(s): BIO 156IN, or BIO 181 and BIO 157, with a grade of C or better; completion of a 200 level (or higher) Human Anatomy and Physiology course; or a passing grade on the Biology Assessment Exam.

BIO 202IN Human Anatomy and Physiology II**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of BIO 201IN/IH. Includes the structure and function of the endocrine cardiovascular, lymphatic/immune, respiratory, digestive, urinary, and reproductive systems.

Prerequisite(s): BIO 201IN or 201IH with a grade of C or better.

BIO 203 Anatomy and Physiology Review for Health Related Professions**2 cr. hrs. 2 periods (2 lec.)**

Review of human body systems which includes clinical application of human anatomy and physiology. Includes the nervous system, endocrine system, metabolism, cardiovascular system, respiratory system, urinary system, and digestive system. Also includes the integumentary system, skeletal system, muscular system, and reproductive system.

Prerequisite(s): BIO 201IN and BIO 202IN with a grade of C or better.

Recommendation: For students who are preparing to take board exams in the health related professions, or those who wish to review anatomy and physiology.

Information: May be taken 3 times for a maximum of 6 credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Financial aid may not cover this class if it is taken outside of a normal semester.

BIO 205IN Microbiology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Overview of the microbial world (bacteria, protozoa, fungi, and viruses). Includes microbial cell structure and function, diversity of microorganisms, growth, metabolism, microbial genetics, the identification of microorganisms, and the role of microorganisms in disease and immunity. Also includes principles of microbial control, antibiotic resistance, epidemiology and pathogenesis, as well as laboratory exercises to provide first hand experience with the organisms and processes discussed in lecture.

Prerequisite(s): BIO 156IN, or 181IN, or 201IH, or 201IN, or required score on the Biology assessment test.

Recommendation: Completion of CHM 130IN or equivalent. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

BIO 206 Biotechnology Instrumentation I**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles and methodologies of recombinant DNA technology. Includes preparation of solutions and growth media in a laboratory setting, and genetic analyses.

BIO 207 Biotechnology Instrumentation II**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles and methodologies of protein expression, isolation, identification and purification. Includes immunological and cell culture techniques.

Information: Consent of instructor required before enrolling in this course.

BIO 218 Human Pathophysiology**4 cr. hrs. 4 periods (4 lec.)**

Pathophysiological processes in humans and the development of clinical reasoning skills that distinguish between normal physiology and the physiology of disease or injury. Includes the etiology, clinical presentation, and appropriate treatment of selected disease processes. Also includes the pathophysiology of the hematological, cardiovascular, pulmonary, renal, endocrine, gastrointestinal, pancreatic, neurologic, musculoskeletal and reproductive systems.

Prerequisite(s): BIO 201IN, 202IN, and 205IN with a grade of C or better.

Information: This course is a prerequisite for the concurrent Associate Degree/Baccalaureate Degree Nursing program through Pima Community College and Northern Arizona University.

BIO 220 Introduction to Neurobiology and Cognitive Science**3 cr. hrs. 3 periods (3 lec.)**

Fundamentals of nervous system's structures, pathways, connections, and functions. Includes introduction to the principles of neuroanatomy, cellular and systems neurobiology, and cognitive neuroscience. Also includes examination of normal brain function compared to neuropathology; survey data from work with animals, humans, machines and how it has furthered our understanding of complex human behavior; and social significance of brain research.

Prerequisite(s): With a grade of C or higher: BIO 181IN or 201IH or 201IN or 202IN.

BIO 250 Biomedical Ethics**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the nature and scope of decision making in public health, medicine and health care, as it relates to bioethical issues. Includes overview of dilemmas in bioethics, legal, social and ethical issues in human genetics, the beginning of life, and the end of life. Also includes life and death decisions, human organ transplantation, and regulations of human research.

Prerequisite(s): WRT 101 with a grade of C or better.

BIO 291 Biology Internship**1-3 cr. hrs. 3-9 periods**

Supervised work experience in a bioscience industry or academic research lab setting. Includes emphasis on the observation and enhancement of professional and management skills, team communication and interaction. Also includes the application of research principles, procedures, protocols, and regulations in the workplace. Student may rotate through a variety of industry or academic research sites agreed upon by the instructor and student.

Prerequisite(s): BIO 132 or concurrent enrollment, and 156IN.

Information: Consent of instructor is required before enrolling in this course. May be taken three times for a maximum of three credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. One credit hour is equivalent to 45 clock hours at internship site.

BIO 295LB Independent Research in Biology**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Experience in scientific laboratory or field research. Specific content to be determined by student and instructor.

Information: One semester of biology and consent of instructor is required before enrolling in this course. May be taken three times for a maximum of twelve credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

BIO 296 Special Projects in Biology**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Exploration of special interest areas. Content to be determined by student and facilitator/instructor.

Information: One year of biology is required before enrolling in this course. May be taken two times for a maximum of eight credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

BIO 299 Co-op: Biotechnology**1 cr. hrs. 1 periods (1 lec.)**

Principles of job success. Includes biotechnology workplace skills; communication; time and energy management; stress and its management; careers; placing yourself on the job market; principles, techniques, and practices in the career field; and problems in the work situation.

Prerequisite(s): BIO 206 and 207 with a grade of B or better.

Corequisite(s): BIO 299WK

Recommendation: Completion of CHM 236IN before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

BIO 299WK Co-op Work: Biotechnology**3 cr. hrs. 15 periods (15 lab)**

A supervised cooperative work program for students in the biotechnology industry or academic research. Includes teacher-coordinators working with students and their supervisors in industry or research. Also includes developing competency and improved self-confidence in the biotechnology workplace.

Prerequisite(s): BIO 206 and 207 with a grade of B or better.

Corequisite(s): BIO 299

Recommendation: Completion of CHM 236IN before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Consent of instructor is required before enrolling in this course. This may be paid or unpaid experience. May be taken two times for a maximum of six credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Building and Construction Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

BCT 100 Professionalism in Service for BCT**1 cr. hrs. 1 periods (1 lec.)**

Procedures in business and customer service. Includes an introduction to professionalism, self-evaluation, service routine, addressing dissatisfied customers, and problem situations.

BCT 101 Principles of Construction**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the principles of construction. Includes the building delivery process, government constraints, green building and sustainable design, calculating loads and resistance factors, and composition, closing process, codes, and Green Building Certification and Award.

BCT 102 Building Materials**3 cr. hrs. 3 periods (3 lec.)**

Construction standards and specific types of building materials used in commercial, industrial, residential and private construction projects. Includes beginning construction standards, site work, concrete, masonry, metals, wood and wood products, thermal and moisture protection, doors and windows, finishes, specialties, equipment, furnishings, special construction, conveying systems, mechanical systems, and electrical systems.

BCT 104 Introduction to Equipment Maintenance**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Procedures and concepts for maintaining buildings in a commercial/industrial setting. Includes preventative maintenance requirements, maintenance terminology, industrial tool use, electrical equipment maintenance, electrical feed, bearing applications, sheaves applications, flexible drives and V-belts, centrifugal pump maintenance, vacuum pump maintenance, fire suppressant system maintenance and repair, metal fabrication, steel pipe plumbing, as-built print reading, lubricants, and interior wall frame/ construction.

Prerequisite(s): BCT 132 or concurrent enrollment.

BCT 105 Professionalism in Service, Construction Math, Basic Rigging**3 cr. hrs. 3 periods (3 lec.)**

Concepts, procedures and techniques in service, construction math, and rigging. Includes an introduction to professionalism, self-evaluation, service routine, addressing dissatisfied customers, and problem situations. Includes basic mathematics concepts and employability in the construction industry. Also includes how to safely handle and use rigging equipment.

Information: Equivalent to BCT 100, BCT 112, and BCT 115.

BCT 106 Soldering and Brazing for BCT**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Principles and technologies of joining different types of alloys by braze welding and soldering. Includes safety and health, procedures and design, pre-cleaning and surface preparation, filler metals, fluxes and atmospheres, torch brazing, pipe and tube, copper, and cast iron.

Prerequisite(s): BCT 105 and 107 or concurrent enrollment.

Information: BCT 100, 112, and 115 substitute for BCT 105. BCT 111, 113, and 114 substitute for BCT 107.

BCT 107 Basic Safety, Hand & Power Tools, Blueprint Reading**3 cr. hrs. 3 periods (3 lec.)**

Introduction to federal safety standards, tools, and blueprint reading in the construction industry. Includes employer responsibility-employee right to know, personal protective equipment, material handling, hand and power tools, electrical hazards, hazards communication standards, fire safety, scaffolds, and fall protection. Also includes basic concepts in blueprint reading terminology, components, lines, locations, dimensions, production techniques, parts, and locations.

Information: Equivalent to BCT 111, BCT 113, and BCT 114.

BCT 109 NCCER Core Introductory Craft Skills**5.75 cr. hrs. 6.65 periods (4.85 lec., 1.8 lab)**

National Center for Construction Education and Research (NCCER) core introduction to craft skills. Includes basic safety, basic construction math, introduction to hand tools, introduction to power tools, basic construction drawings, basic communications skills, basic employability skills, and introduction to material handling. Also includes as an elective an introduction to basic rigging.

Information: BCT 109A, BCT 109B, BCT 109C, BCT 109D, BCT 109E, BCT 109F, BCT 109G, BCT 109H, and BCT 109I comprise BCT 109. These courses are equivalent to the NCCER Core Introduction to Craft Skills (Fifth Edition). BCT 109A through BCT 109H, NCCER Core Introduction to Craft Skills, are prerequisites for students wishing to earn additional NCCER certifications.

BCT 109A NCCER Core Basic Craft Safety**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

National Center for Construction Education and Research (NCCER) Core basic craft safety. Includes safety and hazard recognition, elevated work and fall protection, struck-by and caught-in-between hazards, energy release hazards, personal protective equipment (PPE), and job-site hazards.

Information: BCT 109A, BCT 109B, BCT 109C, BCT 109D, BCT 109E, BCT 109F, BCT 109G and BCT 109H, and BCT 109I comprise BCT 109. These courses are equivalent to the NCCER Core Introduction to Craft Skills (Fifth Edition). BCT 109A through BCT 109H, NCCER Core Introduction to Craft Skills, are prerequisites for students wishing to earn additional NCCER certifications.

BCT 109B NCCER Core Basic Construction Math**.75 cr. hrs. .75 periods (.75 lec.)**

National Center for Construction Education and Research (NCCER) Core basic construction math. Includes whole numbers, fractions, the decimal system, measuring length, converting between the imperial and metric systems, and basic angles and geometric shapes.

Information: BCT 109A, BCT 109B, BCT 109C, BCT 109D, BCT 109E, BCT 109F, BCT 109G and BCT 109H, and BCT 109I comprise BCT 109. These courses are equivalent to the NCCER Core Introduction to Craft Skills (Fifth Edition). BCT 109A through BCT 109H, NCCER Core Introduction to Craft Skills, are prerequisites for students wishing to earn additional NCCER certifications.

BCT 109C NCCER Core Introduction to Hand Tools**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

National Center for Construction Education and Research (NCCER) Core introduction to hand tools. Includes types of hand tools, measurement and layout tools, cutting and shaping tools, and common hand tools used by skilled craft workers.

Information: BCT 109A, BCT 109B, BCT 109C, BCT 109D, BCT 109E, BCT 109F, BCT 109G and BCT 109H, and BCT 109I comprise BCT 109. These courses are equivalent to the NCCER Core Introduction to Craft Skills (Fifth Edition). BCT 109A through BCT 109H, NCCER Core Introduction to Craft Skills, are prerequisites for students wishing to earn additional NCCER certifications.

BCT 109D NCCER Core Introduction to Power Tools**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

National Center for Construction Education and Research (NCCER) Core introduction to power tools. Includes power drills, impact wrenches, power saws, grinders and their associated attachments, and miscellaneous power tools commonly used by skilled craft workers.

Information: BCT 109A, BCT 109B, BCT 109C, BCT 109D, BCT 109E, BCT 109F, BCT 109G and BCT 109H, and BCT 109I comprise BCT 109. These courses are equivalent to the NCCER Core Introduction to Craft Skills (Fifth Edition). BCT 109A through BCT 109H, NCCER Core Introduction to Craft Skills, are prerequisites for students wishing to earn additional NCCER certifications.

BCT 109E NCCER Core Basic Construction Drawings**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

National Center for Construction Education and Research (NCCER) Core basic construction drawings. Includes types of construction drawings, drawing components, drawing elements, dimensions and measuring scales.

Information: BCT 109A, BCT 109B, BCT 109C, BCT 109D, BCT 109E, BCT 109F, BCT 109G and BCT 109H, and BCT 109I comprise BCT 109. These courses are equivalent to the NCCER Core Introduction to Craft Skills (Fifth Edition). BCT 109A through BCT 109H, NCCER Core Introduction to Craft Skills, are prerequisites for students wishing to earn additional NCCER certifications.

BCT 109F NCCER Core Basic Communications Skills**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

National Center for Construction Education and Research (NCCER) Core basic communications skills. Includes basic verbal communications, active listening, basic reading and basic writing skills employed by skilled craft workers.

Information: BCT 109A, BCT 109B, BCT 109C, BCT 109D, BCT 109E, BCT 109F, BCT 109G and BCT 109H, and BCT 109I comprise BCT 109. These courses are equivalent to the NCCER Core Introduction to Craft Skills (Fifth Edition). BCT 109A through BCT 109H, NCCER Core Introduction to Craft Skills, are prerequisites for students wishing to earn additional NCCER certifications.

BCT 109G NCCER Core Basic Employability Skills**.5 cr. hrs. .5 periods (.5 lec.)**

National Center for Construction Education and Research (NCCER) Core basic employability skills. Includes opportunities in the construction industry, critical thinking and problem solving, and relationship and social skills.

Information: BCT 109A, BCT 109B, BCT 109C, BCT 109D, BCT 109E, BCT 109F, BCT 109G and BCT 109H, and BCT 109I comprise BCT 109. These courses are equivalent to the NCCER Core Introduction to Craft Skills (Fifth Edition). BCT 109A through BCT 109H, NCCER Core Introduction to Craft Skills, are prerequisites for students wishing to earn additional NCCER certifications.

BCT 109H NCCER Core Introduction to Materials Handling**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

National Center for Construction Education and Research (NCCER) Core introduction to materials handling. Includes principles of materials handling and materials handling equipment.

Information: BCT 109A, BCT 109B, BCT 109C, BCT 109D, BCT 109E, BCT 109F, BCT 109G and BCT 109H, and BCT 109I comprise BCT 109. These courses are equivalent to the NCCER Core Introduction to Craft Skills (Fifth Edition). BCT 109A through BCT 109H, NCCER Core Introduction to Craft Skills, are prerequisites for students wishing to earn additional NCCER certifications.

BCT 109I NCCER Core Introduction to Basic Rigging**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

National Center for Construction Education and Research (NCCER) Core introduction to basic rigging. Includes basic rigging hardware and emergency communications.

Information: BCT 109A, BCT 109B, BCT 109C, BCT 109D, BCT 109E, BCT 109F, BCT 109G and BCT 109H, and BCT 109I comprise BCT 109. These courses are equivalent to the NCCER Core Introduction to Craft Skills (Fifth Edition). BCT 109A through BCT 109H, NCCER Core Introduction to Craft Skills, are prerequisites for students wishing to earn additional NCCER certifications.

BCT 111 Basic Safety for the Building Trades**1 cr. hrs. 1 periods (1 lec.)**

Introduction to federal safety training standards. Includes employer responsibility-employee right to know, personal protective equipment, material handling, hand and power tools, electrical hazards, hazards communication standards, fire safety, scaffolds, fall protection, cranes, and stairways and ladders.

Information: Successful completion of this course qualifies the student for the 10 hour safety training card.

BCT 112 Construction Mathematics, Communication and Employability**1 cr. hrs. 1 periods (1 lec.)**

Introduction to basic mathematics concepts and employability in the construction industry. Includes whole numbers, measurements, fractions, decimals, conversion process, metric system, construction geometry, reading, writing, listening and speaking skills, employability in the construction business, critical thinking and computer skills, relationship skills, and workplace issues.

Information: Mathematics assessment test is required before enrolling in this course.

BCT 113 Hand and Power Tools**1 cr. hrs. 1 periods (1 lec.)**

Selection and safety procedures. Includes trades terms, hand tool, and power tool use to specific jobs in the construction industry.

BCT 114 Blueprint Reading**1 cr. hrs. 1 periods (1 lec.)**

Basic concepts of blueprints. Including terms and symbols, components, measuring tools, line types and symbols, abbreviations, grid lines, plan locations, and dimensions, production techniques, and blueprint reading parts and locations.

BCT 115 Basic Rigging**1 cr. hrs. 1 periods (1 lec.)**

Rigging hardware and equipment. Includes safety, rigging equipment, inspection, crane hand signals, estimating an object, common rope knots, types of derricks and cranes, rigging and moving equipment use, and handling hazardous material.

BCT 120 Blueprint Reading for Construction**3 cr. hrs. 3 periods (3 lec.)**

Residential and light commercial blueprint reading. Includes blueprint symbols and terminology, construction materials, applications and specifications for commercial buildings, light frame and brick veneer construction, and appropriate mathematics.

Recommendation: Completion of BCT 107 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: BCT 111, 113, and 114 substitute for BCT 107.

BCT 123 Concrete/Masonry**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Basic concepts and materials for concrete construction, finishing, and masonry work. Includes trade terminology, composition and characteristics of concrete, uses of concrete as a building material, effects of craftsmanship on finished concrete, concrete construction process, site operations and work set-up, history of masonry, and modern masonry materials and methods.

BCT 130 EPA Clean Air Act: Section 608**1 cr. hrs. 1 periods (1 lec.)**

Freon certification preparation. Includes basics of refrigerant bearing equipment, ozone depletion and the new legislation, technician categories covered on the certification examination, and certification testing.

BCT 132 Residential and Industrial HVAC I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Introduction to materials and procedures for heating, ventilating, and air conditioning (HVAC). Includes trade mathematics, copper and plastic piping practices, soldering and brazing, ferrous metal piping practices, basic electricity, introduction to cooling and heating, and air distribution systems.

Prerequisite(s): BCT 105 and 107.

Information: BCT 100, 112, and 115 substitute for BCT 105. BCT 111, 113, and 114 substitute for BCT 107.

BCT 133 Residential and Industrial HVAC II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 132. Introduction to commercial airside systems. Includes chimneys, vents, flues, hydronic systems, air quality equipment, leak detection, evacuation, recovery, charging, alternating current, and basic electronics.

Prerequisite(s): BCT 132.

BCT 134 Residential and Industrial HVAC III**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 133. Introduction to the principles of heat transfer, humidity, filtering, and energy saving devices used in HVAC systems. Includes accessories and optional equipment, metering devices, compressors, heat pumps, leak detection, evacuation, recovery, and charging.

Prerequisite(s): BCT 133 or concurrent enrollment.

BCT 135 National Electrical Code Residential Wiring Applications**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Electrical wiring and installation conforming to National Electrical Code requirements. Includes grounded systems, requirements for over-current protection of conductors, ampacity criteria, installing over-current protection of conductors, installing services, installing motors and transformers, remote control and signaling circuits, and installing structured wiring in homes and offices.

Prerequisite(s): BCT 172.

BCT 145 Carpentry I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Theories and concepts for carpentry. Includes orientation to the trade, wood building materials, fasteners and adhesive, hand and power tools, floor systems, wall, ceiling, and roof framing, and windows and exterior doors.

Prerequisite(s): BCT 105 and 107 or concurrent enrollment.

Information: BCT 100, 112, and 115 substitute for BCT 105. BCT 111, 113, and 114 substitute for BCT 107.

BCT 146 Woodworking I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Concepts and procedures for working with hardwoods. Includes introduction to hardwoods, measuring hardwoods, use of hardwoods, pressure treated wood, hardwood preparation, ripping wood, miter cuts, cross cuts, job site safety, gluing and clamping, veneers, curves and circles, dados and rabbets, and smoothing wood.

BCT 147 Woodworking II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

A continuation of BCT 146. Advanced topics in woodworking. Includes safety practices; designing and planning; measuring and cutting; planing, chiseling, and sanding; butt, biscuit and dowel joints; rabbet joints; dado joints; lap joints; miter joints; mortise-and-tenon joint; veneers; using fasteners, dovetail joints and case casework; and applying stains and clear finishes.

Prerequisite(s): BCT 146.

Information: Prerequisite(s) may be waived with consent of instructor.

BCT 148 Cabinetmaking I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Concepts and procedures for fine woodworking practices. Includes introduction to cabinetmaking, cabinetry styles, human factors, working drawings, lumber and millwork, manufactured panel products, veneers and plastic overlays, hardware, health and safety, measuring and laying out materials, stationary power machines, hand and portable power tools, surfacing and shaping, and building a basic cabinet.

Prerequisite(s): BCT 147.

BCT 149 Cabinetmaking II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of BCT 148. Includes turning, joint making, abrasives and sanding machines, gluing and clamping, bending and laminating wood, overlaying and inlaying veneer, installing plastic laminates, advanced case construction, doors, drawers, applying finishing materials, kitchen cabinets, industrial production cabinetmaking, and employment in cabinetmaking.

Prerequisite(s): BCT 148.

Information: Prerequisite may be waived with appropriate carpentry/cabinetmaking skills. See an instructor or department chair for information.

BCT 150 Plumbing Basics**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Theories and concepts for plumbing and pipe fitting. Includes physics for plumbers, plumbing materials, water supplies, drainage, sewage disposal, pipe joint connections, pipe fittings, rough-in, valves and faucets, and fixtures.

Prerequisite(s): BCT 111.

BCT 153 Finishing Techniques in Cabinet and Furniture Making**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Wood finishing techniques for cabinet and furniture making. Includes safe and effective use of a variety of wood finishes and finishing equipment, reasons for finishing wood, tools for applying finishes, oil finishes, wood stains, pore fillers, introduction to film finishes, shellac, lacquer, varnish, water-based finishes, conversion finishes, choosing a finish, "finishing" the finish, caring for wood finishes, repairing finishes, finishing different woods, and strippers.

Recommendation: Woodworking and cabinetmaking experience helpful. See a BCT faculty member for assistance.

BCT 159 Furniture Design and Construction**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Wood furniture-making techniques for hobbyists and professionals. Includes basic material; tools and equipment safety and use; basic techniques and joint construction; advanced areas of furniture construction; metal fittings/fasteners and their application; advanced techniques in furniture making; drafting and workshop geometry; furniture designs and construction details; and restoration, repairs, and wood finishing.

Prerequisite(s): BCT 147.

BCT 172 Electrical I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Concepts and procedures for building and construction electrical training. Includes safety, conduit bending, electrical theory, test equipment, National Electric Code, aceways, boxes, and fittings, print reading, and wiring applications.

Prerequisite(s): BCT 105 and 107 or concurrent enrollment.

Information: BCT 100, 112, and 115 substitute for BCT 105. BCT 111, 113, and 114 substitute for BCT 107.

BCT 173 Electrical II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 172. Includes alternating current, motor installation, grounding of structures and equipment, conduit bending, electrical boxes and fittings, and conductor installations.

Prerequisite(s): BCT 172.

BCT 174 Electrical III**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 173. Includes conductor installation, cable tray, conductor termination and splices, electric service installation, circuit breakers and fuses, contactors and relays, and electrical lighting.

Prerequisite(s): BCT 173 or concurrent enrollment.

BCT 181 Residential and Industrial Plumbing I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Introduction to common types of piping, their proper fitting, fixtures, and distribution systems. Includes introduction to the plumbing trade and drawings; plastic, copper, cast-iron, and carbon steel piping; fixtures and faucets; introduction to drainage, waste, and vent (DWV) systems; and water distribution systems.

Prerequisite(s): BCT 105 and 107.

Information: BCT 100, 112, and 115 substitute for BCT 105. BCT 111, 113, and 114 substitute for BCT 107.

BCT 182 Residential and Industrial Plumbing II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Concepts and practices for plumbing. Includes offsets around obstructions, reading commercial drawings, installing and testing drainage, waste, and vent (DWV) piping system, installing roof, floor and area drains, and servicing various types of valves.

Prerequisite(s): BCT 181.

BCT 183 Residential and Industrial Plumbing III**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 182. Concepts and installation procedures for water service, fixtures, and appliances. Includes installing and testing water supply piping, fixtures, valves, and faucets; electrical applications; water heaters; fuel gas systems; and servicing of fixtures, valves, and faucets.

Prerequisite(s): BCT 182 or concurrent enrollment.

BCT 184 National Electrical Code I**3 cr. hrs. 3 periods (3 lec.)**

Requirements for the installation of electrical conductors, equipment, raceways, cables, and special occupancies. Includes introduction to the National Electrical Code, wiring and protection, wiring methods and materials, and equipment for general use.

Prerequisite(s): BCT 172.

Information: BCT 184 and 284 together provide preparation for the National Electrical Code certification exam.

BCT 190 Fieldwork for Construction**1-8 cr. hrs. 5-40 periods (5-40 lab)**

Supervised fieldwork experience on a specific construction project at the project site.

Prerequisite(s): BCT 105 and 107.

Information: May be taken two times for a maximum of sixteen credit hours. If this course is to be repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. BCT course work or field experience will be necessary for success in this course. See a BCT instructor or department chair for more information. BCT 100, 112, and 115 substitute for BCT 105. BCT 111, 113, and 114 substitute for BCT 107.

BCT 202 Construction Business Management**3 cr. hrs. 3 periods (3 lec.)**

Overview of construction business and project management. Includes planning and organizing, risk management, project management, estimating, scheduling, environmental and safety laws, employer obligations, financial management, contract law, and Arizona state requirements for contractors.

BCT 204 Construction Surveying**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Principles and techniques of construction surveying. Includes taping, leveling, transit, contour and topographic mapping, and construction surveying.

Prerequisite(s): Within the last three years: MAT 086 with a C or better or MAT 089A through Module 15 or GTM 105 with a C or better or required score on the Mathematics assessment test.

Recommendation: Completion of BCT 120 before enrolling in this course. If any recommended course is taken, see a financial aid Veteran's Affairs advisor to determine funding eligibility as appropriate.

BCT 231 Residential and Industrial HVAC IV**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 134. Includes refrigerants and oil, compressors, metering devices, retail refrigeration systems, commercial hydronic systems, and steam systems.

Prerequisite(s): BCT 134.

BCT 232 Residential and Industrial HVAC V**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 231. Includes planned maintenance, water treatment, troubleshooting electronic controls, troubleshooting oil heating, troubleshooting heat pumps, and troubleshooting accessories.

Prerequisite(s): BCT 231 or concurrent enrollment.

BCT 233 Residential and Industrial HVAC VI**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 232. Includes construction drawings and specifications, indoor air quality, energy conservation equipment, and building management systems.

Prerequisite(s): BCT 232.

BCT 234 Residential and Industrial HVAC VII**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 233. Includes water treatment, system startup and shutdown, heating and cooling system design, and commercial and industrial refrigeration systems.

Prerequisite(s): BCT 233 or concurrent enrollment.

BCT 235 National Electric Code Commercial Wiring Applications**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Commercial electrical wiring and installation practices conforming to the National Electric Code. Includes commercial building plans, specifications, and drawings, electrical loads and branch circuits, switches and receptacles, branch circuit installations, motor and appliance circuits, feeders, special systems and circuits, panelboard selection and installation, electric service equipment, lamps and luminaries, emergency and standby power systems, and overcurrent protection.

Prerequisite(s): BCT 135.

BCT 236 Residential and Industrial Plumbing IV**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 183. Concepts that apply to plumbing installations. Includes applied math, sizing water supply piping, potable water treatment, and backflow preventers.

Prerequisite(s): BCT 183.

BCT 237 Residential and Industrial Plumbing V**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 236. Includes types of venting; sizing DWV and storm systems; sewage pumps and sump pumps; corrosive resistant waste piping; and compressed air.

Prerequisite(s): BCT 236 or concurrent enrollment.

BCT 238 Residential and Industrial Plumbing VI**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 237. Includes concepts and practices essential to competitive and successful plumbing businesses. Also includes business principles for plumbers, introductory skills for the crew leader, water pressure booster and recirculation systems, indirect and special waste, and hydronic and solar heating systems.

Prerequisite(s): BCT 237.

BCT 239 Residential and Industrial Plumbing VII**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 238. Includes codes; servicing piping systems, fixtures, and appliances; private water supply well systems; private waste disposal systems; swimming pools and hot tubs; and plumbing for mobile homes and travel trailers.

Prerequisite(s): BCT 238 or concurrent enrollment.

Information: BCT coursework or field experience will be necessary for success in this course. See a BCT instructor or department chair for more information.

BCT 245 Carpentry II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 145. Includes techniques for reading construction drawings and specifications, site layout, measurement, and leveling, concrete materials and concrete reinforcement materials, construction of forms for footings and on-grade slabs, and concrete forms.

Prerequisite(s): BCT 145.

BCT 265 Sustainability for Building Trades**3 cr. hrs. 3 periods (3 lec.)**

Fundamentals of sustainable design. Includes green building practices and implementation. Also includes green building concepts, site and building planning and development, materials, strategies, cost benefit analysis, and practical applications in the current construction business environment.

BCT 271 Electrical IV**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 174. Includes load calculations-branch and feeder circuits, conductor selection and calculations, practical applications of lighting, hazardous locations, and overcurrent protection.

Prerequisite(s): BCT 174 or concurrent enrollment.

BCT 272 Electrical V**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 271. Includes distribution equipment, transformers, commercial electrical services, motor calculations, voice, data, and video, and motor controls.

Prerequisite(s): BCT 271.

BCT 273 Electrical VI**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 272. Includes load calculations-feeders and services, health care facilities, standby and emergency systems, basic electronic theory, fire alarm systems, and specialty transformers.

Prerequisite(s): BCT 272 or concurrent enrollment.

BCT 274 Electrical VII**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of BCT 273. Includes advanced controls, signaling systems, specialty transformers, standby and emergency systems, welding machines, HVAC controls, and heat tracing and freeze protection.

Prerequisite(s): BCT 273.

BCT 284 National Electrical Code II**3 cr. hrs. 3 periods (3 lec.)**

Continuation of BCT 184. Includes introduction to the National Electrical Code, special occupancies, special equipment, special conditions, and communication systems.

Prerequisite(s): BCT 184 or concurrent enrollment.

Information: BCT 184 and BCT 284 together provide preparation for the National Electrical Code certification exam.

BCT 286 International Residential Code (IRC) I**3 cr. hrs. 3 periods (3 lec.)**

Requirements of the major systems of residential building construction (other than commercial). Includes administration, definitions, building planning, foundations, floors, wall construction, wall covering, roof-ceiling construction, roof assemblies, chimneys and fireplaces.

Recommendation: Completion of general construction field experience before enrolling in this course.

BCT 287 International Residential Code (IRC) II**3 cr. hrs. 3 periods (3 lec.)**

Continuation of BCT 286. Includes energy efficiency, mechanical systems, plumbing systems, electrical systems, and referenced standards.

Prerequisite(s): BCT 286.

BCT 290 Building and Construction Technologies Capstone**4 cr. hrs. 10 periods (1 lec., 9 lab)**

Supervised workplace placement in the building construction trades field. Includes the application of building construction concepts and techniques. Also includes critical thinking, problem solving, personnel management, leadership, oral and written communication skills.

Information: Student must be working toward an AAS in Applied Technology. Satisfactory completion of pathway for three semesters or instructor approval. The students' work experience is coordinated by a member of the College's faculty or professional staff or by staff of the contracted/contracting agency; the primary supervision is from the employer or other individual contracted to provide the experience. Contingent on the agreement between the student and the employer, students may or may not receive remuneration for workplace learning experiences. Note: This definition applies to all experiences in which the student applies concepts and practices learned previously or concurrently to facilitated observation and/or practical work situations within an occupational field. BCT course work or field experience will be necessary for success in this course. See the BCT Department Head or Discipline Coordinator for more information.

Business

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

BUS 100 Introduction to Business**3 cr. hrs. 3 periods (3 lec.)**

Principles of business operations in the private enterprise system. Includes contemporary business and its environment, structure of American business, management principles of the organization, people, and production, marketing management, information systems and accounting, and financing the enterprise.

BUS 125 eCommerce**3 cr. hrs. 3 periods (3 lec.)**

Introduction to conducting business on the Internet. Includes electronic commerce terminology, locating information, business applications, legal issues and security, and web site components and connectivity. Also includes marketing on the Internet, career opportunities, future developments, and building and operating a successful e-commerce store.

BUS 148 Ethics in the Workplace**3 cr. hrs. 3 periods (3 lec.)**

Ethical principles in decision making applied to the business and industry workplace. Includes ethical issues in decision making, ethical frameworks for decisions, personal values and ethical priorities, ethics in business and industry, ethical standards in the workplace, ethical choices, application of ethical principles, social and cultural values applied to decisions, and workplace culture.

BUS 151 Mathematics of Business**3 cr. hrs. 3 periods (3 lec.)**

Applying mathematical procedures, using algebraic techniques, critical thinking, and problem-solving methods for practical utility in the business environment. Includes math review; bank records; payroll; trade and cash discounts; markup and markdown; simple and compound interest; present and future value; annuities and sinking funds; consumer credit; depreciation; inventory, overhead, and turnover; financial statements; insurance; taxes; and stocks and bonds.

Prerequisite(s): Completion of Module 22 in MAT 089A or 089B or satisfactory score on the Mathematics assessment test.

BUS 205 Statistical Methods in Economics and Business**3 cr. hrs. 3 periods (3 lec.)**

Introduction to statistical concepts and methods of business. Includes statistics, data, and statistical thinking; methods for describing sets of data, probability, sampling distributions, inferences based on single sample and two samples; estimation with confidence intervals and tests of hypothesis; correlation and regression; time series; design of experiments; analysis of variance (ANOVA), and categorical data analysis.

Prerequisite(s): MAT 212 or 220.

Information: MAT 172 or 173 may be accepted as the prerequisite if taken prior to Fall 2013. Basic Excel knowledge is required before enrolling in this course.

BUS 210 International Business**3 cr. hrs. 3 periods (3 lec.)**

Introduction to international business, focusing on the importance of cultural, economic, legal, political, sociological, and strategic complexities that emerge when business activities transcend international borders. Includes the terminology of international business and the basic do's and don'ts within the various foreign business societies.

BUS 220 Legal Environment of Business**3 cr. hrs. 3 periods (3 lec.)**

Overview of the impact of law, ethics and corporate responsibility in business. Includes basic concepts of law, structure, characteristics, the administration thereof, and continues through the many facets of business and the law including without limitation, formation, operation, ethics, corporate responsibility, agency, contracts, and government regulation.

BUS 277 Analytical Methods in Business**4 cr. hrs. 4 periods (4 lec.)**

Business statistic topics and applications. Includes descriptive measures and continuous probability distributions; sampling distributions, hypothesis testing, statistical inference, analysis of variance, correlation and regression with an emphasis placed on application to business cases using data rich case analysis. Also includes Excel and SPSS workshops for statistical analyses on business and economic cases accompanied by sample reports incorporating test results, its conclusions and the communication of such conclusions.

Prerequisite(s): MAT 212 and BUS 205

Recommendation: CIS 120. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Basic Excel knowledge is required before enrolling in this course. CIS 120 meets this requirement.

BUS 296 Independent Study in Business**1-3 cr. hrs. 1-3 periods (1-3 lec.)**

Independent study projects or special interest areas in business under the supervision of a faculty member.

Prerequisite(s): BUS 100.

Information: May be taken two times for a maximum of six credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Chemistry

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

CHM 080 Preparation for General Chemistry**1 cr. hrs. 1 periods (1 lec.)**

Fundamentals of chemistry. Includes nomenclature, atomic structure, bonding, chemical equations, moles, stoichiometry, the periodic table, conversions, problem solving techniques and study skills.

Prerequisite(s): Within the last three years: MAT 095 or 097 with a grade of C or better, or required score on the mathematics placement test.

Information: Designed to prepare students for CHM 151IN. NOTE: Please be aware that this course is not eligible for the calculation of Federal Student Aid.

CHM 121IN Chemistry and Society**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Basic chemistry and its relationship to everyday experiences. Includes classification and structure of matter; radioactivity; compound formation from elements; and electron transfer. Also includes acids, bases, salts, the liquid state, the gas state, and special topics.

Information: Designed for non-science majors, education majors, and the general public.

CHM 130IN Fundamental Chemistry**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Inorganic Chemistry as a basis for the study of some life processes. Includes the classification, structure and general chemical behavior of inorganic matter.

Prerequisite(s): With a grade of B or better: MAT 092, or required score on mathematics placement test. Students receiving a grade of C in MAT 092 will be required to register for the CHM 130RC course concurrently. For students receiving a grade of B or higher in MAT 092 or placing into MAT 097 or higher in the Math placement, the CHM 130RC course is optional.

Information: Adapted to the needs of students in allied health programs.

CHM 130RC Fundamental Chemistry Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with CHM 130IN. Facilitated discussions, discrete study groups, and collaborative problem solving provide more thorough discourse on classroom concepts and theory. Inorganic Chemistry as a basis for the study of some life processes. Includes the classification, structure and general chemical behavior of inorganic matter.

Corequisite(s): CHM 130IN

Information: Pass-fail only. Students receiving a grade of C in MAT 092 will be required to register for CHM 130RC concurrently. For students receiving a grade of B or higher in MAT 092 or placing into MAT 097 or higher on the MAT placement, the CHM 130RC course is optional. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

CHM 140IN Fundamental Organic and Biochemistry**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CHM 130IN. Organic chemistry as the basis for the study of some important life processes. Includes the classification, structure, and general chemical behavior of organic and biochemical systems.

Prerequisite(s): A grade of B or better in CHM 130IN. Students receiving a grade of C in CHM 130IN will be required to register for the CHM 140RC course concurrently; for students receiving a grade of B or higher in CHM 130IN, the CHM 140RC course is optional.

Information: Adapted to the needs of students in allied health programs.

CHM 140RC Fundamental Organic and Biochemistry Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with CHM 140IN. Facilitated discussions, discrete study groups, and collaborative problem solving provide more thorough discourse on classroom concepts and theory. Organic chemistry as the basis for the study of some important life processes. Includes the classification, structure, and general chemical behavior of organic and biochemical systems.

Corequisite(s): CHM 140IN

Information: Pass-Fail only. Students receiving a grade of C in CHM 130IN will be required to enroll in CHM 140RC. Students with a grade of B or higher in CHM 130IN, the CHM 140RC course is optional. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

CHM 151IN General Chemistry I**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to the foundations of chemistry for upper-level sciences and engineering. Includes atomic structure, chemical bonding, reaction stoichiometry, behavior of gases, and reactions in solutions. Also includes an introduction to thermochemistry.

Prerequisite(s): CHM 080 with a grade of B or better or minimum score on CHM Assessment Test; and MAT 151 or 188 or higher with a grade of C or better, or required score on the mathematics placement test. Students receiving a grade of C in CHM 080 or the CHM placement test will be required to register for the CHM 151RC course concurrently.

Information: The Chemistry Assessment Test can be repeated once. Students must wait one week before being permitted to retest. Students not passing the assessment after the second attempt must pass CHM 080 with a grade of C or better to enroll in CHM 151IN. MAT 220 is required for most Science Pathways.

CHM 151RC General Chemistry I Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with CHM 151IN. Facilitated discussions, discrete study groups, and collaborative problem solving provide more discourse on classroom concepts and theory. Introduction to the foundations of chemistry for upper-level sciences and engineering. Includes atomic structure, chemical bonding, reaction stoichiometry, behavior of gases, and reactions in solutions. Also includes an introduction to thermochemistry.

Prerequisite(s): With a grade of C or better: Chemistry Assessment Test or CHM 080; and MAT 151 or 188 or higher, or required score on the mathematics placement test.

Corequisite(s): CHM 151IN

Information: Pass-fail only. Students receiving a grade of C on the Chemistry Assessment Test or in CHM 080 will be required to enroll in CHM 151RC. The assessment may be repeated once. Students must wait one week before being permitted to retest. Students not passing the assessment after the second attempt must pass CHM 080 with a C or better. Students with a grade of B or higher on the Chemistry Assessment Test or in CHM 080, the CHM 151RC course is optional. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

CHM 152IN General Chemistry II**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CHM 151IN. Includes emphasis on certain chemical concepts such as chemical kinetics, equilibrium, acids and bases, thermodynamics, and electrochemistry.

Prerequisite(s): With a grade of B or better: CHM 151IN, and either MAT 151 or 188 or higher, or required score on the mathematics placement test. Students receiving a grade of C in CHM 151IN will be required to register for the CHM 152RC course concurrently. For students receiving a grade of B or higher in CHM 151IN, the CHM 152RC course is optional.

CHM 152RC General Chemistry II Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with CHM 152IN. Facilitated discussions, discrete study groups, and collaborative problem solving provide more thorough discourse on classroom concepts and theory. Includes emphasis on certain chemical concepts such as chemical kinetics, equilibrium, acids and bases, thermodynamics, and electrochemistry.

Corequisite(s): CHM 152IN

Information: Pass-fail only. Students receiving a grade of C in CHM 151IN will be required to enroll in CHM 152RC. Students with a grade of B or higher in CHM 151IN, the CHM 152RC course is optional. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

CHM 195 Introduction to Research in Chemistry**4 cr. hrs. 4 periods (4 lec.)**

Introduction to the methods of research in chemistry. Includes scientific laboratory procedures, experimental design, scientific writing, scientific ethics, and current research in working laboratories.

Information: Consent of instructor is required before enrolling in this course.

CHM 196LB Independent Studies in Chemistry**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Laboratory projects varying with students' interests and reasons for enrolling.

CHM 235IN General Organic Chemistry I**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Fundamentals of organic chemistry. Includes classification, occurrence, synthesis, analysis, Stereochemistry, and reaction mechanisms of important classes of organic compounds; namely alkanes, cycloalkanes, alkenes, alkynes, and alkyl halides. Also includes application of the organic chemistry concepts addressed, using a wide range of laboratory apparatus and procedures. Also focuses on laboratory safety skills and computer software applications related to chemistry.

Prerequisite(s): CHM 152IN with a grade of B or better. Students receiving a grade of C in CHM 152IN will be required to register for the CHM 235RC course concurrently; for students receiving a grade of B or higher in CHM 152IN, the CHM 235RC course is optional.

CHM 235RC General Organic Chemistry I Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with CHM 235IN. Facilitated discussions, discrete study groups, and collaborative problem solving provide more thorough discourse on classroom concepts and theory. Fundamentals of organic chemistry. Includes classification, occurrence, synthesis, analysis, Stereochemistry, and reaction mechanisms of important classes of organic compounds; namely alkanes, cycloalkanes, alkenes, alkynes, and alkyl halides. Also includes application of the organic chemistry concepts addressed, using a wide range of laboratory apparatus and procedures. Also focuses on laboratory safety skills and computer software applications related to chemistry.

Corequisite(s): CHM 235IN

Information: Pass-fail only. Students receiving a grade of C in CHM 152IN will be required to enroll in CHM 235RC. Students with a grade of B or higher in CHM 152IN, the CHM 235RC course is optional. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

CHM 236IN General Organic Chemistry II**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CHM 235IN. Includes remaining classes of organic compounds, specifically dienes, alcohols, ethers and epoxides, aldehydes, ketones, acids, acid derivatives, aromatics, and nitrogen containing compounds and an introduction to biomolecules and/or polymers. Also includes an emphasis on synthesis and use of chemical and instrumental methods as means of identification while using a wide range of laboratory apparatus and procedures. Also focuses on laboratory safety skills and computer software applications related to chemistry.

Prerequisite(s): CHM 235IN with a grade of B or better. Students receiving a grade of C in CHM 235IN will be required to register for the CHM 130RC course concurrently; for students receiving a grade of B or higher in CHM 235IN the CHM 236RC course is optional.

CHM 236RC General Organic Chemistry II Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with CHM 236IN. Facilitated discussions, discrete study groups, and collaborative problem solving provide more thorough discourse on classroom concepts and theory. Includes remaining classes of organic compounds, specifically dienes, alcohols, ethers and epoxides, aldehydes, ketones, acids, acid derivatives, aromatics, and nitrogen containing compounds and an introduction to biomolecules and/or polymers. Also includes an emphasis on synthesis and use of chemical and instrumental methods as means of identification while using a wide range of laboratory apparatus and procedures. Also focuses on laboratory safety skills and computer software applications related to chemistry.

Corequisite(s): CHM 236IN

Information: Pass-fail only. Students receiving a grade of C in CHM 235IN will be required to enroll in CHM 236RC. Students with a grade of B or higher in CHM 235IN, the CHM 236RC course is optional. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

CHM 290 Chemistry Internship**1-4 cr. hrs. 1-4 periods (1-4 lec.)**

Internship and work experience in a science field or laboratory. Includes setting, achieving, and evaluating goals for hands-on learning experiences in sciences. Also includes development of skills and knowledge needed to work in a science field or laboratory.

Information: Consent of Internship instructor is required before enrolling in this course.

CHM 295LB Independent Research in Chemistry**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Experience in scientific laboratory research. Specific content to be determined by student and instructor.

Information: One semester of chemistry and consent of instructor is required before enrolling in this course. May be taken three times for a maximum of twelve credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Child Development Associate

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

CDA 102 The Child's Total Learning Environment**1 cr. hrs. 1 periods (1 lec.)**

Analysis of the total learning environment for children birth through age 8. Includes establishing an educational learning environment, value of a child-centered learning environment, the indoor and outdoor environment, developmentally appropriate learning centers, and play materials. Also includes the teacher's role and responsibility within the learning environment, and utilizing the community as an integral part of the child's total learning environment.

Information: All CDA courses require college-level reading and writing.

CDA 103 Curriculum Planning and Schedule Development**1 cr. hrs. 1 periods (1 lec.)**

Strategies for the creation of lesson plans and schedules for use in the classroom. Includes preparation of group and individualized lesson plans and schedules based on children's abilities, planning as a cooperative effort, foundations of events and activities, balancing variety in the classroom, individual center's philosophy in the planning process, flexibility in planning, and assessment and evaluation.

Information: All CDA courses require college-level reading and writing.

CDA 112 Guidance Principles for Encouraging Self-Discipline**1 cr. hrs. 1 periods (1 lec.)**

Development of guidelines for using positive discipline techniques in the classroom. Includes role modeling, social development and appropriate actions, program influences on children's behaviors and relationships, rules and limits, and difference between discipline and punishment.

Information: All CDA courses require college-level reading and writing.

CDA 121 Techniques for Observing Children**1 cr. hrs. 1 periods (1 lec.)**

Development of techniques for observing, recording, and interpreting behavior in children. Includes purpose of observation, observation and collecting information, observation and assessment techniques, interpreting observations, individual documentation, observation-based curriculum planning, behavioral and developmental milestones, and sharing observations and assessments professionally.

Information: All CDA courses require college-level reading and writing.

CDA 126 Literature for Preschool Children**2 cr. hrs. 2 periods (2 lec.)**

Survey of materials and techniques for the selection and evaluation of children's literature. Includes the importance of literature for children, creating a developmentally appropriate environment for young readers, general categories of books, importance of pictures/illustrations and storytelling, reading aloud to children, creating a story with children and the teacher's role.

Information: All CDA courses require college-level reading and writing.

CDA 138 Building Parent and Classroom Connections**3 cr. hrs. 3 periods (3 lec.)**

Analysis of the specific attitudes, philosophies and practical techniques in building relationships with families for teachers. Includes families today, overview of family involvement, benefits of and barriers to teacher family partnerships, at the beginning with parents and children, informal communications with families, parent teacher conferences, home visits, families in the classroom, community involvement, working with families from diverse backgrounds and families in particular circumstances, resolving troublesome attitudes and behaviors, and parent involvement programs that work.

Information: All CDA courses require college-level reading and writing.

CDA 155 Understanding How Children Learn and Develop**1 cr. hrs. 1 periods (1 lec.)**

Exploration of the cognitive learning progression of children birth through age 8. Includes introduction of various theorists, ways children learn, and the family and community influences and support toward a child's learning and the teacher's role.

Information: All CDA courses require college-level reading and writing.

CDA 161 Principles of Social Competence**1 cr. hrs. 1 periods (1 lec.)**

Analysis of self-concept in children. Includes self concept/self-image, primary factors, uniqueness of each child, environment, accepting and expressing feelings appropriately, observation, expressing emotions, activities for expression of feelings, and exploration of feelings.

Information: All CDA courses require college-level reading and writing.

CDA 170 Ages and Stages of Young Children: Prenatal through Toddler**2 cr. hrs. 2 periods (2 lec.)**

Examination of the developmental stages pre-birth to age three years. Includes general principles and theories of development, biological and environmental factors, conception to birth, infant developmental, toddler developmental milestones, issues in infant care, and toddler care issues.

Information: All CDA courses require college-level reading and writing.

CDA 173 Ages and Stages of Young Children: The Preschool Years**1 cr. hrs. 1 periods (1 lec.)**

Examination of the developmental stages of preschool children ages 3 to 5 years. Includes general principles and theories of development, physical characteristics, pattern of motor skill development, cognitive development, socio-emotional development, developmental concerns and challenges and family involvement.

Information: All CDA courses require college-level reading and writing.

CDA 211 Small and Large Muscle Development**2 cr. hrs. 2 periods (2 lec.)**

Examination of small and large muscle development and its relationship to cognitive learning. Includes overview of small/large muscle development, specific sequence, orderly process, practice, characteristics of the large and small muscle, activities and environment to promote muscle development, supervision and guidance, and observation and assessment. Also includes a variety of spontaneous and planned activities.

Information: All CDA courses require college-level reading and writing.

CDA 222 Elements of Children's Culture**1 cr. hrs. 1 periods (1 lec.)**

Examination of the ways culture affects children's learning. Includes an overview of multiculturalism, cross-cultural competence, responsive learning environments, and family and community involvement.

Information: All CDA courses require college-level reading and writing.

CDA 271 Professionalism in Childcare**1 cr. hrs. 1 periods (1 lec.)**

Analysis of the history and ethics of early childhood professionals. Includes defining professionalism; examining the past, present and future; exploring professional values and ethics; continuing professional growth/education; and becoming an advocate for children and their families.

Information: All CDA courses require college-level reading and writing.

CDA 275 Transitions**1 cr. hrs. 1 periods (1 lec.)**

Examination of the nature of transitions in the classroom. Includes introduction to transitions, selection of transitional activities, and transitions as part of the curriculum.

Information: All CDA courses require college-level reading and writing.

Chinese

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

CHI 101 Elementary Chinese (Mandarin) I**5 cr. hrs. 5 periods (5 lec.)**

Introduction to the Mandarin Chinese language. Includes basic phonetic system of the Chinese language, basic Chinese grammar structures, reading simple texts, basic Chinese writing and Chinese culture. Also includes a foundation in listening, speaking, reading, writing, and cultural awareness.

CHI 102 Elementary Chinese (Mandarin) II**5 cr. hrs. 5 periods (5 lec.)**

Continuation of CHI 101. Includes additional phonetic system of Chinese language, additional selection of grammar structures, additional reading Chinese, additional writing Chinese, and additional Chinese culture. Also includes an additional level of listening, speaking, reading, writing, and cultural awareness.

Prerequisite(s): CHI 101.

CHI 201 Intermediate Chinese (Mandarin) I**5 cr. hrs. 5 periods (5 lec.)**

Continuation of CHI 102. Includes intermediate selection of grammar structures, oral and aural transactions, political, economic, and social vocabulary in readings and writings, intermediate literary works, and norms, values, and beliefs.

Prerequisite(s): CHI 102.

Clinical Research Coordinator

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

CRC 101 Foundations of Clinical Research**3 cr. hrs. 3 periods (3 lec.)**

A comprehensive introduction to the clinical research process and practice. Includes history and evolution of clinical research, phases of clinical trials, protection of human subjects, clinical research team personnel and their roles, and the responsibilities of clinical research organizations. Also includes medical, clinical research, and standard pharmaceutical/pharmacological terms commonly used in clinical research; and issues of sensitivity, diversity, and ethics as applied to clinical research.

Information: Introductory class for program core.

CRC 102 Introduction to Research Data**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the organization and management of research data, and effective presentation of data in reports. Topics include database structures, data management systems, and quality assurance. Also includes data confidentiality and security; and preparation of case report forms.

Recommendation: Completion of CRC 101. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Upon completion, students will be able to organize, enter, and review clinical research data. Textbooks and materials are not required for this course.

CRC 110 Clinical Research Common Terminology**3 cr. hrs. 3 periods (3 lec.)**

Study of common terminology used in clinical research profession in order to properly report adverse events in universally understood terminology. Includes research specific terminology and medical terminology used in order to collect a thorough medical history, during an Adverse Event report, and throughout a clinical trial. Also includes common and medical terminology used in clinical research and other health care professions. In addition, the Medical Dictionary for Regulatory Activities (MedDRA) and the Common Terminology Criteria for Adverse Events (CTCAE) will be explored.

Prerequisite(s): BIO 160IN or 201IH.

Information: BIO 201IN may be substituted for BIO 201IH to meet the prerequisite requirement.

CRC 201 Clinical Research Regulatory Compliance**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the Food and Drug Administration (FDA) regulatory process and regulatory requirements for clinical research. Includes an overview of the role and function of the FDA, the drug development process, preparation and maintenance of an Investigational New Drug (IND), regulatory documentation, safety reporting, and Good Clinical Practices (GCPs).

Recommendation: Completion or concurrent enrollment in CRC 101. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CRC 202 Investigational Product Development and Regulation**3 cr. hrs. 3 periods (3 lec.)**

Overview to Investigational Product development and regulations. Includes the legal and regulatory framework for drug and device safety, with a focus on the analysis of current industry and regulatory activities while applying the principles of pharmacovigilance. Pharmacovigilance is the science and activities related to the detection, monitoring, assessment, understanding, and prevention of adverse effects of medicines including vaccines and biological products.

Recommendation: Completion of CRC 201. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CRC 230 Introduction to Clinical Research Study Protocol**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the scientific development of research protocols and related regulatory requirements. Includes differentiations among research design types, rules for writing protocols, and ethical considerations relative to research protocols.

Prerequisite(s): CRC 101 or concurrent enrollment.

Recommendation: Completion of or concurrent enrollment in CRC 201. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CRC 240 Pharmacology for Clinical Trials**4 cr. hrs. 4 periods (4 lec.)**

Essential drug knowledge and facts and their application in clinical research. Includes common medical diagnoses and their related drug treatments (brand name and generic); what constitutes a drug; the effects and modes of action of drugs upon the body (pharmacodynamics); method and rate of excretion and duration of the effect of drugs (pharmacokinetics); drug side effects; drug-drug interactions; and how to find and interpret drug-related information from primary literature. Also includes an overview of the drug development process from bench through post-approval marketing.

Prerequisite(s): CRC 101.

CRC 250IN Clinical Research Site Coordination and Management**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to the elements involved in implementing and managing a clinical trial from the perspective of the research site staff/team. Includes the identification and evaluation of sites and investigators, on-site budget management, and the coordination of subject participation.

Prerequisite(s): CRC 101, 201, and 230.

CRC 260IN Lab Skills and Professional Practice**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Clinical skills training to prepare for clinical research coordinator internship, with emphasis on applying clinical research project coordination concepts and practices in a simulated research setting. Includes research subject communication techniques, medical history review, adverse events, vital signs, EKG procedures, blood collection and specimen processing, storage and shipping. Also includes application of clinical research project coordination practices related to a protocol; research and medical terminology; recruitment, enrollment and retention practices; informed consent; detection of errors within study reports and casework; documentation of medications, adverse events and serious adverse events; review of study subject's file data for completeness and accuracy; and regulatory and legal related to clinical trials.

Prerequisite(s): CRC 240 and 250IN.**CRC 270 Research Management for Sponsors and CRO's****3 cr. hrs. 3 periods (3 lec.)**

Introduction to the elements involved in implementing, monitoring and managing a clinical study from the perspective of the Sponsor or Contract Research Organization (CRO). Includes overall project planning, development of study goals, preparation of budget and contracts, implementation of monitoring visits, and effective management of research sites.

Prerequisite(s): CRC 250IN.**CRC 291 Clinical Research Coordinator Internship****1-3 cr. hrs. 3-9 periods (3-9 lab)**

Supervised work experience in a clinical research setting. Includes emphasis on the observation and enhancement of professional and management skills team communication and interaction, and the application of research principles, procedures, protocols, and regulations in the workplace. Student will rotate through a variety of research sites agreed upon by the instructor and student.

Prerequisite(s): CRC 260IN.

Information: Consent of instructor is required before enrolling in this course. May be taken three times for a maximum of three credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CRC 296 Clinical Research Independent Study: Clinical Project**1-6 cr. hrs. 4-24 periods (4-24 lab)**

Students independently continue their development in Clinical Research under the mentorship of a faculty member. Content will be determined by instructor and student.

Information: Students must obtain lead faculty approval before enrolling in this course. Course content and performance objectives will be kept on file in the campus curriculum coordinator's program file.

Communication

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

CMN 102 Introduction to Speech Communication**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the function, basic concepts, and skills of oral communication in interpersonal and public address situations. Includes foundations of communication, perception of self and others, intercultural communication, interpersonal communication and relationships, public speaking, and group communication.

CMN 110 Public Speaking**3 cr. hrs. 3 periods (3 lec.)**

Study and training in public speaking that takes an audience-centered approach. Includes the responsibilities of the public speaker and the listener, managing nervousness and causes of public speaking anxiety, topic selection, audience analysis, organizing the speech, presenting the speech, and types of public speaking.

CMN 120 Business and Professional Communications**3 cr. hrs. 3 periods (3 lec.)**

Study and training in organizational communication within a multicultural/global environment. Includes communication in a multicultural/global business environment, interpersonal communication skills in a culturally diverse workforce; researching, organizing, and delivering informative, instructional, and persuasive presentations; interviewing techniques, group process in business, and listening techniques.

CMN 130 Small Group Discussion**3 cr. hrs. 3 periods (3 lec.)**

Study and training in a group communication and decision-making process. Includes the nature and functions of groups, preparation for group work, the group communication process, interpersonal relationships, problem solving and decision-making in small groups, leadership approaches, and designing and delivering small group presentations.

CMN 140 Interpersonal Communication**3 cr. hrs. 3 periods (3 lec.)**

Introduction to interpersonal communication with an emphasis on the concepts and examples relevant to our daily lives. Includes foundations of interpersonal communication, messages, dynamics, and relationships in context.

CMN 200 Intercultural Communication**3 cr. hrs. 3 periods (3 lec.)**

The study of intercultural communication comparing cultures and communication styles with a focus on developing intercultural communication competence in interactions with culturally dissimilar people. Includes strategies for managing intercultural communication conflict; avoiding stereotypes and prejudice in intercultural encounters; for dismantling racism and discrimination. Also includes communication skills to achieve intercultural communication competence.

Prerequisite(s): CMN 102 or 110.

CMN 228 Research Methods in Communication**3 cr. hrs. 3 periods (3 lec.)**

An introduction to communication research methods. Includes how to plan and design studies, conduct studies using various methodologies, how information collected is analyzed, and how results of the research are interpreted in a meaningful manner.

Information: This course prepares communication majors to study, research and analyze communication issues. This course is designed for students with little or no familiarity with research methods.

Computer-Aided Design

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

CAD 101 Computer-Aided Drafting**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Two-dimensional computer-aided drafting (CAD) concepts and techniques. Includes CAD methods, electronic file management, freehand sketching, visualization, dimensioning, and copy production.

Information: For individuals with no computer and/or drafting experience.

CAD 104 Integrated Circuit Layout Fundamentals**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles and concepts of integrated circuit layout using Cadence design software. Includes basic electronics, fundamentals of integrated circuits, circuit design, circuit floorplanning, electronic file management, schematic diagram, and physical layout overview.

Recommendation: CAD 114, TEC 100. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CAD 114 Electronic Manufacturing Processes**2 cr. hrs. 2 periods (2 lec.)**

Principles and concepts of integrated circuit manufacturing processes. Includes integrated circuit device physics, semiconductor fabrication, failure mechanisms, resistors, capacitors, diodes, and metal-oxide semiconductor (MOS) transistors.

CAD 117 Print Reading with CAD for Manufacturing**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles and concepts of print reading, technical freehand sketching, and CAD drawing. Includes common print and manufacturing terms, print fundamentals and standards, freehand sketching, CAD applications, and print analysis. Also includes an introduction to SolidWorks solid modeling and detail drawing production.

CAD 127 Introduction to MicroStation**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to MicroStation basic concepts and techniques. Includes computer aided drafting procedure and methods in the areas of architectural and civil design, electronic file management, software drawing setup, 2D and 3D fundamental elements creation and manipulating elements, annotation, industry standards, scale, dimensioning, hard copy production, and final project.

CAD 142 Introduction to Parametric Modeling: SolidWorks**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Beginning level parametric modeling mechanical concepts, techniques, and problems using SolidWorks software. Includes parametric modeling, working drawings and assemblies.

CAD 151 Computer-Aided Drafting for Construction**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to principles of design. Uses software, such as SketchUp, to explore design at various scales. Includes an overview of modern design, culture creation, human perception, design investigation strategies, and elements and principles of design. Also includes a comprehensive review of 3D modeling methods and presentation techniques.

CAD 152 Technical Drafting**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Students will learn basic concepts, techniques, and applications for mechanical drafting. Includes mechanical design fundamentals and standards, advanced Computer-Aided Drafting (CAD) applications, documentation, hardware, tolerancing methods, Geometric Dimensioning and Tolerancing (GD&T), and hard copy techniques and procedures.

Prerequisite(s): CAD 142

CAD 153 Electro-Mechanical Drafting and Design**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Electronic drafting fundamentals and standards, electronic component and schematic applications, and electronics concepts. Includes Computer-Aided Drafting (CAD) techniques, and file management procedures.

Prerequisite(s): CAD 101.

CAD 154 Integrated Circuit Layout Design I**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Principles and concepts of mixed signal integrated circuit layout using Cadence design software. Includes design process, circuit floorplanning, analog layout design, digital layout design, ESD (electro-static discharge) design and padding layout, device matching, DRC (design rule check) verification techniques, and LVS (layout versus schematic) verification techniques.

Prerequisite(s): CAD 104.

CAD 155 Residential Computer-Aided Design**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Beginning level Computer-Aided Design (CAD) of single family detached dwellings. Includes residential CAD skills, site, foundation, floor and roof framing, mechanical, plumbing, and electrical plans, building and wall sections, building elevations, and working drawing coordination.

Prerequisite(s): CAD 101.

CAD 157 Introduction to Site Development Drafting and Design**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Overview of site planning and design. Includes introduction to site development, applications of CAD drafting, mapping, location and direction, legal descriptions and plot plans, contour lines, details and drawings, and Geographic Information Systems.

Prerequisite(s): CAD 101.

CAD 166 Introduction to Revit**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to Building Information Modeling (BIM) for architectural applications using Revit. Includes how to access tools, build a parametric model, reference levels and views, and produce drawing sheets. Create 3-dimensional elements (families) that contain variable characteristics and embed design intent. Extract, analyze, and modify model information by generating additional section views, rendered perspectives, and schedules.

Information: For individuals with no BIM experience.

CAD 172 Geometric Dimensioning and Tolerancing**3 cr. hrs. 3 periods (3 lec.)**

Establishing controls on sizes and allowances of mechanical parts. Includes definitions and rules, form tolerances, datums, orientation controls, location controls, runout, and profile.

Prerequisite(s): CAD 117 or 142.

Information: Prerequisites may be waived if equivalent mechanical drawing experience is documented. See CAD instructor or advisor/counselor.

CAD 196 Independent Study in Computer-Aided Design: 100 Level**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Independent work at the 100 level on a special project not included in regular courses. The student is required to obtain a sponsoring CAD instructor and establish objectives, a procedural method, and a method of evaluation.

Prerequisite(s): CAD 101.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of eight credits. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CAD 199 Co-op: Computer-Aided Drafting**1 cr. hrs. 1 periods (1 lec.)**

Introduction to Cooperative Education for first-year students (instruction which provides for success in securing and retaining a training job related to subject area). Social and psychological reasons for working, methods of securing employment, preparation of career and job-related objectives and evaluation of student work experience.

Corequisite(s): CAD 199WK

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CAD 199WK Co-op Work: Computer Aided Design**1-8 cr. hrs. 5-40 periods (5-40 lab)**

A supervised cooperative work program for students in related occupation area. Teacher-coordinators work with students and their supervisors. Variable credit is available by special arrangement.

Corequisite(s): CAD 199

Information: May be taken two times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CAD 203 Advanced Electro-Mechanical Design**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CAD 153. Includes standards for packaging, fastener library, 3D sheet-metal enclosures, production drawing sheets, materials and fastening systems for enclosures, and hard copy techniques and procedures.

Prerequisite(s): CAD 153

CAD 204 Integrated Circuit Layout Design II**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CAD 154. Includes intermediate design process, intermediate circuit floorplanning, intermediate analog layout design, intermediate digital layout design, intermediate ESD (electro-static discharge) design and padding layout, intermediate device matching, intermediate DRC (design rule check) verification techniques, and intermediate LVS (layout versus schematic) verification techniques.

Prerequisite(s): CAD 154.

CAD 206 Commercial Design: Revit**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Computer-Aided Design (CAD) of commercial buildings using Revit. Includes commercial CAD skills, research, design, integrated 3D modeling, rendering, virtual building construction, detailing and documentation.

Prerequisite(s): CAD 166.

CAD 207 Land Development Design: Civil 3D**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Computer-Aided Design (CAD) specific to sites for construction of buildings, roads, and utilities at the intermediate level using Civil 3D. Includes intermediate civil drafting technology, intermediate surveying, intermediate location and direction, intermediate mapping, intermediate legal descriptions and plot plans, intermediate contour lines, intermediate profiles, intermediate road layout, intermediate earthwork, intermediate Geographic Information Systems (GIS).

Prerequisite(s): CAD 157.

CAD 222 Introduction to Parametric Modeling: Inventor**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Beginning level parametric modeling mechanical concepts, techniques, and problems using Inventor software. Includes parametric modeling, working drawings, assemblies, animation, and plotting techniques.

CAD 232 Advanced Parametric Modeling: Inventor**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CAD 222. Includes advanced parametric modeling mechanical concepts, techniques, and problems using Inventor software. Also includes full assembly set, including detail drawings, sub-assemblies, and revision tracking.

Prerequisite(s): CAD 172 and 222.

CAD 242 Advanced Parametric Modeling: SolidWorks**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CAD 142 at the advanced level. Advanced parametric modeling and complex geometry creation techniques, advanced drawing and detailing, drawing revision, reverse engineering methods, advanced model diagnostics, and model data exchange using SolidWorks. Course includes a final design project.

Prerequisite(s): CAD 142.

CAD 252 Introduction to Parametric Modeling: Creo**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to parametric modeling with Creo. Includes parametric modeling techniques.

Prerequisite(s): CAD 117.

CAD 254 Integrated Circuit Layout Design III**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CAD 204. Includes advanced design process, advanced circuit floorplanning, advanced analog layout design, advanced digital layout design, advanced ESD (electro-static discharge) design and padding layout, advanced device matching, advanced DRC (design rule check) verification techniques, and advanced LVS (layout versus schematic) verification techniques.

Prerequisite(s): CAD 204.

CAD 256 Advanced Commercial Design: Revit**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CAD 206 at the advanced level using Revit MEP. Includes advanced level CAD skills, advanced level commercial project programming, advanced level site, foundation, floor, roof framing, mechanical, plumbing, and electrical plans, building and wall sections, building elevations, working drawing coordination, special construction applications, model energy code, and 3D modeling.

Prerequisite(s): CAD 206.

CAD 257 Advanced Land Development Design: Civil 3D**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CAD 207 at the advanced level using Civil 3D. Includes advanced civil design technology, advanced surveying, advanced location and direction, advanced mapping, advanced legal descriptions and plot plans, advanced contour lines, advanced profiles, advanced road layout, advanced earthwork, and advanced Geographic Information Systems (GIS).

Prerequisite(s): CAD 207.

CAD 265 Design for Sustainability**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Computer-Aided Design (CAD) applications specific to site and building sustainability. Includes green building fundamentals, Geographic Information Systems (GIS), introduction to 3D modeling for analysis, and detailing systems.

Prerequisite(s): CAD 166.

CAD 266 Mechanical, Electrical, Plumbing Drafting & Design: Revit MEP**4 cr. hrs. 6 periods (3 lec., 3 lab)**

3D modeling of commercial mechanical, electrical, and plumbing systems. Includes integration with architectural and structural systems, and production of construction documents.

Prerequisite(s): CAD 206.

CAD 270 Integrated Mechanical/Electro-Mechanical Design**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Computer-aided design project-based learning with relevant design-rule study in preparation for project design which includes planning for prototype design, hands-on fabrication, assembly, testing, and final report assessment.

Prerequisite(s): CAD 242.

CAD 280 Computer-Aided Design Portfolio**1 cr. hrs. 1 periods (1 lec.)**

Development of materials for employment. Includes portfolio contents, resume, cover letter, practice interview, portfolio, and presentation.

Prerequisite(s): CAD 142 or 204 or 206 or 207 or 222 or 252.

CAD 282 Advanced Parametric Modeling: Creo**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Continuation of CAD 252. Advanced parametric modeling using Creo. Includes modeling advanced- level assemblies, creating detail drawings, creating assembly drawings, and project-based learning. Also includes hard copy techniques and procedures.

Prerequisite(s): CAD 252.

CAD 296 Independent Study in Computer-Aided Design: 200-Level**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Independent work at the 200-level on a special project not included in regular courses. The student is required to obtain a sponsoring CAD instructor, and establish objectives, a procedural method, and a method of evaluation.

Prerequisite(s): CAD 101.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of eight credits. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Computer Information Systems

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

CIS 103 Microsoft Windows Operating System**3 cr. hrs. 3 periods (3 lec.)**

Professional Administration Fundamental skills necessary to perform day-to-day administration tasks in a Microsoft Windows operating system. Includes windows network administration, windows operating system, user and group accounts, network resource security, print server administration, resource and event audits, and resource monitoring.

Information: Preparation for Microsoft certification examination.

CIS 104 Computer Fundamentals**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to computer information systems. Includes hardware, system software, networks, and threats posed by malicious software and web sites. Also includes the social and economic effects of information, using the Internet to do research, and productivity application software.

Recommendation: Completion of CSA 089 or basic computer and keyboard skills, completion of REA 091 or satisfactory score on the reading assessment test before enrolling in this course.

Information: Same as CSA 104.

CIS 119 Network Essentials**3 cr. hrs. 3 periods (3 lec.)**

Comprehensive introduction to computer networks and data communications. Includes computer networks and services, transmission media and connection, network models, popular protocol suites, other network issues, and network operating systems.

Recommendation: Completion of CIS 103 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CIS 120 Computer Applications for Business**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Introduction to computer information systems and applications with an emphasis on Microsoft applications, especially Microsoft Excel. Students will develop an awareness of the critical thinking, quantitative analysis and qualitative assessment skills that serve as the foundation for the effective and ethical use of information as part of an informed business or personal decision.

Prerequisite(s): Within the last three years: C or better in MAT 092 or satisfactory score on the mathematics assessment exam.

CIS 121 Web Publishing**3 cr. hrs. 3 periods (3 lec.)**

Introduction to website design using the most current versions of Hypertext Markup Language (HTML), JavaScript and Cascading Style Sheet (CSS). Includes PHP programming language, database access, JQuery, asynchronous JavaScript and XML (AJAX), web forms, HTML standards, web design, sessions and cookies.

CIS 129 Programming and Problem Solving I**4 cr. hrs. 4 periods (4 lec.)**

Introduction to personal and business computer systems. Includes components of a computer system; advantages and disadvantages of programming languages; traditional languages, native code and object-oriented concepts; source code versus executable code; and data structures and data representation. Also includes language statements; expressions components; control structures; problem-solving techniques; program test data, debugging and termination; and solving simple problems and creating programs using C, Python, or Java.

Prerequisite(s): MAT 095 or 097 or concurrent enrollment, through Module 35 in MAT 089A or 089B, or placement into MAT 151.

CIS 131 Programming and Problem Solving II**4 cr. hrs. 4 periods (4 lec.)**

Continuation of CIS 129. Includes data structures and data representation, complex problem solving, procedural abstraction, and complex arrays with structured elements. Also includes object oriented programming, exception handling, file input and output, debugging, and testing.

Prerequisite(s): CIS 129 with a B or better.

Information: Programming assignments will use the C# or Java language.

CIS 132 Introduction to Computer Forensics**3 cr. hrs. 3 periods (3 lec.)**

Introduction to computer forensics which focuses on methods of detection and prevention of computer crime. Includes multidisciplinary nature of computer forensics; professional opportunities; computer investigations; operating systems introduction; the investigator's office and laboratory; forensic tools; and digital evidence controls. Also includes processing crime and incident scenes; data acquisition; computing forensic analysis; e-mail investigations; recovering image files; investigative report writing; and expert witness testimony.

Recommendation: Basic knowledge of computers and how to download and install software is recommended before enrolling in this course.

CIS 133 Fundamentals of Personal Computer Security**3 cr. hrs. 3 periods (3 lec.)**

Introduction to Personal Computer (PC) security and how to protect from outside threats. Includes an overview of cyber crime and security issues; networks and the Internet; assessing a personal computer system; denial of service attacks; malware; basics of securing a PC system; and data encryption. Also includes Internet fraud and security; examples of espionage in cyberspace; cyber detective work; and computer security hardware and software.

Recommendation: Completion of CIS/CSA 104 and familiarity with the Internet are recommended before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CIS 136 Computer Hardware Components**3 cr. hrs. 3 periods (3 lec.)**

An overview of the primary components of common computer systems. Includes systems components, systems upgrades, printer selection, installation and maintenance, disk drive selection, additional input/output devices, selecting, configuring and customizing a system, and other computer topics.

CIS 137 Introduction to the UNIX Operating System**3 cr. hrs. 3 periods (3 lec.)**

Principles, tools, and history of the UNIX and Linux operating systems. Includes user utilities and some option switches, file structure and file names, regular expressions and extended regular expressions, shells, text editing, networking, and UNIX and Linux system administration.

Recommendation: Completion of CIS 120 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CIS 141 Introduction to VB.NET**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the Visual Basic.NET programming language. Includes Microsoft .NET, .NET framework, common language runtime, getting started with Visual Basic.NET (VB.NET), and object-oriented programming. Also includes user interface programming, VB.NET and the .NET framework, and using ADO.NET in VB.NET

Prerequisite(s): CIS 129.

CIS 142 Introduction to C#**3 cr. hrs. 3 periods (3 lec.)**

Introduction to Microsoft's .NET Programming Language C. Includes introduction and simple compilation and execution of programs from the Visual Studio IDE; data types and declarations; using methods; creating classes and objects; selection and repetition; and creating and using arrays. Also includes inheritance; exception handling; GUI objects and controls from the Visual Studio IDE; and handling events.

Prerequisite(s): CIS 129.

Recommendation: Completion of CIS/CSA 104, have prior programming experience, or consent of instructor before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CIS 162 Database Design and Development**3 cr. hrs. 3 periods (3 lec.)**

Introduction to database concepts and terminology. Includes file systems and databases, the relational database model, entity relationship modeling, normalization, and database design.

CIS 170 CISCO I: Networking Fundamentals**4 cr. hrs. 4 periods (4 lec.)**

Introduction to the fundamentals of networking. Includes network concepts; the Open Systems Interconnection (OSI) model; binary numbering system; network architecture; Local Area Network (LAN) design and installation; and Cisco troubleshooting procedures. Also includes preparation for Cisco certification examination.

Recommendation: Consult instructor for alternative prerequisites before enrolling in this course.

CIS 171 CISCO II: Networking Router Technologies**4 cr. hrs. 4 periods (4 lec.)**

Continuation of CIS 170. Introduction to the fundamentals of networking router technologies. Includes networking concepts; Open Systems Interconnection (OSI) model; Local Area Network (LAN) technologies; routing protocols; router configuration files; and Cisco troubleshooting procedures. Also includes preparation for the Cisco certification examination.

Prerequisite(s): CIS 170.

Recommendation: Consult instructor for alternative prerequisites before enrolling in this course.

CIS 172 CISCO III: Advanced Routing and Switching**4 cr. hrs. 4 periods (4 lec.)**

Continuation of CIS 171. Development of skills to configure advanced routing protocols. Includes Local Area Network (LAN) switching; Virtual LAN (VLAN); LAN design; routing protocols; access lists; and Novell Internetwork Packet Exchange (IPX) protocol. Also includes preparation for the Cisco certification examination.

Prerequisite(s): CIS 171.

Recommendation: Consult instructor for alternative prerequisites before enrolling in this course.

CIS 173 CISCO IV: Project Based Learning**4 cr. hrs. 4 periods (4 lec.)**

Continuation of CIS 172. Design and configuration of advanced Wide Area Network (WAN) projects using Cisco IOS command set. Includes WAN design; Point-to-Point protocol (PPP); Integrated Services Digital Network (ISDN); and frame relay. Also includes preparation for Cisco certification examination.

Prerequisite(s): CIS 172.

Recommendation: Consult instructor for alternative prerequisites before enrolling in this course.

CIS 182 Introduction to ANSI SQL**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the American National Standards Institute (ANSI) Structured Query Language (SQL). Includes relational databases; SQL basics and nomenclature; simple queries, search conditions, and sorting; single table query processing and unions; simple and multi-table joins; summary queries using columns, group queries, and subqueries; and query expressions. Also includes adding, deleting, and modifying data from the database; referential integrity and constraints; creating databases; creating, removing, and modifying tables; and defining constraints.

Prerequisite(s): CIS 162.*Information:* CIS 162 may be waived with consent of instructor.**CIS 185 Introduction to Python****3 cr. hrs. 3 periods (3 lec.)**

Introduction to the Python programming language. Includes using a text editor or the built-in Python IDE, IDLE, to develop programs, language syntax, dynamically typed variables, numeric operations, strings, selection control statements, repetition control statements, functions, classes, lists, dictionaries, file I/O, exception handling.

Prerequisite(s): CIS 129.**CIS 199 Introductory Co-op: Computer Information Systems****1 cr. hrs. 1 periods (1 lec.)**

Introduction to Cooperative Education for first-year students (instruction which provides for success in securing and retaining a training job related to subject area). Includes communication skills, time and energy management, stress and its management, careers: information and its uses, job market, principles, theories, and practices in the career field, and problems in the work situation.

Corequisite(s): CIS 199WK*Information:* May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.**CIS 199WK Introductory Co-op Work: Computer Information Systems****1-8 cr. hrs. 5-40 periods (5-40 lab)**

A supervised cooperative work program for students in related occupation area. Teacher-coordinators work with students and their supervisor. Variable credit is available by special arrangement.

Corequisite(s): CIS 199*Information:* May be taken two times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.**CIS 216 Introduction to Wireshark and Network Analysis****4 cr. hrs. 5 periods (3 lec., 2 lab)**

Introduction to network analysis with Wireshark. Includes key Wireshark elements and traffic flows, views and settings, capture method and capture filters, display filters on specific traffic, color and export interesting packets, build and interpret tables and graphs, traffic for faster analysis, comments to trace files and packets, and command-line tools.

Prerequisite(s): CIS 119 or 170.*Information:* The prerequisite(s) may be waived with consent of instructor.**CIS 218 Introduction to Voice over IP (VoIP)****4 cr. hrs. 4 periods (4 lec.)**

Introduction to the concepts of Voice over Internet Protocol (VoIP) from the history to expected future uses in the workplace and home. Includes an overview, digital voice fundamentals, standards, how an Internet Protocol (IP) phone call works, protocols and structure, relationship to the Open Standards Interconnection (OSI) model, gateways, quality of service, and router concerns.

Recommendation: Completion of CIS 119 or have networking experience before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.**CIS 219 Introduction to Virtual Computing****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to the concept of virtualization in computers and virtualization products that permit configuration and management of virtualized environments. Includes installation and configuration of VMware workstation, VMware server, Microsoft virtual server, and Microsoft Hyper-V. Also includes working with virtual networks, implementing disaster recovery and high availability, enhancing virtual security and performance, and working with virtual machine manager.

Prerequisite(s): CIS 119 or 170.*Information:* Consult instructor for alternative prerequisite(s) before enrolling in this course.

CIS 221 Deploying and Managing Windows Servers**3 cr. hrs. 3 periods (3 lec.)**

Knowledge and skills necessary to install, configure, customize, administer, optimize, integrate, and troubleshoot Windows server. Includes overview of Windows networking, managing Windows server, Windows components, and Internetworking and Intranetworking. Also includes active directory services, advanced file systems, Windows security, booting Windows, and Windows application servers.

Prerequisite(s): CIS 103.

Information: Preparation for Microsoft certification examination.

CIS 222 Implementing Windows Server Network Infrastructure**3 cr. hrs. 3 periods (3 lec.)**

Knowledge and skills to install, configure, maintain, and support a Microsoft Windows network infrastructure. Includes Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), Windows Internet Name Service (WINS), traffic security, remote access, network router, remote installation, connectivity with other operating systems, and Web server.

Prerequisite(s): CIS 221

Information: Preparation for Microsoft certification examination.

CIS 223 Implementing Windows Directory Services**3 cr. hrs. 3 periods (3 lec.)**

Knowledge and skills to install, configure, and administer Microsoft Windows Active Directory services. Includes active directory structure, active Directory services, domain name system (DNS), group policy implementation, user accounts, software development, group policy security, and administration of active directory objects.

Prerequisite(s): CIS 221.

CIS 225 Linux (UNIX) System and Network Administration**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Operations and network administration of the Linux (UNIX) system. Includes background review, basic Linux installation installing software packages, network file services configuration, SAMBA file and print server, Apache web server, and file transfer protocol (FTP).

Prerequisite(s): CIS 137.

CIS 226 Advanced Linux Networking**3 cr. hrs. 5 periods (3 lec., 2 lab)**

Advanced concepts in Linux and UNIX networking. Includes background review, basic Linux installation, Network File System (NFS) configuration, Network Information System (NIS) configuration, squid proxy, firewalls, and Lightweight Directory Access Protocol (LDAP).

Prerequisite(s): CIS 225.

CIS 228 Fundamentals of Network Security**4 cr. hrs. 4 periods (4 lec.)**

Introduction and general overview of security measures for computer networks. Includes authentication methods and techniques; attacks and malicious code; remote access concepts; email and web security; directory and file transfer services; and wireless protocols and security. Also includes hardware devices; topologies and security; methods of intrusion detection; establishing security baselines; introduction to cryptography; disaster recovery policies and procedures; and forensics, risk management, and auditing measures.

Recommendation: It is recommended that students complete CIS 119 or obtain consent of instructor prior to enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: This course prepares students to take the CompTIA Security Exam.

CIS 229 Protecting Your PC and Network: CounterMeasures to Network**3 cr. hrs. 3 periods (3 lec.)**

Management of security for networking security professionals. Includes an overview of risk assessment and risk management principles, the CIS (confidentiality, integrity and availability) Triad, security management and policies, access controls, software development security, business continuity, and disaster recovery planning. Also includes an introduction to cryptology, legal aspects of computer crime, telecommunications, and network security.

Recommendation: Completion of CIS 119 or 170, and 228 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: This course corresponds to the CISSP Certification (Certified Information Security Specialist Profession), but is not intended as a complete preparation for the CISSP Exam.

CIS 235 Advanced Topics in Linux/Unix Security**3 cr. hrs. 3 periods (3 lec.)**

Overview for intermediate users of Linux and Linux administrators focusing on security issues. Includes background review, discovering network vulnerabilities, vulnerability mitigation, management awareness, intrusion detection, data gathering, and WiFi.

Prerequisite(s): CIS 225.

CIS 241 Advanced Visual Basic.NET Programming**4 cr. hrs. 4 periods (4 lec.)**

Advanced course in Visual Basic.NET programming with special emphasis on the new NET Framework and how it is used to create distributed applications. Includes review of VB.NET basics, basic Web programming, server-side Web programming with VB.NET, accessing data with VB.NET, and introduction and advanced VB.NET applications.

Prerequisite(s): CIS 141.

CIS 250 Introduction to Assembly Language**3 cr. hrs. 3 periods (3 lec.)**

Beginning assembly language programming. Includes number systems, machine architecture, program design, the assembler, the stack, array processing and indexing, and sorting. Also includes program debugging and testing, performance issues, program profiling, and programmer productivity issues.

Prerequisite(s): CIS 131.

Recommendation: Consult instructor for alternative prerequisites before enrolling in this course.

CIS 265 The C Programming Language**3 cr. hrs. 3 periods (3 lec.)**

Principles and syntax of ANSI Standard C and many of the common library functions. Includes writing C programs in portable code to facilitate systems programming concepts.

Prerequisite(s): CIS 131.

Recommendation: CIS 250. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CIS 269 Data Structures**4 cr. hrs. 4 periods (4 lec.)**

Advanced topics in computer science and programming in C> Includes software engineering concepts and theory, memory management, inheritance, overloading, abstract classes, review of C< stacks, queues, recursion, and dynamic abstract data structures. Also includes source control, templates, hash tables, sort and search algorithms, file handling and streams, trees, graphs and networks.

Prerequisite(s): CIS 278, or both CIS 265 and CIS 279.

CIS 276 Mobile App Programming: Android I**3 cr. hrs. 3 periods (3 lec.)**

Topics in computer science and programming in Java specific to Mobile App Programming on Androids. Includes software engineering concepts and theory, Graphical User Interface (GUI) concepts, memory management, inheritance, and exceptions. Also includes eXtensible Markup Language (XML), emulators (Android Virtual Devices), installing, debugging, and an introduction to the Android database system (SQLite).

Prerequisite(s): CIS 131.

CIS 277 Mobile App Programming: Android II**4 cr. hrs. 4 periods (4 lec.)**

Advanced topics in computer science and programming in Java specific to Mobile App Programming on Androids. Includes advanced software engineering concepts and theory, Event Handling, Graphical User Interface (GUI) concepts, memory management and complexity. Also includes eXtensible Markup Language (XML), emulators (Android Virtual Devices), debugging.

Information: CIS 276 or instructor approval is required before enrolling.

CIS 278 C++ and Object-Oriented Programming**4 cr. hrs. 4 periods (4 lec.)**

Concepts and implementation of object-oriented programming and design using C++ Includes the language syntax of C++ applications using C++ objects to solve information systems problems, and class libraries created for reuse and inheritance.

Prerequisite(s): CIS 131.

Information: Prerequisite may be waived with consent of instructor.

CIS 279 Java Programming**4 cr. hrs. 4 periods (4 lec.)**

Introduction to the Java programming language. Includes review of fundamentals; objects, classes, and methods; extending classes and overriding methods; text input and output to console; and handling events. Also includes working with GUI components and database access.

Prerequisite(s): CIS 131.

CIS 280 Systems Analysis and Design: Concepts and Tools**4 cr. hrs. 4 periods (4 lec.)**

Concepts of systems analysis and design for all phases of the systems development life cycle. Includes problem identification, project initiation and planning, analysis, logical design, physical design, implementation and testing, and operations and maintenance. Also includes specific tools used by systems analysts, introduction and use of CASE (computer-aided software engineering) tools, and project management software.

Prerequisite(s): CIS 131 or 162.

CIS 281 Systems Analysis and Design: Applications**3 cr. hrs. 3 periods (3 lec.)**

Systems analysis concepts applied to specific software projects. Includes completing a software project from beginning to end, from problem identification to project implementation, using current methodologies and appropriate software development tools.

Prerequisite(s): CIS 280.

CIS 283 Advanced Python**4 cr. hrs. 4 periods (4 lec.)**

Advanced features of the Python programming language. Includes object-oriented programming, database access, GUI development with Tkinter, and web applications.

Prerequisite(s): CIS 185.

CIS 288 Fundamentals of Cybersecurity**4 cr. hrs. 4 periods (4 lec.)**

Introduction to cyber security policy, doctrine, and operational constraints. Includes a broad survey of networking principles, cybersecurity concepts, tools, technologies, and best practices. Also includes hands-on activities to enhance familiarity with networking concepts and practice cybersecurity techniques and procedures.

Information: This course is designed to meet the University of Arizona South CYBV 301 requirement and is preparatory coursework for the UA South Cyber Operations program. Please see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CIS 299 Advanced Co-op: Computer Information Systems**1 cr. hrs. 1 periods (1 lec.)**

A supervised cooperative work program for students in related occupation area. Teacher-coordinators work with students and their supervisors. Variable credit is available by special arrangement.

Corequisite(s): CIS 299WK

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CIS 299WK Advanced Co-op Work: Computer Information Systems**1-8 cr. hrs. 5-40 periods (5-40 lab)**

Introduction to Cooperative Education for second-year students (instruction which provides for success in securing and retaining a training job related to subject area). Includes communication skills, time and energy management, stress and its management, careers: information and its uses, job market, principles, theories, and practices in the career field, and problems in the work situation.

Corequisite(s): CIS 299

Information: May be taken two times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Computer Software Applications

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

CSA 089 Beginning Computer Skills

1 cr. hrs. 1.5 periods (.5 lec., 1 lab)

Beginning approach to operating a computer with a focus on basic computer skills and computer terminology. Includes Windows basics, Internet basics, fundamentals of Pima Community College web site, D2L, and MyPima, email basics, and basic word processing skills.

CSA 100 Computer Literacy

1 cr. hrs. 1.5 periods (.5 lec., 1 lab)

Overview of computer applications and functions. Includes components of a computer system, spreadsheet, database, and word processing use within a workplace. Also includes computer networks for communication and information.

Recommendation: Completion of CSA 089 or basic computer and keyboard skills, completion of REA 091 or satisfactory score on the reading assessment test before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: CSA 100 is a one credit version of CIS/CSA 104.

CSA 104 Computer Fundamentals

3 cr. hrs. 4 periods (2 lec., 2 lab)

Introduction to computer information systems. Includes hardware, system software, networks, and threats posed by malicious software and web sites. Also includes the social and economic effects of information, using the Internet to do research, and productivity application software.

Recommendation: Completion of CSA 089 or basic computer and keyboard skills, completion of REA 091 or satisfactory score on the reading assessment test before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Same as CIS 104.

CSA 110 Spreadsheets: Microsoft Excel

3 cr. hrs. 4 periods (2 lec., 2 lab)

Fundamentals of spreadsheet applications using Microsoft Excel. Includes spreadsheet concepts, formulas and functions, formatting worksheets and cells, working with charts and graphics. Also includes Excel lists, managing multiple worksheets and workbooks, collaborating on a workbook, developing an Excel application, data tables and Scenario management, using Solver, importing data, and advanced functions and filtering.

Prerequisite(s): MAT 086 with a C or better or MAT 089A through Module 22 or required score on the Mathematics assessment test.

Recommendation: Completion of CSA 089 or basic computer skills, completion of WRT 101, REA 091 or required score on the assessment test before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Prerequisite may be waived with consent of instructor.

CSA 120 Word Processing: Word

3 cr. hrs. 4 periods (2 lec., 2 lab)

Word processing techniques using Microsoft Word create, compare, and manage a range of documents. Includes application of templates, themes, styles, mail merge, web pages, macros, tables, forms, cross references, and indexes.

Recommendation: CSA 089 or basic computer skills, completion of REA 091 or satisfactory score on the reading assessment test. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CSA 130 PowerPoint

3 cr. hrs. 4 periods (2 lec., 2 lab)

Fundamentals of Microsoft PowerPoint presentation software. Includes introduction to PowerPoint, beginning a presentation, templates and wizards, color scheme, drawing tools, clip art, presentation in outline view, toolbars, organization charts, graphs, advanced text and graphics, templates and the slide master, slide shows, output and presentation options, animation, video, sound, creating action buttons, connecting to the Internet, and running a slide show.

Recommendation: Basic computer skills, completion of REA 091 or equivalent score on the reading assessment. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CSA 170 Database: Access**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Techniques for using Microsoft Access. Includes an overview of Microsoft Access, creating tables, working with tables, creating and using select queries, creating and using forms, creating and using reports, creating a report that contains totals, principles of table design and relationships, table design techniques, designing select queries, customizing form designs, working with data access pages, customizing reports, parameter and action queries, query joins and crosstab queries, using advanced form techniques, creating basic macros to automate forms, using macros to provide user interaction and automate tasks, using advanced report techniques, and Access, and the Internet.

Recommendation: Completion of CSA 089 or basic computer skills, completion of REA 091 or required score on the Reading assessment test before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CSA 182 Microsoft Windows: Current Version**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Overview of the Microsoft Windows operating system. Includes introduction to Windows, active desktop, multitasking, Windows help features, Windows Explorer, file management, Windows accessories, exchanging data between programs, print management, control panel, customizing Windows, and networking with Windows.

Recommendation: Completion of CSA 089 or basic computer skills, completion of REA 091 or required score on the Reading assessment test before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Crime Scene Management

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

CSM 100 Intro to Photo Equip & Proc for Crime Scene Investigations**1 cr. hrs. 1 periods (1 lec.)**

Focus on developing skills in photographing a crime scene. Includes processing black and white films and paper. Also includes tools and equipment, taking basic crime scene photographs, and chemical processes used in processing crime scene photographs.

CSM 101 Criminalistics**2 cr. hrs. 2 periods (2 lec.)**

Focuses on awareness and identification of both physical and biological evidence associated with crime scenes, with an emphasis on scientific analysis. Includes discussion on fingerprints, ballistics, DNA and blood evidence, hair and fibers, tool marks, bite marks, glass fragments, handwriting analysis, the scientific technology behind the investigative process, safety issues, and the future of criminalistics.

CSM 102 Crime Scene Photography**1 cr. hrs. 1 periods (1 lec.)**

Focuses on the specific skills needed to photograph various types of crime scene situations. Includes 1:1 photography, trace evidence, proper use of photographic equipment for crime scene investigations, and photographing post mortem injuries.

Prerequisite(s): CSM 100.

CSM 103 Latent Processing**1 cr. hrs. 1 periods (1 lec.)**

Techniques involved in developing latent fingerprints. Includes physical characteristics, types of fingerprints, principles of fingerprinting, fingerprint collection, fingerprint surfaces, and the photography of latent prints.

CSM 104 Fingerprint Identification**3 cr. hrs. 3 periods (3 lec.)**

Provides in-depth study and analysis of fingerprints and their comparative value. Includes fingerprinting history, basic pattern types, identification standards and protocols, fingerprint pattern interpretations, and classification systems.

CSM 105 Blood Pattern Documentation**.5 cr. hrs. .5 periods (.5 lec.)**

Focuses on awareness of evidentiary value associated with bloodstain interpretation and the importance of proper photographic documentation. Includes discussion on stain and flow patterns, surface considerations, photographing blood patterns, health hazards, and blood detection presumptive tests.

CSM 106 Ballistics**.5 cr. hrs. .5 periods (.5 lec.)**

Focuses on firearms, safety and basic evidence collection in crime scene management. Includes firearms and ammunition recognition and identification, ammunition components and homemade bombs. Also includes the scientific technology involved in comparative analysis.

CSM 107 Courtroom Testimony and Report Writing**.5 cr. hrs. .5 periods (.5 lec.)**

Focuses on general court practices expected of a crime scene investigator. Includes extensive use of mock/moot trial methods to prepare students for court cases. Also includes developing complete and accurate case reports, tools used by defense attorneys, cross examination, and pre-trial interviews.

Information: This course emphasizes writing skills.

Culinary Arts

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

CUL 105 Food Service Nutrition and Sanitation**3 cr. hrs. 3 periods (3 lec.)**

Basic nutrition concepts with emphasis on the nutritional concerns of restaurants and other types of food service operations. Includes the theory of nutritional label reading; nutritional food values; and the effects food has on the body. Also includes optimal sanitation policies and procedures; maintaining a clean work environment safe from food-borne illnesses; Hazard Analysis Critical Control Points (HACCP); safety and accident prevention; storage, preparation, and cleaning of work surfaces; and legal requirements based on regulations of the local municipality.

Corequisite(s): CUL 140

Information: Consent of Culinary Arts Department is required before enrolling in this course.

CUL 110 Food Service Nutrition**2 cr. hrs. 2 periods (2 lec.)**

Basic nutrition concepts with an emphasis on the nutritional concerns of restaurants and other types of food service operations. Includes health and nutrition; evaluation and use of popular and commercial nutrition information; nutrition elements, such as carbohydrates, lipids, proteins, vitamins, minerals, and water; energy metabolism/balance; and nutrition principles and the life cycle.

CUL 115 Food Service Sanitation and Safety**3 cr. hrs. 3 periods (3 lec.)**

Theory and practice of food service safety and sanitation. Includes creating a safe food service environment; food-borne illnesses; Hazard Analysis Critical Control Points (HACCP); sanitation in the purchasing, receiving, and storage of food; and sanitation in the preparation and service of food. Also includes maintaining sanitary facilities and equipment, safety and accident prevention, and legal requirements for food service safety and sanitation. Reviews legal elements of food service sanitation based on requirements and recommendations of Pima County Health Department.

CUL 130 Hot Foods I**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Introduction to all facets of hot foods. Includes classic stocks; sauces; soups; liaisons such as roux and starches; cooking techniques; preparation of vegetables; and butchering.

Prerequisite(s): CUL 105 and 140.

Corequisite(s): CUL 150, CUL 160

CUL 140 Culinary Principles**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the culinary profession. Includes professionalism, responsibilities, food service vocabulary, menu elements, principles of cooking, and tools and equipment. Also includes knives and knife skills; food tasting; and identifying and describing stocks and sauces, herbs and spices, chocolate, and vegetables.

Corequisite(s): CUL 105

Information: Consent of Culinary Arts Department is required before enrolling in this course.

CUL 145 Meat Fabrication**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Identification and preparation of meat, including beef, pork, and lamb. Includes identification of primal, subprimal, and retail cuts of meat; fabrication of meat into subprimal (wholesale) and retail cuts; meat preservation, and the seven principles underlying hazard analysis and critical control points (HACCP). Also includes shear force measurements and values, preservation methods, and costing principles.

Prerequisite(s): CUL 105 and 140.

Information: Consent of Culinary Arts Department is required before enrolling in this course.

CUL 150 Garde Manger**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Introduction to the fundamentals of Garde Manger. Includes care of equipment; knife skills; basic sandwiches; herbs and spices; salad greens; dressings (emulsified and non-emulsified); and commercial cooking techniques.

Prerequisite(s): CUL 105 and 140.

Corequisite(s): CUL 130, CUL 160

CUL 153 Cakes**1 cr. hrs. 1.5 periods (.5 lec., 1 lab)**

Introduction to the art of cake baking. Includes the ingredients, preparation, and baking of cakes. Also includes icings, decorations, and fillings.

Prerequisite(s): CUL 105 and 140.

CUL 156 Pies**1 cr. hrs. 1.5 periods (.5 lec., 1 lab)**

Introduction to the art of baking pies. Includes a variety of pastry dough, fillings, and other ingredients for creating pies and tarts. Also includes mixing; shaping; baking; and plating and presentation.

Prerequisite(s): CUL 105 and 140.

CUL 160 Bakery and Pastry Production I**3 cr. hrs. 5 periods (1 lec., 4 lab)**

A comprehensive introduction to preparing an array of baked goods and sweets. Includes yeast breads; quick breads; creams and custards; cakes; filling and frostings; cookies and brownies; elementary plating; and decorating and garnishing techniques. Also includes ingredients; bakery and pastry vocabulary; and safety and sanitation.

Prerequisite(s): CUL 105 and 140.

Corequisite(s): CUL 130, CUL 150

CUL 161 Cake Decorating and Candy Making**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Basic principles and methods of cake decorating and candy making. Includes history of cakes; selection of ingredients; cooking procedures; cake assembly; and presentation. Also includes techniques for creating basic candies, including holiday treats.

Prerequisite(s): CUL 105 and 140.

CUL 162 Art of Chocolate**1 cr. hrs. 1.5 periods (.5 lec., 1 lab)**

Introduction to chocolate in the culinary arts. Includes an introduction to the properties of chocolate and the history of chocolate. Also includes preparation of truffles, dough and batter, and molded and free form chocolate art work.

Prerequisite(s): CUL 105 and 140.

CUL 163 Sauces**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Concepts, skills, and techniques for sauce and stock creation. Includes preparation of stocks and sauces in a traditional manner and their uses in classic and contemporary kitchens. Also includes identification of and appropriate uses for liaisons.

Prerequisite(s): CUL 105 and 140.

CUL 166 Gluten-Free Baking**1 cr. hrs. 1.5 periods (.5 lec., 1 lab)**

Introduction to the art of gluten-free baking. Includes gluten-free breads, desserts, and pizza. Also includes mixing, shaping, baking, and plating and presentation.

Prerequisite(s): CUL 105 and 140.

CUL 168 Specialty and Hearth Breads**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Preparation, baking, and evaluation of specialty and hearth breads. Includes the evolution of bread products, bread preparation, and the proper use of flour and yeast. Also includes preparing a variety of classic artisan bread shapes, presenting attractive finished products, and judging the quality of finished breads. Also includes health and sanitation considerations in bread making.

Prerequisite(s): CUL 105 and 140.

Information: Consent of Culinary Arts Department is required before enrolling in this course.

CUL 170 Dining Room Operations**2 cr. hrs. 2 periods (2 lec.)**

Theory and practice of operating a casual dining room. Includes preparation for guest service, proper etiquette for serving guests and clearing tables, wine and beverage sales and service, salesmanship, and customer service.

Prerequisite(s): CUL 105 and 140.

CUL 174 From Garden to Table**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Introduction to preparing edible plants grown in the Sonoran Desert. Includes the best vegetable and herb selection for year-round harvest, as well as an investigation of optimal soil composition, composting, planting and harvesting techniques, seed saving, and preserving and storage methods. Also includes the nutritional advantage of locally grown plants and how to prepare them for optimal nutritional value. Also includes a survey of best practices for sustainability and recycling in the food service industry.

Prerequisite(s): CUL105 and 140.

CUL 180 Food in History**3 cr. hrs. 3 periods (3 lec.)**

History of food, the story of cuisine, and the social history of eating. Includes collecting, gathering and hunting food; stock-breeding and farming; sacramental foods; the economy of food markets; the era of merchants; New World food discoveries; and professional food preparation.

Prerequisite(s): CUL 105 and 140.

CUL 185 Catering Operations**2 cr. hrs. 2 periods (2 lec.)**

Theory and practice of planning and executing catering functions. Includes booking and planning, banquet room set-up and staffing, banquet service, guest payment and follow up, and specialized functions.

Prerequisite(s): CUL 105 and 140.

CUL 189 Culinary Arts Capstone I**1 cr. hrs. 1.5 periods (.5 lec., 1 lab)**

Preparation of a final culinary project that meets the learning outcomes required in the specific cooking/lab and lecture courses. Also includes review of culinary principles and demonstration of sanitation skills and safety practices.

Prerequisite(s): CUL 105 and 140.

Information: Course activities may take place in a simulated work setting. This is the capstone experience.

CUL 199 Co-op: Culinary Arts**1 cr. hrs. 1 periods (1 lec.)**

Introduction to Cooperative Education for first-year students (instruction which provides for success in securing and retaining a training job related to subject area). Includes communication skills, time and energy management, stress and its management, careers: information and its uses, job market, principles, theories, and practices in the career field, and problems in the work situation.

Information: May be taken three times for a maximum of three credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CUL 199WK Co-op Work: Culinary Arts**1-3 cr. hrs. 5-15 periods (5-15 lab)**

A supervised cooperative work program for students in culinary arts. Teacher-coordinators work with students and their supervisors. Variable credit is available by special arrangement.

Prerequisite(s): CUL 130.

Corequisite(s): CUL 199

Information: May be taken three times for a maximum of nine credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

CUL 230 Hot Foods II**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Continuation of preparation and service of hot food in a contemporary kitchen. Includes cooking techniques; contemporary sauce making; vegetables, grains, and starches; natural liaisons; food plating; and sanitation procedures and techniques.

Prerequisite(s): CUL 130 and 140.

Corequisite(s): CUL 251, CUL 260

CUL 251 International Cuisine: World of Flavor**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Concepts, skills, and techniques used to create global cuisine. Includes ingredients and foods from around the world. Also includes culinary techniques that incorporate culture and food traditions from Latin America, the Mediterranean, Europe, Asia, and the United States.

Prerequisite(s): CUL 130 and 140.

Corequisite(s): CUL 230, CUL 260

CUL 256 Special Diets**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Skills and techniques needed to plan and prepare special diets while providing culinary inspiration for healthy, wholesome meals. Includes a wide range of dietary challenges chefs must consider, such as nutrition, taste, and healthy ingredients while preparing gluten free, vegetarian, and vegan meals. Also includes substitutions as alternatives to prohibited ingredients.

Prerequisite(s): CUL 130.

CUL 260 Bakery and Pastry Production II**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Advanced theory and practice of operating a bakery or pastry shop in a hotel or restaurant kitchen. Includes planning, ordering, and scheduling for bakery production; safety and sanitation; and bakery and pastry vocabulary. Also includes advanced yeast breads; classic French pastries; ice cream and frozen desserts; pastry assembly; pastry garnishes; and complex plated desserts.

Prerequisite(s): CUL 130 and 160.

Corequisite(s): CUL 230, CUL 251

CUL 261 Advanced Cake Decorating**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Advanced principles and methods of cake decorating. Includes advanced flower design, gum paste, airbrush, photo transfer, fondant, and chocolate artistry. Also includes advanced techniques for creating cakes for weddings and other special occasions.

Prerequisite(s): CUL 161.

CUL 289 Culinary Arts Capstone II**1 cr. hrs. 1.5 periods (.5 lec., 1 lab)**

The capstone experience for the Culinary Arts Associate of Applied Science. Includes preparation of a final culinary project that meets the learning outcomes required in specific cooking/lab and lecture courses. Also includes a review of culinary principles, the demonstration of sanitation skills and safety practices, and the display of an advanced level of professionalism and proficiency in kitchen operations and food preparation.

Prerequisite(s): CUL 174.

Dance

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

DNC 107 Dance Conditioning**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Introduction to the concepts of dance as a strengthening, stretching, and cardiovascular activity and the awareness of alignment techniques through specific movement experiences and images. Includes class protocol, warm-up, floor work, standing and center floor work, locomotor work, elements of dance, and developing the craft.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 150 Ballet I**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Introduction to the theory and practice of ballet at the beginning level. Includes terminology, barre, floor work, standing and center floor work, locomotor work, elements, and developing the craft.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 151 Ballet II**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Continuation of DNC 150. Includes ballet techniques at the intermediate level, terminology, barre, floor work, standing and center floor work, locomotor work, elements, and developing the craft.

Prerequisite(s): DNC 150.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 152 Ballet III**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Continuation of DNC 151. Includes ballet technique at the advanced level, ballet terminology, barre, floor work, standing and center floor work, locomotor work, elements, and developing the craft.

Prerequisite(s): DNC 151.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 166 Modern Dance I**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Development of basic skills for dance. Includes modern dance technique at a beginning level, class protocol, warm-up, floor work, standing and center floor work, locomotor work, elements, and developing the craft.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 167 Modern Dance II**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Continuation of DNC 166. Includes development of intermediate skills for modern dance, class protocol, warm-up, floor work, standing and centering floor work, locomotor work, elements, and developing the craft.

Prerequisite(s): DNC 166.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 168 Modern Dance III**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Continuation of DNC 167. Includes development of advanced skills for modern dance, class protocol, warm-up, floor work, locomotor work, elements and developing the craft.

Prerequisite(s): DNC 167.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 180 Choreography**2 cr. hrs. 2 periods (2 lec.)**

The study of basic dance composition and construction of a phrase, structure, and form. Includes exploring the basic elements of dance, building a movement phrase, choreographic elements, constructing a dance, and analyzing the effectiveness of choreography.

Prerequisite(s): DNC 150 or 166 or 219.

Information: Prerequisite(s) may be waived with consent of instructor. May be taken two times for a maximum of four credit hours. If course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 200 Dance Appreciation and History**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the art of dance from its beginning as a religious form to its current place on Broadway and television.

Includes concepts in dance appreciation, themes and purposes of dance, analyzing dance works, styles of dance, roles of and major historical periods of world dance, and movement sessions.

DNC 219 Jazz Dance I**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Introduction and development of movement skills necessary to prepare the body as an instrument of expression in jazz dance styles. Includes class protocol, warm-up, floor work, standing and center floor work, locomotor work, elements, and developing the craft.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 220 Jazz Dance II**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Continuation of DNC 219. Progressive development of alignment for intermediate level jazz dance. Includes class protocol, warm-up, floor work, standing and center floor work, locomotor work, elements, and developing the craft.

Prerequisite(s): DNC 219.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 221 Jazz Dance III**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Continuation of DNC 220. Progressive development of alignment for advanced level jazz dance. Includes class protocol, warm-up, floor work, standing and center floor work, locomotor work, elements, and developing the craft.

Prerequisite(s): DNC 220.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 269 Dance Ensemble**3 cr. hrs. 6 periods (6 lab)**

Practical experience in all aspects for taking a dance piece from basic choreography and creating a professional performance. Includes rehearsal/performance process, responsibilities of a performer and/or a choreographer, performance skills, choreographic review; costuming, make-up, sets, and props; publicity, and analysis of the concert.

Prerequisite(s): DNC 150 or 166 or 219.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of six credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DNC 280 Business for Dance Careers**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the various careers available in dance and the appropriate business skills. Includes careers in dance, grant and proposal writing, agency interface, business skills, publicity, and creating a dance business on paper.

DNC 296 Independent Studies in Dance**1-3 cr. hrs. 2-6 periods (2-6 lab)**

Composition and/or in-depth independent study in an area of the student's choice with approval by the supervising instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of six credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Dental Assisting Education

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

DAE 159 Introduction to Health Care for Dental Assisting**2 cr. hrs. 2 periods (2 lec.)**

Basic skills essential to working successfully with patients and co-workers in dental offices and clinics, as a member of the dental health team. Includes study skills, psychology, vital signs, communication in the dental environment, job entry skills, research, and oral speech projects.

Corequisite(s): DAE 160, DAE 161, DAE 162, DAE 162LB, DAE 163, DAE 163LC, DAE 164, DAE 164LB, DAE 165, DAE 165LC

Information: Consent of program coordinator is required before enrolling in this course.

DAE 160 Orientation to Dental Care**1 cr. hrs. 1 periods (1 lec.)**

Overview of the field of dental care. Includes the profession of dentistry, areas of service, ethics, and jurisprudence.

Corequisite(s): DAE 159, DAE 161, DAE 162, DAE 162LB, DAE 163, DAE 163LC, DAE 164, DAE 164LB, DAE 165, DAE 165LC

Information: Consent of program coordinator is required before enrolling in this course.

DAE 161 Biomedical Dental Science**3 cr. hrs. 3 periods (3 lec.)**

Biosciences as they relate to the oral cavity. Impacts of anatomy, physiology, microbiology, oral pathology, and nutrition on dental health.

Corequisite(s): DAE 159, DAE 160, DAE 162, DAE 162LB, DAE 163, DAE 163LC, DAE 164, DAE 164LB, DAE 165, DAE 165LC

Information: Consent of program coordinator is required before enrolling in this course.

DAE 162 Dental Assisting I**2 cr. hrs. 2 periods (2 lec.)**

Principles and techniques of dental assisting. Includes tooth morphology of human dentition, hand and rotary dental instruments, instruments used in various operative procedures, and chairside procedures.

Corequisite(s): DAE 159, DAE 160, DAE 161, DAE 162LB, DAE 163, DAE 163LC, DAE 164, DAE 164LB, DAE 165, DAE 165LC

Information: Consent of program coordinator is required before enrolling in this course.

DAE 162LB Dental Assisting I Lab**1 cr. hrs. 3 periods (3 lab)**

This is the lab portion of DAE 162. Principles and techniques of dental assisting. Includes tooth morphology of human dentition, hand and rotary dental instruments, instruments used in various operative procedures, and chairside procedures.

Corequisite(s): DAE 159, DAE 160, DAE 161, DAE 162, DAE 163, DAE 163LC, DAE 164, DAE 164LB, DAE 165, DAE 165LC

Information: Consent of program coordinator is required before enrolling in this course.

DAE 163 Oral Radiography**2 cr. hrs. 2 periods (2 lec.)**

Principles to dental radiography as a diagnostic aid. Includes radiation protection and biology. Also includes clinic experience in exposing, processing, mounting, and interpreting radiographs on mannequins and patients using a variety of radiographic techniques.

Corequisite(s): DAE 159, DAE 160, DAE 161, DAE 162, DAE 162LB, DAE 163LC, DAE 164, DAE 164LB, DAE 165, DAE 165LC

Information: Consent of program coordinator is required before enrolling in this course. DHE 116 can be substituted for DAE 163 if completed within the last three years, see academic advisor or faculty for information regarding course substitution.

DAE 163LC Oral Radiography Clinical Lab**1 cr. hrs. 3 periods (3 lab)**

This is the clinical portion of DAE 163. Principles to dental radiography as a diagnostic aid. Includes radiation production and biology. Also includes clinic experience in exposing, processing, mounting, and interpreting radiographs on mannequins and patients using a variety of radiographic techniques.

Corequisite(s): DAE 159, DAE 160, DAE 161, DAE 162, DAE 162LB, DAE 163, DAE 164, DAE 164LB, DAE 165, DAE 165LC

Information: Consent of program coordinator is required before enrolling in this course. DHE 116LC can be substituted for DAE 163LC if completed within the last three years, see academic advisor or faculty for information regarding course substitution.

DAE 164 Dental Materials**2 cr. hrs. 2 periods (2 lec.)**

Chemical and physical properties of dental materials used in dental practice. Includes introduction to dental materials, preventive sealants, restorative materials, dental cements, impression materials, gypsum products, and miscellaneous dental materials. Also includes gold, non-precious alloys, and casting of metals.

Corequisite(s): DAE 159, DAE 160, DAE 161, DAE 162, DAE 162LB, DAE 163, DAE 163LC, DAE 164LB, DAE 165, DAE 165LC

Information: Consent of program coordinator is required before enrolling in this course. DHE 132 can be substituted for DAE 164 if completed within the last three years, see academic advisor or faculty for information regarding course substitution.

DAE 164LB Dental Materials Lab**1 cr. hrs. 3 periods (3 lab)**

This is the lab portion of DAE 164. Chemical and physical properties of dental materials used in dental practice. Includes introduction to dental materials, preventive sealants, restorative materials, dental cements, impression materials, gypsum products, and miscellaneous dental materials. Also includes gold, non-precious alloys, and casting of metals.

Corequisite(s): DAE 159, DAE 160, DAE 161, DAE 162, DAE 162LB, DAE 163, DAE 163LC, DAE 164, DAE 165, DAE 165LC

Information: Consent of program coordinator is required before enrolling in this course. DHE 132LB can be substituted for DAE 164LB if completed within the last three years, see academic advisor or faculty for information regarding course substitution.

DAE 165 Dental Assisting Procedures I**1 cr. hrs. 1 periods (1 lec.)**

Techniques and procedures of chairside dental assisting. Includes dental equipment and room design; chairside assisting and team approach; procedures applied in clinical treatment; and computer systems and technology in the dental environment. Also includes the application of student supervised experience in performing dental assisting functions in the clinical setting on patients.

Corequisite(s): DAE 159, DAE 160, DAE 161, DAE 162, DAE 162LB, DAE 163, DAE 163LC, DAE 164, DAE 164LB, DAE 165LC

Information: Consent of program coordinator is required before enrolling in this course.

DAE 165LC Dental Assisting Procedures I**1 cr. hrs. 4 periods (4 lab)**

This is the clinical portion of DAE 165. Techniques and procedures of chairside dental assisting. Includes dental equipment and room design; chairside assisting and team approach; procedures applied in clinical treatment; and computer systems and technology in the dental environment. Also includes the application of student supervised experience in performing dental assisting functions in the clinical setting on patients.

Corequisite(s): DAE 159, DAE 160, DAE 161, DAE 162, DAE 162LB, DAE 163, DAE 163LC, DAE 164, DAE 164LB, DAE 165

Information: Consent of program coordinator is required before enrolling in this course.

DAE 166 Dental Assisting II**3 cr. hrs. 3 periods (3 lec.)**

Principles and techniques of dental assisting. Includes pharmacology and therapeutics; and dental office inventory control. Also includes techniques and procedures for emergency medical/dental care as applied to dental assisting.

Prerequisite(s): DAE 159, 160, 161, 162, 162LB, 163, 163LC, 164, 164LB, 165, and 165LB.

Corequisite(s): DAE 167, DAE 169, DAE 169LC

Information: Consent of program coordinator is required before enrolling in this course.

DAE 167 Dental Assisting III**3 cr. hrs. 3 periods (3 lec.)**

Principles and techniques of dental practices management and oral health education as applied to dental assisting. Includes preventive dentistry in dental health education, dental office procedures, and summary and evaluation.

Prerequisite(s): DAE 159, 160, 161, 162, 162LB, 163, 163LC, 164, 164LB, 165, and 165LB.

Corequisite(s): DAE 166, DAE 169, DAE 169LC

Information: Consent of program coordinator is required before enrolling in this course.

DAE 169 Dental Assisting Procedures II**.5 cr. hrs. .5 periods (.5 lec.)**

Application and evaluation of skills acquired in a clinical environment. Includes specialty seminars and guest lecturers; rotations to specialty practices; first and second clinical externship rotation assignments; discussion and analysis of clinical externship; and evaluation process.

Prerequisite(s): DAE 159, 160, 161, 162, 162LB, 163, 163LC, 164, 164LB, 165, and 165LC.

Corequisite(s): DAE 166, DAE 167, DAE 169LC

Information: Consent of program coordinator is required before enrolling in this course.

DAE 169LC Dental Assisting Procedures Clinical II**6 cr. hrs. 24 periods (24 lab)**

This is the clinical portion of DAE 169. Application and evaluation of skills acquired in a clinical environment. Includes specialty seminars and guest lecturers; rotations to specialty practices; first and second clinical externship rotation assignments; discussion and analysis of clinical externship; and evaluation process.

Prerequisite(s): DAE 159, 160, 161, 162, 162LB, 163, 163LC, 164, 164LB, 165, and 165LC.

Corequisite(s): DAE 166, DAE 167, DAE 169

Information: Consent of program coordinator is required before enrolling in this course.

Dental Hygiene

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

DHE 101 Dental Hygiene I

2 cr. hrs. 2 periods (2 lec.)

Introduction to the procedures used in the pre-clinical practice of dental hygiene at the beginning level. Includes professionalism and ethics, infection control, body mechanics/ergonomics, evaluation of patient medical and dental history, and assessment data. Also includes instrumentation, laboratory practice of dental hygiene procedures on student partners (e.g. removal of soft deposits, fluorides, various clinical procedures), and awareness of diverse patient populations.

Prerequisite(s): BIO 205IN, CIS/CSA 104. Hygiene program and obtain consent of the Dental Hygiene

Corequisite(s): DHE 101LC, DHE 104, DHE 104LB, DHE 107, DHE 112, DHE 116, DHE 116LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 101LC Dental Hygiene I Clinical

3 cr. hrs. 12 periods (12 lab)

This is the clinical lab portion of DHE 101. Introduction to the procedures used in the pre-clinical practice of dental hygiene at the beginning level. Includes professionalism and ethics, infection control, body mechanics/ergonomics, evaluation of patient medical and dental history, and assessment data. Also includes instrumentation, laboratory practice of dental hygiene procedures on student partners (e.g. removal of soft deposits, fluorides, various clinical procedures), and awareness of diverse patient populations.

Corequisite(s): DHE 101, DHE 104, DHE 104LB, DHE 107, DHE 112, DHE 116, DHE 116LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 104 Dental and Oral Morphology

1 cr. hrs. 1 periods (1 lec.)

Form and function of primary and permanent dentition. Includes oral cavity proper; form, function and physiology; and tooth identification. Also includes terminology, deciduous dentition morphology, occlusion, tooth anomalies, and root morphology.

Corequisite(s): DHE 101, DHE 101LC, DHE 104LB, DHE 107, DHE 112, DHE 116, DHE 116LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 104LB Dental and Oral Morphology Lab

1 cr. hrs. 3 periods (3 lab)

This is the lab portion of DHE 104. Form and function of primary and permanent dentition. Includes oral cavity proper; form, function and physiology; and tooth identification. Also includes terminology, deciduous dentition morphology, occlusion, tooth anomalies, and root morphology.

Corequisite(s): DHE 101, DHE 101LC, DHE 104, DHE 107, DHE 112, DHE 116, DHE 116LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 107 Oral Embryology and Histology

2 cr. hrs. 2 periods (2 lec.)

The development and histology of teeth related to the intra and extra oral tissues of the head as they relate to the practice of dental hygiene. Includes terminology and formation of primary embryonic layers, histology, tooth development, enamel, dentin, and pulp. Also includes cementum, periodontal ligament, bone and alveolar process, mucous membranes, and salivary glands.

Corequisite(s): DHE 101, DHE 101LC, DHE 104, DHE 104LB, DHE 112, DHE 116, DHE 116LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 112 Preventive Dentistry

3 cr. hrs. 3 periods (3 lec.)

Introduction to dental disease and the promotion of dental health. Includes the role of dental hygienists as prevention specialists, clinical treatment theories, patient care readiness, dental disease, risk assessment, and oral hygiene instruction. Also includes dentin sensitivity, enamel demineralization and remineralization, chemotherapeutics, and tobacco cessation.

Corequisite(s): DHE 101, DHE 101LC, DHE 104, DHE 104LB, DHE 107, DHE 116, DHE 116LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 116 Oral Radiography**2 cr. hrs. 2 periods (2 lec.)**

Principles of dental radiography as a diagnostic aid. Includes radiation production and biology. Also includes clinic experience in exposing, processing, mounting, and interpreting radiographs on mannequins and patients using a variety of radiographic techniques.

Corequisite(s): DHE 101, DHE 101LC, DHE 104, DHE 104LB, DHE 107, DHE 112, DHE 116LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course. DAE 163 can be substituted for DHE 116 if completed within the last three years, see academic advisor or faculty for information regarding course substitution. To substitute DAE 163 for DHE 116, student must have current CDA certification.

DHE 116LC Oral Radiography Clinical**1 cr. hrs. 4 periods (4 lab)**

This is the clinical lab portion of DHE 116. Principles of dental radiography as a diagnostic aid. Includes radiation production and biology. Also includes clinic experience in exposing, processing, mounting, and interpreting radiographs on mannequins and patients using a variety of radiographic techniques.

Corequisite(s): DHE 101, DHE 101LC, DHE 104, DHE 104LB, DHE 107, DHE 112, DHE 116

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course. DAE 163LC can be substituted for DHE 116LC if completed within the last three years, see academic advisor or faculty for information regarding course substitution. To substitute DAE 163LC for DHE 116LC, student must have current CDA certification.

DHE 119 Periodontology**2 cr. hrs. 2 periods (2 lec.)**

Survey of periodontology comprised of the etiology, diagnosis, and prognosis of periodontal disease. Includes tissues and microscopic anatomy of the periodontium, historical background, causes, microbiology and classification of periodontal disease, local and systemic contributing factors, clinical assessment, radiographic analysis, and evidence-based periodontal care. Also includes decision making during treatment planning, nonsurgical and patient's role in periodontal therapy, maintenance therapy, research articles and applications, and new dental technology.

Prerequisite(s): DHE 101, 101LC, 104, 104LB, 107, 112, 116, and 116LC.

Corequisite(s): DHE 120, DHE 122, DHE 132, DHE 132LB, DHE 150, DHE 150LB, DHE 150LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 120 Oral Pathology**2 cr. hrs. 2 periods (2 lec.)**

Overview of oral pathology which is the study of human disease as found within all of the tissues represented in the area of the oral cavity. Includes introduction to pathology, diagnostic methods, normal exam and variants of normal, inflammation and repair, physical/chemical injuries of the oral tissues, and immunity and autoimmune diseases. Also includes infectious diseases, developmental disorders, neoplasia, genetic disorders, and oral manifestations of systemic disease.

Prerequisite(s): DHE 101/101LC, 104/104LB, 107, 112 and 116/116LC.

Corequisite(s): DHE 119, DHE 122, DHE 132, DHE 132LB, DHE 150, DHE 150LB, DHE 150LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 122 Pharmacology**2 cr. hrs. 2 periods (2 lec.)**

Introduction to the theory of pharmacology as it relates to dentistry. Includes drug action and handling, prescription writing, autonomic drugs, non-opioid analgesics, anti-infective agents, anti-fungal and anti-viral agents, anti-anxiety agents, cardiovascular agents, and anti-convulsant agents. Also includes psychotherapeutic agents, antacids and antihistamines, adreno cortico steroid agents, anti-neoplastic agents, and respiratory and gastrointestinal medications, emergency medications, and drug interactions and drug abuse.

Prerequisite(s): DHE 101, 101LC, 104, 104LB, 107, 112, 116, and 116LC.

Corequisite(s): DHE 119, DHE 120, DHE 132, DHE 132LB, DHE 150, DHE 150LB, DHE 150LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 132 Dental Materials**2 cr. hrs. 2 periods (2 lec.)**

Chemical and physical properties of dental materials used in dental practice. Includes introduction to dental materials, preventive sealants and restorative materials, dental cements. Also includes impression materials, gypsum products, miscellaneous dental materials; and gold, non-precious alloys, and casting of metals.

Prerequisite(s): DHE 101, 101LC, 104, 104LB, 107, 112, 116, and 116LC.

Corequisite(s): DHE 119, DHE 120, DHE 122, DHE 132LB, DHE 150, DHE 150LB, DHE 150LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course. DAE 164 can be substituted for DHE 132 if completed within the last three years, see academic advisor or faculty for information regarding course substitution. To substitute DAE 164 for DHE 132, student must have current CDA certification.

DHE 132LB Dental Materials Lab**1 cr. hrs. 3 periods (3 lab)**

This is the lab portion of DHE 132. Chemical and physical properties of dental materials used in dental practice. Includes introduction to dental materials, preventive sealants and restorative materials, dental cements. Also includes impression materials, gypsum products, miscellaneous dental materials; and gold, non-previous alloys, and casting of metals.

Prerequisite(s): DHE 101, 101LC, 104, 104LB, 107, 112, 116, and 116LC.

Corequisite(s): DHE 119, DHE 120, DHE 122, DHE 132, DHE 150, DHE 150LB, DHE 150LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course. DAE 164LB can be substituted for DHE 132LB if completed within the last three years, see academic advisor or faculty for information regarding course substitution. To substitute DAE 164LB for DHE 132LB, student must have current CDA certification.

DHE 150 Dental Hygiene II**2 cr. hrs. 2 periods (2 lec.)**

Continuation of DHE 101/10LC. Application of dental hygiene skills with a variety of clinical patients with simple dental hygiene care plans. Includes instrument review, evidence-based decision making and treatment planning, medical emergency management review, special needs patients, powered instruments, air powder polishing and stain removal, care of dental prostheses, advanced instrumentation and alternate fulcrums, tobacco cessation, subgingival irrigation, and antimicrobials. Also includes dental implant instruments, case studies, table clinics, and laboratory procedures.

Prerequisite(s): DHE 101, 101LC, 104, 104LB, 107, 112, 116, and 116LC.

Corequisite(s): DHE 119, DHE 120, DHE 122, DHE 132, DHE 132LB, DHE 150LB, DHE 150LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 150LB Dental Hygiene II Lab**.5 cr. hrs. 1.5 periods (1.5 lab)**

This is the lab portion of DHE 150. Application of dental hygiene skills with a variety of clinical patients with simple dental hygiene care plans. Includes instrument review, evidence-based decision making and treatment planning, medical emergency management review, special needs patients, powered instruments, air powder polishing and stain removal, care of dental prostheses, advanced instrumentation and alternate fulcrums, tobacco cessation, subgingival irrigation, and antimicrobials. Also includes dental implant instruments, case studies, table clinics, and laboratory procedures.

Prerequisite(s): DHE 101, 101LC, 104, 104LB, 107, 112, 116, and 116LC.

Corequisite(s): DHE 119, DHE 120, DHE 122, DHE 132, DHE 132LB, DHE 150, DHE 150LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 150LC Dental Hygiene II Clinical**3 cr. hrs. 12 periods (12 lab)**

This is the clinical lab portion of DHE 150. Application of dental hygiene skills with a variety of clinical patients with simple dental hygiene care plans. Includes instrument review, evidence-based decision making and treatment planning, medical emergency management review, special needs patients, powered instruments, air powder polishing and stain removal, care of dental prostheses, advanced instrumentation and alternate fulcrums, tobacco cessation, subgingival irrigation, and antimicrobials. Also includes dental implant instruments, case studies, table clinics, and laboratory procedures.

Prerequisite(s): DHE 101, 101LC, 104, 104LB, 107, 112, 116, and 116LC.

Corequisite(s): DHE 119, DHE 120, DHE 122, DHE 132, DHE 132LB, DHE 150, DHE 150LB

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 160LC Clinical Skills Enhancement I**.25-2 cr. hrs. 1-8 periods (1-8 lab)**

A clinical remediation course designed to support identified first year dental hygiene students who are performing at or below clinic course expectations. Includes education plan, development of individualized clinical remediation plan, and assessment.

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course. May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DHE 196 Independent Studies in Dental Hygiene**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Independent clinical applications, reading, projects, or lab activities for continuing student development in dental hygiene under faculty guidance.

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course. May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DHE 208 Pain and Anxiety Control for Dental Hygiene**1 cr. hrs. 1 periods (1 lec.)**

Delivery of local anesthetics. Includes introduction to pain and anxiety control; pharmacology, neurophysiology, and local anesthetic agents; nitrous oxide and oxygen analgesia. Also includes health history and complications, treatment, laboratory practices on student partners, emergency procedures, and head and neck anatomy.

Prerequisite(s): DHE 119, 120, 122, 132, 132LB, 150, 150LB, and 150LC.

Corequisite(s): DHE 208LC, DHE 209, DHE 212, DHE 250, DHE 250LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 208LC Pain and Anxiety Control for Dental Hygiene Clinical**1 cr. hrs. 4 periods (4 lab)**

This is the clinical lab portion of DHE 208. Delivery of local anesthetics. Includes introduction to pain and anxiety control; pharmacology, neurophysiology, and local anesthetic agents; nitrous oxide and oxygen analgesia. Also includes health history and complications, treatment, laboratory practices on student partners, emergency procedures, and head and neck anatomy.

Prerequisite(s): DHE 119, 120, 122, 132, 132LB, 150, 150LB, and 150LC.

Corequisite(s): DHE 208, DHE 209, DHE 212, DHE 250, DHE 250LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 209 Ethics and Practice Management**1 cr. hrs. 1 periods (1 lec.)**

Application of ethical theories and ethical principles in the practice of dental hygiene. Includes the business of dentistry, dental hygiene career opportunities, ethics, and jurisprudence.

Prerequisite(s): DHE 119, 120, 122, 132, 132LB, 150, 150LB, and 150LC.

Corequisite(s): DHE 208, DHE 208LC, DHE 212, DHE 250, DHE 250LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 212 Nutrition for Oral Health**1 cr. hrs. 1 periods (1 lec.)**

Introduction of the principles of nutrition including food sources, digestion, absorption, and metabolism of nutrients essential to the oral health of individuals. Includes nutrition as the foundation for general and oral health, nutritional and oral implications of common chronic health conditions, carbohydrates, proteins, lipids, fats, minerals and mineralization, medications and oral health, and nutritional concerns for the dentally compromised patient.

Prerequisite(s): DHE 119, 120, 122, 132, 132LB, 150, 150LB, and 150LC.

Corequisite(s): DHE 208, DHE 208LC, DHE 209, DHE 250, DHE 250LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 213 Advanced Periodontal Services**2 cr. hrs. 2 periods (2 lec.)**

Application of Dental Hygiene skills on advanced periodontal patients. Includes periodontal exam and initial phase, treatment plan, periodontal classifications, plaque control, scaling and root planning indications and limitations, sonic and ultrasonic therapy in periodontal services, hand and powered instrumentation, and implant maintenance. Also includes occlusal evaluation and adjustment, assessment, reevaluation of treatment and maintenance, periodontal healing, antimicrobials and antibiotics, surgical procedures, and nonsurgical periodontal therapy.

Prerequisite(s): DHE 208, 208LC, 209, 212, 250, 250LC.

Corequisite(s): DHE 213CA, DHE 213CB, DHE 216, DHE 255, DHE 255LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 213CA Advanced Periodontal Services Clinical - A**1 cr. hrs. 3 periods (3 lab)**

This is the clinical lab part A portion of DHE 213. Application of Dental Hygiene skills on advanced periodontal patients. Includes periodontal exam and initial phase, treatment plan, periodontal classifications, plaque control, scaling and root planning indications and limitations, sonic and ultrasonic therapy in periodontal services, hand and powered instrumentation, and implant maintenance. Also includes occlusal evaluation and adjustment, assessment, reevaluation of treatment and maintenance, periodontal healing, antimicrobials and antibiotics, surgical procedures, and nonsurgical periodontal therapy.

Prerequisite(s): DHE 208, 208LC, 209, 212, 250 and 250LC.

Corequisite(s): DHE 213, DHE 213CB, DHE 216, DHE 255, DHE 255LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 213CB Advanced Periodontal Services Clinical - B**1 cr. hrs. 4 periods (4 lab)**

This is the clinical lab portion part B of DHE 213. Application of Dental Hygiene skills on advanced periodontal patients. Includes periodontal exam and initial phase, treatment plan, periodontal classifications, plaque control, scaling and root planning indications and limitations, sonic and ultrasonic therapy in periodontal services, hand and powered instrumentation, and implant maintenance. Also includes occlusal evaluation and adjustment, assessment, reevaluation of treatment and maintenance, periodontal healing, antimicrobials and antibiotics, surgical procedures, and nonsurgical periodontal therapy.

Prerequisite(s): DHE 208, 208LC, 209, 212, 250 and 250LC.

Corequisite(s): DHE 213, DHE 213CA, DHE 216, DHE 255, DHE 255LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 216 Community and Dental Health Education**3 cr. hrs. 3 periods (3 lec.)**

Overview of public dental health education. Includes critiquing dental literature, community dental health planning, basic biostatistics, and epidemiology and research in the dental community. Also includes dental needs and demands, dental care delivery and prevention in the United States.

Prerequisite(s): DHE 208, 208LC, 209, 212, 250 and 250LC.

Corequisite(s): DHE 213, DHE 213CA, DHE 213CB, DHE 255, DHE 255LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 250 Dental Hygiene III**3 cr. hrs. 3 periods (3 lec.)**

Continuation of DHE 150, 150LB, and 150LC. Application of dental hygiene skills with a variety of clinical patients with dental hygiene care plans at the intermediate level. Includes dental hygiene theory and care, instrumentation, and care of patients with various physical disabilities.

Prerequisite(s): DHE 119, 120, 122, 132, 132LB, 150, 150LB, and 150LC.

Corequisite(s): DHE 208, DHE 208LC, DHE 209, DHE 212, DHE 250LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 250LC Dental Hygiene III Clinical**4 cr. hrs. 16 periods (16 lab)**

Continuation of DHE 150, 150LB, and 150LC. This is the clinical lab portion of DHE 250. Application of dental hygiene skills with a variety of clinical patients with dental hygiene care plans at the intermediate level. Includes dental hygiene theory and care, instrumentation, and care of patients with various physical disabilities.

Prerequisite(s): DHE 119, 120, 122, 132, 132LB, 150, 150LB, and 150LC.

Corequisite(s): DHE 208, DHE 208LC, DHE 209, DHE 212, DHE 250

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 255 Dental Hygiene IV**1 cr. hrs. 1 periods (1 lec.)**

Continuation of DHE 250/250LC. Includes application of dental hygiene skills with a variety of clinical patients with dental hygiene care plans at the advanced level. Also includes national, regional, and state exam preparation, advanced instrumentation, advanced ultrasonic inserts and techniques, and preparing for entry level employment.

Prerequisite(s): DHE 208, 208LC, 209, 212, 250, and 250LC.

Corequisite(s): DHE 213, DHE 213CA, DHE 213CB, DHE 216, DHE 255LC

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 255LC Dental Hygiene IV Clinical**3 cr. hrs. 12 periods (12 lab)**

This is the clinical lab portion of DHE 255. Includes application of dental hygiene skills with a variety of clinical patients with dental hygiene care plans at the advanced level. Also includes national, regional, and state exam preparation, advanced instrumentation, advanced ultrasonic inserts and techniques, and preparing for entry level employment.

Prerequisite(s): DHE 208, 208LC, 209, 212, 250, and 250LC.

Corequisite(s): DHE 213, DHE 213CA, DHE 213CB, DHE 216, DHE 255

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course.

DHE 260LC Clinical Skills Enhancement II**.25-2 cr. hrs. 1-4 periods (1-4 lab)**

A clinical remediation course designed to support identified second year dental hygiene students who are performing at or below clinic course expectations. Includes identification of need through clinical performance scores, development of individualized clinical remediation plan, and assessment.

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course. May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DHE 296 Advanced Independent Study: Dental Hygiene**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Students independently continue their development in Dental Hygiene under the guidance of a faculty member.

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course. **Information:** May be taken two times for a maximum of eight credit hours.

Information: Students must be admitted to the PCC Dental Hygiene program and obtain consent of the Dental Hygiene department before enrolling in this course. May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Dental Lab Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

DLT 101 Dental Morphology

2 cr. hrs. 2 periods (2 lec.)

Introduction to human dental morphology through lectures, readings, and sculpting exercises. Includes the dental health care team, anatomical landmarks and terminology, tooth development and landmarks, tooth sculpting, articulators and model mounting, occlusion, and care of laboratory instruments.

Prerequisite(s): With a C or higher: REA 091 or higher, or Reading Assessment into REA 112.

Corequisite(s): DLT 101LB

Information: Consent of program director is required before enrolling in this course.

DLT 101LB Dental Morphology Lab

1 cr. hrs. 3 periods (3 lab)

This is the Lab portion of DLT 101. Introduction to human dental morphology through lectures, readings, and sculpting exercises. Includes the dental health care team, anatomical landmarks and terminology, tooth development and landmarks, tooth sculpting, articulators and model mounting, occlusion, and care of laboratory instruments.

Prerequisite(s): With a grade of C or higher: REA 091 or higher, or Reading Assessment into REA 112.

Corequisite(s): DLT 101

Information: Consent of program director is required before enrolling in this course.

DLT 102 Non-Metallic Dental Materials

3 cr. hrs. 3 periods (3 lec.)

Principles of chemistry and physics, identification, selection, and manipulation of non-metallic dental materials. Includes an introduction to dental materials, management of materials, impression material, gypsum materials, dental waxes, refractory materials, and acrylic resin.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Information: Consent of program director is required before enrolling in this course.

DLT 103 Complete Dentures

1 cr. hrs. 1 periods (1 lec.)

Examination of the relationship between upper and lower dentures as interpreted on a functional articulator. Includes evaluation of preliminary impressions and fabrication of models, custom impression trays, evaluation of final impression and master model, baseplate fabrication, occlusion rims, articulation and mounting of working models, and prosthetic tooth selection. Also includes setting artificial denture teeth, processing the trial denture, finishing complete dentures, fabricating surgical templates, and denture repair and reline.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Corequisite(s): DLT 103LB

Information: Consent of program director is required before enrolling in this course.

DLT 103LB Complete Dentures Lab

3 cr. hrs. 9 periods (9 lab)

This is the Lab Portion of DLT 103. Examination of the relationship between upper and lower dentures as interpreted on a functional articulator. Includes evaluation of preliminary impressions and fabrication of models, custom impression trays, evaluation of final impression and master model, baseplate fabrication, occlusion rims, articulation and mounting of working models, and prosthetic tooth selection. Also includes setting artificial denture teeth, processing the trial denture, finishing complete dentures, fabricating surgical templates, and denture repair and reline.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Corequisite(s): DLT 103

Information: Consent of program director is required before enrolling in this course.

DLT 104 Dental Occlusion

2 cr. hrs. 2 periods (2 lec.)

Introduction to the principles of techniques used in the dental laboratory. Includes how to trace and label all aspects of the maxillary and mandibular teeth, control of inlay wax application, restoring occlusal surfaces and clinical crowns to ideal occlusion, functional occlusion on articulated casts, and philosophies of different wax added systems.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Corequisite(s): DLT 104LB

Information: Consent of program director is required before enrolling in this course.

DLT 104LB Dental Occlusion Lab**2 cr. hrs. 6 periods (6 lab)**

This is the Lab portion of DLT 104. Introduction to the principles of techniques used in the dental laboratory. Includes how to trace and label all aspects of the maxillary and mandibular teeth, control of inlay wax application, restoring occlusal surfaces and clinical crowns to ideal occlusion, functional occlusion on articulated casts, and philosophies of different wax added systems.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Corequisite(s): DLT 104

Information: Consent of program director is required before enrolling in course.

DLT 105 Partial Denture Construction**1 cr. hrs. 1 periods (1 lec.)**

Construction of removable partial dentures (RPDs). Includes evaluation and fabrication of preliminary impressions and models, model survey and RPD design, evaluation and fabrication of final impressions and master models, block out procedures, model duplication and refractory casts, creating wax patterns, spruing and investing frameworks, burnout and alloy casts, and recovery of RPD casting. Also includes metal finishing and polishing, occlusion rims, prosthetic tooth selection and tooth setting, processing and finishing the RPD, and soldering of dental alloys.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Corequisite(s): DLT 105LB

Information: Consent of program director is required before enrolling in this course.

DLT 105LB Partial Denture Construction Lab**3 cr. hrs. 9 periods (9 lab)**

This is the Lab portion of DLT 105. Construction of removable partial dentures (RPDs). Includes evaluation and fabrication of preliminary impressions and models, model survey and RPD design, evaluation and fabrication of final impressions and master models, block out procedures, model duplication and refractory casts, creating wax patterns, spruing and investing frameworks, burnout and alloy casts, and recovery of RPD casting. Also includes metal finishing and polishing, occlusion rims, prosthetic tooth selection and tooth setting, processing and finishing the RPD, and soldering of dental alloys.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Corequisite(s): DLT 105

Information: Consent of program director is required before enrolling in this course.

DLT 106 Orthodontic Appliances**2 cr. hrs. 2 periods (2 lec.)**

Construction and theory of simple orthodontic appliances. Includes evaluation of preliminary impressions and fabrication of orthodontic study models, model trimming and evaluation, classification of occlusion and malocclusion types, tooth numbering systems and identification. Also includes wrought wire fabrication, application of wire bending skills, fabrication of removable tooth retaining and moving appliances, and fixed space maintaining appliances.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Corequisite(s): DLT 106LB

Information: Consent of program director is required before enrolling in this course.

DLT 106LB Orthodontic Appliances Lab**1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of DLT 106. Construction and theory of simple orthodontic appliances. Includes evaluation of preliminary impressions and fabrication of orthodontic study models, model trimming and evaluation, classification of occlusion and malocclusion types, tooth numbering systems and identification. Also includes, wrought wire fabrication, application of wire bending skills, fabrication of removable tooth retaining and moving appliances, and fixed space maintaining appliances.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Corequisite(s): DLT 106

Information: Consent of program director is required before enrolling in this course.

DLT 108 Laboratory Management**3 cr. hrs. 3 periods (3 lec.)**

Examination of the principles of dental laboratory management. Includes blood borne pathogens, infection control guidelines and procedures, Occupational Safety and Health Administration (OSHA) regulations for dental laboratories. Also includes post exposure plan, legal and ethical aspects of the industry, history of dentistry, National Association of Dental Laboratories, and establishing a dental laboratory.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Information: Consent of program director is required before enrolling in this course.

DLT 201 Dental Laboratory I**2 cr. hrs. 2 periods (2 lec.)**

Introduction to the principles and techniques used in the dental laboratory. Includes fabrication and articulation of removable die models, spruing, investing, and casting crown and bridge patterns. Also includes repairs, soldering, and functional occlusion in wax crown, bridge patterns, crown metal castings, and bridge metal castings.

Prerequisite(s): DLT 101 and 101LB.

Corequisite(s): DLT 201LB

Information: Consent of program director is required before enrolling in this course.

DLT 201LB Dental Laboratory I Lab**1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of DLT 201. Introduction to the principles and techniques used in the dental laboratory. Includes fabrication and articulation of removable die models, spruing, investing, and casting crown and bridge patterns. Also includes repairs, soldering, and functional occlusion in wax crown, bridge patterns, crown metal castings, and bridge metal castings.

Prerequisite(s): DLT 101 and 101LB.

Corequisite(s): DLT 201

Information: Consent of program director is required before enrolling in this course.

DLT 202 Dental Metallurgy**3 cr. hrs. 3 periods (3 lec.)**

Examination of metals currently used by the dental technician. Includes introduction to dental alloys (e.g. physical and chemical properties); weights, measures, and calculations; metal sensitivities and allergies. Also includes alloy processing; equipment calibration; metal treatment and torch techniques; electro-polisher and electrolyte solution operation; and safety procedures.

Prerequisite(s): DLT 101 and 101LB.

Information: Consent of program director is required before enrolling in this course.

DLT 203 Fixed Bridgework**1 cr. hrs. 1 periods (1 lec.)**

Construction of fixed single tooth restorations and bridgework. Includes prescriptions and work authorizations, fixed restoration design, and preparation requirements. Also includes waxing, seating, finishing, evaluation of fixed single tooth restorations, and bridgework castings.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Corequisite(s): DLT 203LB

Information: Consent of program director is required before enrolling in this course.

DLT 203LB Fixed Bridgework Lab**3 cr. hrs. 9 periods (9 lab)**

This is the Lab portion of DLT 203. Construction of fixed single tooth restorations and bridgework. Includes prescriptions and work authorizations, fixed restoration design, and preparation requirements. Also includes waxing, seating, finishing, evaluation of fixed single tooth restorations, and bridgework castings.

Prerequisite(s): DLT 101 and 101LB, or concurrent enrollment.

Corequisite(s): DLT 203

Information: Consent of program director is required before enrolling in this course.

DLT 204 Dental Laboratory II**2 cr. hrs. 2 periods (2 lec.)**

Continuation of DLT 201. Principles and techniques used in the dental laboratory. Includes physics of light, color theory, edodontically treated teeth, reduction copings, attachments, application of dental attachments, swing lock retention for removable partial dentures, and semi precision attachment in a bridge.

Prerequisite(s): DLT 108, 201, 201LB, 202, 203, and 203LB.

Corequisite(s): DLT 204LB

Information: Consent of program director is required before enrolling in this course.

DLT 204LB Dental Laboratory II Lab**1 cr. hrs. 3 periods (3 lab)**

Continuation of DLT 201, this is the Lab portion of DLT 204. Principles and techniques used in the dental laboratory. Includes physics of light, color theory, endodontically treated teeth, reduction copings, attachments, application of dental attachments, swing lock retention for removable partial dentures, and semi-precision attachment in a bridge.

Prerequisite(s): DLT 108, 201, 201LB, 202, 203, and 203LB.

Corequisite(s): DLT 204

Information: Consent of program director is required before enrolling in this course.

DLT 206 Dental Ceramics**2 cr. hrs. 2 periods (2 lec.)**

Introduction to porcelain fused to metal techniques. Includes prescriptions and work authorizations; porcelain fused to metal restoration designs and preparation requirements; design, wax-up, and finishing of porcelain fused to metal substructure; metal conditioning; and building ceramic restorations. Also includes porcelain furnace operation, contouring fired porcelain, finishing, and soldering.

Prerequisite(s): DLT 108, 202, 203, and 203LB.

Corequisite(s): DLT 206LB

Information: Consent of program director is required before enrolling in this course.

DLT 206LB Dental Ceramics Lab**2 cr. hrs. 6 periods (6 lab)**

This is the Lab portion of DLT 206. Introduction to porcelain fused to metal techniques. Includes prescriptions and work authorizations; porcelain fused to metal restoration designs and preparation requirements; design, wax-up, and finishing of porcelain fused to metal substructure; metal conditioning; and building ceramic restorations. Also includes porcelain furnace operation, contouring fired porcelain, finishing, and soldering.

Prerequisite(s): DLT 104, 104LB, 108, 202, 203, and 203LB.

Corequisite(s): DLT 206

Information: Consent of program director is required before enrolling in this course.

DLT 207 Advanced Dental Laboratory Technology**2 cr. hrs. 2 periods (2 lec.)**

Application of dental laboratory techniques at the advanced level. Includes full dentures, partial dentures, crown and bridge, dental ceramics, and orthodontics.

Prerequisite(s): DLT 104, 104LB, 108, 202, 203, and 203LB.

Corequisite(s): DLT 207LB

Information: Consent of program director is required before enrolling in this course.

DLT 207LB Advanced Dental Laboratory Technology Lab**3 cr. hrs. 9 periods (9 lab)**

This is the Lab portion of DLT 207. Application of dental laboratory techniques at the advanced level. Includes full dentures, partial dentures, crown and bridge, dental ceramics, and orthodontics.

Prerequisite(s): DLT 104, 104LB, 108, 202, 203, and 203LB.

Corequisite(s): DLT 207

Information: Consent of program director is required before enrolling in this course.

Digital Arts

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

DAR 101 Color Rendering and Theory**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Basic color theory and rendering principles as applied to digital and graphic design. Includes color types, definition and use of color schemes, rendering concepts and techniques, media, technique, composition, designing characters for animation, three-dimensional techniques and construction, and professional environment.

DAR 102 Fundamentals of Digital Design**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Overview of the fundamentals, theory, survey, and practice of digital arts design. Includes survey of industry careers, skills and processes necessary in digital design careers, digital arts software, and portfolio requirements in digital arts.

DAR 103 Introduction to Digital Video and Film Arts**3 cr. hrs. 3 periods (3 lec.)**

Overview of the theory and practice of the digital video and film arts industry. Includes various electronic media delivery systems, digital image, and target market and advertising.

DAR 111 Typography**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Letter forms and use in visual communications. Includes type rendering, letter spacing, type and headline groupings, type relationships, type images, and type applications.

Prerequisite(s): DAR 102 or 103.

DAR 112 Graphic Design**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Basic principles of color and design as applied to the graphics industry. Includes creating focal points, unity, texture, space relationships, color control, color harmonies, and psychology of color.

DAR 115 Digital Video Editing**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Introduction to non-linear editing on the computer. Includes historical development of editing, digital video and audio formats, techniques and theory of storytelling in editing, storytelling in various types, and organization for the edit.

Prerequisite(s): DAR 103 or concurrent enrollment.

DAR 120 Applied Computer Graphics**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Introduction to computer graphics software. Includes current software, postscript illustration documents, paint and photo editing documents, desktop publishing documents, and introduction to graphic design concepts.

DAR 122 DeskTop Graphics: Adobe Illustrator**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Computer generated graphics and illustrations. Includes current Adobe Illustrator software, computer graphics hardware, documents, and professional environment.

Prerequisite(s): DAR 120.

DAR 124 Writing for Film and Television**3 cr. hrs. 3 periods (3 lec.)**

Examining dramatic writing in visual mediums and creating the story for the screen. Includes story origins and formats, story structure, elements of story, preproduction, writing for alternative media, working in the film and television industry, writing processes, and criticism.

DAR 125 Digital Cinematography I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Principles and techniques of digital cinematography production. Includes digital video camera, camera and shooting competencies, lighting and composition, and working as a team.

Prerequisite(s): DAR 103 and 115.

Information: This course will require additional expenses for supplies in addition to course and lab fees.

DAR 128 Digital Photography I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Introduction to digital photography emphasizing the technical and aesthetic issues and how these qualities form image content. Includes Adobe Photoshop basics, history of still photography, applications of digital cameras, aspects of the digital medium, camera and computer equipment requirements, digital still camera, memory and file formats, digital still camera lenses, and proper exposure. Also includes light, color, and temperature; depth of field, shutter speed effects, proper use of digital photography, lighting for digital stills, elements of composition, photographic rendering and reality, outputting and publishing, portfolio preparation, and career options in digital photography.

Recommendation: Adobe Photoshop experience is highly recommended before enrolling in this course.

Information: Same as ART 128. It is recommended students have access to a digital camera with manual exposure control and a computer with image processing software. Professional quality computers, software, printers, lighting equipment, and studio will be provided for specific assignments. There will be additional supply costs beyond course fees.

DAR 140 Digital Arts Illustration Studio: Illustration Technique & Media**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Basic principles, techniques and media applied to digital and traditional illustration styles, subject matter used in print illustration. Includes subject, media, technique, composition, and professional environment.

Prerequisite(s): DAR 101.

DAR 145 Digital Arts Illustration Studio: Character Development for Animation and Print**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Principles and techniques applied to character development used for animation, products, and print material. Includes drawing in a loose manner, designing characters, materials, techniques and construction, various applications, and professional environment.

Prerequisite(s): DAR 101.

DAR 146 Lighting for Photography I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Introduction to creative professional lighting concepts and techniques for commercial and fine art photography. Includes lighting and studio equipment, light qualities, lighting for form, lighting for surface qualities, still-life photography, portrait photography, image composition, critical analysis, and portfolio.

Prerequisite(s): ART/DAR 128.

Information: Students are strongly recommended to own or have access to a digital camera with manual exposure control and a computer with image processing software. Professional quality cameras, computers and software, printers, lighting equipment and studio will be provided for specific assignments. There may be additional supply costs in addition to course fees. Same as ART 146.

DAR 173 History of American Cinema**3 cr. hrs. 3 periods (3 lec.)**

American cinematic film making as an art form, economic force, and system of representation and communication. Includes history of American cinema, development of the significant films and directors, film studios, and image, cinema genres, history of narrative film and film sounds, alternative American films, analysis and criticism, and American cinema team.

DAR 175 The Art of Digital Cinematography**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Basic techniques of the art of digital cinematography. Includes storyboarding and vision of the story, camera considerations, light and image in production, post-production techniques, different genres, and the production team.

Prerequisite(s): DAR 103 and 115 or concurrent enrollment, in both.

Information: This course will require additional expenses for supplies in addition to course and lab fees.

DAR 176 Digital Animation**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Introduction to digital animation techniques. Includes history of art animation, procedures in animated films, producing animation, character design and movements, technical information, storyboarding, animation techniques, basic principles of animation, and creation of a digital animation project.

Information: This course will require additional expenses for supplies in addition to course and lab fees.

DAR 196 Digital Arts Independent Projects: Media Projects**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Students independently continue their development in media communications with the help of a faculty member.

Prerequisite(s): DAR 103, 124, 125, 175.

Information: Consent of instructor is required before enrolling in this course. May be taken three times of a maximum of twelve credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DAR 205 Lighting for Film and Video**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Creative lighting techniques, practices, and use of equipment. Includes the visible spectrum, film and exposure, using electricity, video and the electronic medium, controlling color temperature, light quality, and measuring light intensity. Also includes manipulating light, light concepts in practice, and light in the studio and on location.

Prerequisite(s): DAR 125 or 175.

Information: This course will require additional expenses for supplies in addition to course and lab fees.

DAR 210 Digital Arts Design Studio: Advertising Design**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Principles and techniques as applied to advertising design. Includes advertising concepts, advertising campaign, and professional environment.

Recommendation: Completion of DAR 112 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DAR 211 Digital Arts Design Studio: Product Design**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Principles and techniques as applied to product design. Includes package design, card design, textile design, compact disc (CD) design, digital video disc (DVD) design, game design, and sign design.

Prerequisite(s): DAR 112.

DAR 212 Digital Arts Design Studio: Collateral Design**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Principles and techniques for creating collateral print designs such as brochures, booklets, presentation kits, postcards, logos, stationery, posters, menus, and other printed materials. Includes layout of flat print materials, layout and design of folded print materials, mock-up construction techniques, and professional environment.

Recommendation: Completion of DAR 112 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DAR 217 Post Production for Film**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Introduction to film post production video and audio techniques and aesthetics of film editing. Includes history of the art of film editing, preparing for the edit, tools of the editor, cutting techniques, and preparing for sound. Also includes sound, dialogue, looping, and music editing; the mix; and the answer print.

Prerequisite(s): DAR 125.

DAR 221 Photo Image Editing: Adobe PhotoShop**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Computer retouching and manipulation of photos and illustrations. Includes current Adobe PhotoShop software, edit and retouch, hardware, and professional environment.

Prerequisite(s): DAR 120.

Information: Experience in computer graphics may be substituted for prerequisites. See a Digital Arts faculty member for information.

DAR 224 Advanced Screenwriting**3 cr. hrs. 3 periods (3 lec.)**

In-depth examination of writing in visual mediums. Includes writing workshops, planning feature length screenplays, alternative writing processes, contemporary scripts and screenwriters, mythic archetypes, creative deconstruction, finding representation, and current trends in the screenwriting industry.

Prerequisite(s): DAR 103 and 124.

Information: Experience in computer graphics may be substituted for some prerequisites. See a Digital Arts faculty member for information.

DAR 225 Digital Cinematography II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of DAR 125. Production of digital video projects. Includes analyzing the needs in a post-production plan, story and visual elements, production equipment needs, lighting the digital video production, in camera and post production special effects, editing and the visual storyline, and building a demo reel.

Prerequisite(s): DAR 124 and 125.

Information: This course will require additional expenses for supplies in addition to course and lab fees.

DAR 226 DeskTop Publishing for Digital Arts: Adobe InDesign**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Design and creation of publications and printed collateral for digital arts. Includes current Adobe InDesign software, documents, printing preparation, and professional environment.

Prerequisite(s): DAR 120.

Information: Experience in computer graphics may be substituted for some prerequisites. See a Digital Arts faculty member for information.

DAR 230 Production Techniques for Print**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Preparation of artwork for printing. Includes production workflow using Adobe Illustrator, Adobe Photoshop, and Adobe InDesign; trim, bleed, color, and special finishes; paper stock and budget, single and multi-page documents, and terminology and communicating with print shops.

Prerequisite(s): DAR 122, 221, and 226 or concurrent enrollment.

DAR 232 Digital Photography II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of ART/DAR 128. Includes intermediate digital cameras with manual functions, intermediate digital darkroom and digital output, quality of light, intermediate image composition, multiple images, intermediate portfolio development, and critical analysis. Also includes the intermediate use of state-of-the-art professional quality computers and image processing software, professional digital cameras, printers, and a lighting studio with professional lighting equipment.

Prerequisites(s): ART/DAR 128.

Recommendation: Completion of DAR 221 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Same as ART 232. The prerequisite may be waived with consent of the instructor. It is recommended students have access to a digital camera with manual exposure control and a computer with image processing software. Professional photographic equipment, including cameras, are available for check out on a rotating basis. Professional quality computers, software, printers, lighting equipment and studio will be provided for specific assignments. There will be additional supply costs beyond course fees.

DAR 240 Digital Arts Illustration Studio: Book Illustration**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Principles and techniques applied to various book, graphic novel and comic magazine illustration. Includes advanced subjects, media, techniques, various applications, and professional environment.

Prerequisite(s): DAR 101.

DAR 246 Lighting for Photography II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of ART/DAR 146. Includes lighting and equipment for studio and location, advanced lighting qualities and techniques, photographing with mixed light sources, lighting for mood and environment, set design and construction, photographing individuals and groups of people, photographing on location, photographing for montage images, advanced image composition, critical analysis, business practices, and portfolios.

Prerequisite(s): ART/DAR 146.

Information: Students are strongly recommended to own or have access to a digital camera with manual exposure control and a computer with image processing software. Professional quality cameras, computers and software, printers, lighting equipment and studio will be provided for specific assignments. There may be additional supply costs in addition to course fees. Same as ART 246.

DAR 250 Computer 2D Animation: Adobe After Effects**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Two dimensional animation on the computer. Includes storyboards, techniques and terms, logo animation, character animation, metamorphic animation, and production techniques.

Recommendation: Completion of DAR 221 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DAR 251 Computer 3D Animation: Maya**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Beginning modeling, rendering, and animation on the computer using Maya, may include other current industry software. Includes menus, image creation, color, printing, precision model making, object creation and design, and compatibility.

Recommendation: Completion of DAR 221 or 250 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DAR 252 Interactive Design I**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Introduction to the theory, survey, and practice of designing and developing beginning interactive applications. Includes design for current formats, design and development planning, core concepts of Animate software, HyperText Markup Language (HTML) 5 concepts, and application development. Also includes adding media to projects, core visual aesthetics, business considerations, and publishing.

Prerequisite(s): DAR 120.

Information: Prerequisites may be waived with experience in computer graphics. See a Digital Arts faculty member for information.

DAR 254 Interactive Design II**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Continuation of DAR 252. Introduction to the theory, survey, and practice of designing and developing advanced interactive applications. Includes current multimedia formats and funding options, storyboarding interactive projects, advanced online design concepts of Animate, HyperText Markup Language (HTML) 5 concepts, and advanced application development. Also includes simple graphics and animations, advanced visual aesthetics, business and legal considerations; and publishing, marketing, and distribution.

Prerequisite(s): DAR 252.

DAR 256 Web Design I**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Introduction to the theory, survey, and practice of designing and developing beginning website and application interfaces. Includes building websites, creating a static website with Dreamweaver, creating a dynamic website with WordPress, HyperText Markup Language (HTML), Cascading Style Sheets (CSS), JavaScript, web applications, web content, uploading websites, and web standards.

Prerequisite(s): DAR 221 or concurrent enrollment.

DAR 257 Advanced Web Design**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Theory, survey, and practice of designing and developing advanced website and application interfaces. Includes using basic Hypertext Preprocessor (PHP), designing and adding content to a MySQL database, creating a WordPress theme; using advanced HyperText Markup Language (HTML) Cascading Style Sheet (CSS), and JavaScript code; formatting multimedia content, and best practices in web design.

Prerequisite(s): DAR 221 and 256.

DAR 258 Advanced Computer 3D Animation: Maya**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Advanced modeling, rendering, and animation utilizing high end character 3D software. Includes a review of 3D basics, advanced modeling, animation, and surfacing techniques, advanced lighting and camera effects, and kinematics and contortions.

Prerequisite(s): DAR 251.

DAR 259 Mobile Application Design**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Introduction to the survey and practice of designing and developing mobile applications. Includes online marketing, analytics, the effects of emerging technologies on modern cultures, and case studies.

Prerequisite(s): DAR 256.

DAR 275 Basic Audio Production**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Fundamental tools, techniques, and procedures for multi-track recording. Includes elements of sound, sound studios, consoles, digital recorders, microphone application, and technical planning and sound design. Also includes on location versus studio recording, mixing and re-recording, and editing.

Information: This course will require additional expenses for supplies in addition to course and lab fees.

DAR 285 Documentary Television and Film**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Fundamentals of nonfiction film/video production. Includes history of documentary production, European vs. American documentary makers, operating the camera, film and video techniques, television themes, production of a television documentary, and location problems.

Information: This course will require additional expenses for supplies in addition to course and lab fees.

DAR 286 Digital Cinematography Capstone**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Tools, techniques, and procedures involved in professional film production. Includes pre-planning a digital video production, script breakdown, pre-production and post-production, budgeting, distribution, promotion, and developing a prospectus.

Prerequisite(s): DAR 115, 124, and 175.

Information: This course will require additional expenses for supplies in addition to course and lab fees.

DAR 288 Digital Arts Business and Portfolio Capstone**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Production of professional quality digital arts portfolio with a focus on extended, in-depth study of the digital art industry and work environment. Includes professional design relationships, current digital arts tools and processes, interviews, and presentation of portfolios.

Prerequisite(s): DAR 112, 122, 221, and 226.

DAR 290E2 Digital Video and Film Arts Internship**3 cr. hrs. 15 periods (15 lab)**

Work environment in digital video and film arts. Includes interpersonal communication, professional development, employment strategies, and field experience.

Prerequisite(s): DAR 103, 124, 125, and 175.

Information: Consent of the video and film arts instructor and 12 credit hours of DAR course work is required to be placed in an internship position.

DAR 290E3 Internship in Digital Arts/Graphics**3 cr. hrs. 15 periods (15 lab)**

Work environment in digital arts/graphics field. Includes interpersonal communication, professional development, employment strategies, and field experience.

Prerequisite(s): DAR 101, 111, and 112.

Information: Consent of the digital arts/graphics instructor or department chair and 12 credit hours of DAR coursework is required to be placed in an internship position.

DAR 296 Digital Arts Independent Projects**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Self-directed laboratory projects. Includes defining a project, tools and medium, conceptualize and execute a project, professional environment, and complete and critique the project.

Information: May be taken four times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Consent of instructor is required before enrolling in this course.

DAR 296I1 Digital Arts Independent Projects: Design**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Self-directed laboratory projects. Includes establishing objectives, procedures and a method of evaluation.

Information: May be taken four times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Consent of instructor is required before enrolling in this course.

DAR 296I2 Digital Arts Independent Projects: Illustration**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Self-directed laboratory projects. Includes establishing objectives, procedures and a method of evaluation.

Information: May be taken four times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Consent of instructor is required before enrolling in this course.

DAR 296I3 Digital Arts Independent Projects: Desktop Publishing**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Self-directed laboratory projects. Includes establishing objectives, procedures, and a method of evaluation.

Information: May be taken four times for a maximum of sixteen credit hours. May be taken four times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Consent of instructor is required before enrolling in this course.

DAR 29614 Digital Arts Independent Projects: Interactive Design**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Self-directed laboratory projects. Includes establishing objectives, procedures, and a method of evaluation.

Information: May be taken four times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

DAR 29618 Digital Art Independent Proj: Adv Digital Video/Audio/Film**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Students independently continue their development in digital video, audio, and film media with the help of a faculty member.

Information: May be taken three times for a maximum of twelve credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Completion of twelve credit hours of DAR courses, DAR 196, and consent of instructor is required before enrolling in this course.

DAR 297 Digital Arts Seminar**.25-4 cr. hrs. .25-4 periods (.25-4 lec.)**

Digital Arts job-related training. Includes presentations and development of skills in a given area. May include special topics of timely or limited interest. Course content may be delivered all, or in part, via the web.

Information: Consent of instructor is required before enrolling in this course. May be taken three times for a maximum of twelve credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Early Childhood Education

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ECE 100 Introduction to the Child Care Profession**2 cr. hrs. 2 periods (2 lec.)**

Comprehensive employment preparation for clients referred by the Department of Economic Security (DES) and other individuals interested in the field of child care. Includes child development; positive discipline and guidance; language, literacy, math, and science development; and learning environments. Also includes licensing, health and safety, nutrition, children with disabilities, and handling child abuse.

ECE 107 Human Development and Relations**3 cr. hrs. 3 periods (3 lec.)**

Analysis of the elements that affect growth and development throughout the life span. Includes theories and global perspectives, prenatal development, oral language development, development within domains, parenting styles, death and dying, local and community influences, and theories in action.

Information: Students must have college-level reading and writing skills to be successful in ECE courses.

ECE 108 Literature/Social Studies for Children**3 cr. hrs. 3 periods (3 lec.)**

Survey of principles, materials, and techniques for the selection and evaluation of children's literature and social studies materials. Includes history of children's literature, resources, evaluation, developing a professional portfolio, use of appropriate materials, alignment with national social studies standards, presentation techniques, and developmentally appropriate practices.

Prerequisite(s): ECE 117, completed with a grade of C or better.

Information: In order to be successful in all ECE courses, students must have college-level reading and writing skills.

ECE 115 Supervision and Administration of Early Childhood Programs**3 cr. hrs. 3 periods (3 lec.)**

Analysis of elements for planning, implementing, maintaining, and evaluating early childhood education programs. Includes program assessment, philosophy and mission statements, basic business operations, ethics, engaging stakeholders, regulating agencies, and child advocacy.

Prerequisite(s): ECE 117, completed with a grade of C or better.

Information: In order to be successful in all ECE classes, students must have college-level reading and writing skills.

ECE 117 Child Growth and Development**3 cr. hrs. 3 periods (3 lec.)**

Analysis of the elements which affect growth and development pre-birth to age eight. Includes developmental theorists, roles of genetics, health and social influences, public policy issues, and domains of development.

Information: Students must have college-level reading and writing skills to be successful in ECE courses.

ECE 118 Foundations of Early Childhood Education**3 cr. hrs. 3 periods (3 lec.)**

A survey of the historical and philosophical foundations of early childhood education. Includes historical and contemporary influences; pedagogy; agency management of early childhood programs; early childhood assessment; and professional responsibilities.

Information: CDA 102, 121, and 271 together constitute ECE 118. Students must have college-level reading and writing skills to be successful in ECE courses.

ECE 124 Math and Science for Children**3 cr. hrs. 3 periods (3 lec.)**

Theories, methods, and techniques for teaching math and science. Includes central concepts in math and science, communication skills, assessment, integration into other subject areas, teaching methods, and developmentally appropriate practices.

Prerequisite(s): ECE 117, completed with a grade of C or better.

Information: All ECE courses require college-level reading and writing skills. This course replaces CDA 142, CDA 143, and CDA 152.

ECE 125 Nutrition, Health, and Safety for the Young Child**3 cr. hrs. 3 periods (3 lec.)**

In-depth study of the health, safety and nutritional needs of children. Includes children's nutritional needs, caregiver responsibilities, food allergies, promoting healthy attitudes, illness prevention, record keeping, promotion of health and safety, safe environments, and community resources.

Prerequisite(s): ECE 117, completed with a grade of C or better.

Information: All ECE classes require college-level reading and writing skills. This course replaces CDA 104, CDA 119, and CDA 151.

ECE 129 Infant and Toddler Education**3 cr. hrs. 3 periods (3 lec.)**

Examination of effective teaching and guidance practices during infant and toddler years. Includes theory, relationships, assessment, curriculum, guidance, and professionalism in the context of providing education and care for the infant and toddler.

Prerequisite(s): ECE 117, completed with a grade of C or better.

Information: Students must have college-level reading and writing skills to be successful in all ECE classes.

ECE 211 Inclusion of Young Children with Special Needs**3 cr. hrs. 3 periods (3 lec.)**

Overview of the exceptional learner (birth to age 8). Includes educational implication and service delivery, public policy, identification and assessment, specific areas of exceptionality, service plans, support systems for families, national, state and local responsibilities, early intervention, and observational records. Also includes field experience.

Prerequisite(s): ECE 117.

Information: This course replaced ECE 111. Either ECE 111 or ECE 211 will meet the graduation requirement. Students must have college-level reading and writing skills to be successful in ECE courses.

ECE 226 Positive Child Guidance**3 cr. hrs. 3 periods (3 lec.)**

Introduction to theory and application of early childhood classroom planning, guidance techniques and classroom management. Includes application of developmental theories, developmentally appropriate practices, behavior management, cultural implications, teaching practices, professional development, and self-evaluation.

Prerequisite(s): ECE 117, completed with a grade of C or better.

Information: Includes a 9-hour practicum. In order to be successful in all ECE classes, students must have college-level reading and writing skills.

ECE 228 The Young Child: Family, Culture, and Community**3 cr. hrs. 3 periods (3 lec.)**

Examination of the influences of family, culture and community on the development and learning of young children. Includes development of personal framework for understanding cultures; cultural differences in attitudes about play; age and cultural appropriateness of classroom materials; cross-cultural communication techniques; techniques for utilizing family strengths; strategies for involving families in the school and classroom; strategies for developing flexible response practices; and community project development.

Prerequisite(s): ECE 117, completed with a grade of C or better.

Information: A one-hour practicum that focuses on early learning grades is part of the learning in this course. This course replaced ECE 128. Either ECE 128 or 228 will meet the graduation requirement. In order to be successful in all ECE classes, students must have college-level reading and writing skills.

ECE 240 Assessment of Young Children**3 cr. hrs. 3 periods (3 lec.)**

Assessment techniques associated with the evaluation of young children. Includes observation methods, interpreting assessment data, legal and ethical issues related to assessment, methods and strategies, and application of assessment data.

Prerequisite(s): ECE 117 and 118 completed with a C or better. CDA 102, 121, and 271 together can be used instead of ECE 118.

Information: In order to be successful in all ECE classes, students must have college-level reading and writing skills.

ECE 245 Integrating Learning and Lesson Planning through the Arts**3 cr. hrs. 3 periods (3 lec.)**

Survey of principles, materials, techniques, and resources for teaching music/art to children. Includes selection of appropriate materials and activities, integration with basic child development ages/stages, creation of the appropriate environment, integration with other subject areas, and role of the teacher.

Prerequisite(s): ECE 117, completed with a grade of C or better.

Information: Students must have college-level reading and writing skills to be successful in ECE courses.

ECE 246 Integrating Learning and Lesson Planning: Literacy**3 cr. hrs. 3 periods (3 lec.)**

Study of oral and written language acquisition and emergent literacy. Includes developmental theories, language integration, language rich environments, children's literature, and family involvement. Also includes selection of appropriate materials and activities, integration with basic childhood development ages/stages, creation of the appropriate environment, integration with other subject areas, and role of the teacher.

Prerequisite(s): ECE 117, 118, 226, and 228, completed with a C or better. CDA 102, 121, and 271 together can be used instead of ECE 118.

Information: An approved child development course may be used in place of ECE 117. ECE 245 taken fall 2014-summer 2015, or ECE 110 (or ECE 110A and ECE 110B), or ECE 112 is considered to be the equivalent of this course. Students must have college-level reading and writing skills to be successful in ECE courses.

ECE 292 Early Childhood Education: Theory to Practice**4 cr. hrs. 16 periods (1 lec., 15 lab)**

Practical experience in early child care and education. Includes developmentally appropriate practices, evaluation techniques, portfolio development, child advocacy, and self-evaluation. Also includes observation, assessment, documentation techniques, and 100 hours of documented work with children birth through prekindergarten.

Prerequisite(s): ECE 117, 118, 226, 228, 240, and 246, completed with a C or better. CDA 102, 121, and 271 together can be used instead of ECE 118.

Information: An approved child development course may be used in place of ECE 117. Consent of instructor or program coordinator before enrolling in this course. A fingerprint clearance card, TB test, and certain immunizations are required. Students must have college-level reading and writing skills to be successful in ECE courses. Prerequisites will be waived for students who have achieved a passing score on the Arizona Educator Proficiency Assessment test #36 (Early Childhood Education) and test #93 (Professional Knowledge-Early Childhood).

Economics

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ECN 150 An Economic Perspective**3 cr. hrs. 3 periods (3 lec.)**

The study of the interactions of individuals and societies from the viewpoint of economics. Includes the philosophy of economics, the history of economic thought, conventional economic theory, questions of equity versus efficiency, contemporary economic issues, microeconomics, macroeconomics, the individual and our democracy.

ECN 150HC An Economics Perspective: Honors**3 cr. hrs. 3 periods (3 lec.)**

The study of the interactions of individuals and societies from the viewpoint of economics. Includes introduction to economics, conventional economic theory, economic policies and diverse populations, contemporary microeconomic and macroeconomic issues, and practical applications in relation to civic engagement. Also includes additional Honors content.

Information: Must qualify for Honors program and obtain instructor or advisor/counselor approval to register for this course. Honors Content: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources; a high quality, peer reviewed paper or project in a format appropriate for the discipline; presentation of research, in class or to a wider audience.

ECN 201 Microeconomic Principles**3 cr. hrs. 3 periods (3 lec.)**

The study of individual markets, which is where supply meets demand and prices and quantities are determined. Includes an examination of the production possibilities curve, market analysis, consumer theory, theory of the firm, conclusions, and contemporary microeconomic issues.

Recommendation: MAT 092. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ECN 201HC Microeconomics Principles: Honors**3 cr. hrs. 3 periods (3 lec.)**

The study of individual markets, in which supply meets demand and prices and quantities are determined. Includes an examination of the production possibilities curve, market analysis, consumer theory, theory of the firm, conclusions, and contemporary microeconomic issues. Also Includes additional Honors content.

Recommendation: MAT 092.

Information: Must qualify for Honors program and obtain instructor or advisor/counselor approval to register for this course. Honors Content: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources; a high quality, peer reviewed paper or project in a format appropriate for the discipline; presentation of research, in class or to a wider audience.

ECN 202 Macroeconomic Principles**3 cr. hrs. 3 periods (3 lec.)**

The study of the economy as a whole. Includes an examination of the production possibilities curve, market analysis; definitions of gross domestic product, inflation, and unemployment; fiscal policy, monetary policy; and contemporary macroeconomic principles.

Recommendation: MAT 092. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ECN 202HC Macroeconomics Principles: Honors**3 cr. hrs. 3 periods (3 lec.)**

The study of the economy as a whole. Includes the production possibilities curve, market analysis; definitions of gross domestic product, inflation, and unemployment; fiscal policy, monetary policy; and contemporary macroeconomic issues. Also includes additional Honors content.

Recommendation: MAT 092. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in a format appropriate for the discipline with research presented in class or to a wider audience.

ECN 296 Independent Study in Economics**1-3 cr. hrs. 1-3 periods (1-3 lec.)**

Independent study projects or special interest areas in economics under the supervision of a faculty member.

Prerequisite(s): ECN 201 and 202.

Information: May be taken two times for a maximum of six credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Education

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

EDU 200 Introduction to Education

3 cr. hrs. 3 periods (3 lec.)

Provides students with an introductory overview of Education. Includes purposes of schools and schooling; characteristics of effective schools; diversity and its effects on schools, teachers, and students; social problems affecting schools; comparative education; curriculum issues and controversies; and technology's impact on schools and schooling. Also includes philosophical, legal, and financial issues facing today's schools; history of American education; and current trends in education reform.

EDU 201 Diversity in Education

3 cr. hrs. 3 periods (3 lec.)

Exploration of diversity represented in the school community, including culture, language, ethnicity, socio-economic status, ability, age, sexual orientation, and lived experiences. Includes factors that impact educational practices, shape our educational system, and influence student achievement. Also includes the application of knowledge of diversity to the teaching/learning process and the facilitation of positive interactions within the learning community; the development of collaborative relationships; and the support of student development and well-being.

EDU 202 Introduction to the Exceptional Learner

3 cr. hrs. 3 periods (3 lec.)

Foundations of special education, encompassing the characteristics of students with exceptionalities, laws governing special education, the role of the teacher working with exceptional learners, Individual Education Plans (IEPs), and the Special Education process. Includes current educational practices and theories related to instruction, classroom management, and assessment in special education. Also includes collaboration and communication supporting the success of students with exceptionalities.

EDU 206 Relationships in Classroom Settings

3 cr. hrs. 3 periods (3 lec.)

Introduction to basic classroom management principles. Includes management of curriculum, instruction, the physical environment, psychosocial factors, student motivation, and special groups. Also includes a focus on disruptive family involvement, managing student behavior, communication, stress management, and appropriate record keeping.

Information: This class requires 60 hours of volunteering in a local K-12 school. Students must select their site by the first EDU206 class session and must have a fingerprint clearance card and background check before participation. This process could take four weeks (students should check with the school district where they will be volunteering for details).

EDU 241 Middle School Curriculum and Instruction

3 cr. hrs. 3 periods (3 lec.)

Concepts, skills and research techniques for middle school teachers. Examination of constructivism, research, curriculum development and instruction, unit planning, assessment and evaluation, materials selection, teaching strategies, diversity, motivation and classroom management.

Information: Education department approval is required before enrolling in this course. Post-Degree Teacher Certification Program approval is required before enrolling in this course. This class requires a 10-hour practicum. Meets Middle School Endorsement requirements in conjunction with other coursework. May be taken for Professional Development purposes.

EDU 242 Middle School Practicum

3 cr. hrs. 3 periods (3 lec.)

Strategies and tools for middle school teaching; subject matter instruction methods; adolescent development and learning; diversity of learners and instruction; creating a positive learning environment; instruction planning and implementation; assessment; professionalism; and personal reflection.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires a 30-hour middle school practicum placement. Meets Middle School Endorsement requirements in conjunction with other coursework. May be taken for Professional Development purposes.

EDU 243 ESL Practicum

3 cr. hrs. 3 periods (3 lec.)

Concepts, techniques, and on-site experience working with English Language Learners (ELL). Requires observations of ELL's in a variety of settings, evaluation of English as a Second Language (ESL) and Sheltered English Instruction, teaching techniques and actual experience in developing lessons and teaching ELL.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This class requires a 30-hour ESL K-12 practicum. May be taken for Professional Development purposes.

EDU 244 Teaching Reading and Writing to ESL Students**3 cr. hrs. 3 periods (3 lec.)**

Introduction to teaching reading and writing in an English as a Second Language (ESL) setting. Includes teaching techniques, learning strategies and activities, and the six traits of writing, including reading and writing across the curriculum.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires a 10-hour practicum. May be taken for Professional Development purposes.

EDU 245 Linguistics**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the nature, structure, and acquisition of language. Includes basic concepts of phonetics, phonology, morphology, syntax, semantics, psycholinguistics, language variation, and theories of first and second language acquisition.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This class requires a 10-hour practicum. May be taken for Professional Development purposes.

EDU 246 Assessment of ESL Students**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the assessment of English as a Second Language (ESL) students, including knowledge of assessment, purposes of assessment, identification, placement, exit standards for students, linking assessment to instruction, and creating classroom assessments.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This class requires a 10-hour practicum. May be taken for Professional Development purposes.

EDU 247 Family and Community Involvement in ESL Student Instruction**3 cr. hrs. 3 periods (3 lec.)**

Introduction to involving families, school, and community in English as a Second Language (ESL) student learning. Includes research on the value of family/school connections, an overview of effective programs, analysis of practices and resources available, and information on how to develop a school action plan for increasing family and community involvement.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires a 10-hour practicum. May be taken for Professional Development purposes.

EDU 255 Content Area Reading Middle and Secondary Schools/Practicum**3 cr. hrs. 3 periods (3 lec.)**

Information and strategies in content area literacy and its fundamental role in instruction across the curriculum. Topics include: overview of content area literacy; active learning in the reading and writing process; comprehension, vocabulary, and study skill strategies; the role of literature in the content areas: writing as a tool for content area comprehension; assessment strategies and technology.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This class requires a 10-hour practicum and can be used to fulfill some elements of the Reading Endorsement. Please contact the Post-Degree Teacher Education office or contact the Arizona Department of Education Certification office for specific information.

EDU 268 Issues in Education**1 cr. hrs. 1 periods (1 lec.)**

Special topics in education with an emphasis on current issues. Includes issues and concepts relating to the National Board for Professional Teaching, standards, and future teaching practices. Also includes student learning, personal motivation, lesson plan development, behavior and ethics, and professional portfolio.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

EDU 270 Educational Technology and Curriculum Integration**3 cr. hrs. 3 periods (3 lec.)**

Introduction to topics and issues in educational technology. Includes electronic communications, basic productivity applications, computer system basics, multimedia and educational courseware and technology integration into the curriculum. Also includes planning for and evaluating educational technology, security, ethics and other issues in technology, and emerging technologies in education.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Requires a paid subscription to TaskStream electronic portfolio.

EDU 271 Introduction to Teaching**3 cr. hrs. 3 periods (3 lec.)**

Introduction to teaching for the prospective teacher focusing on the major models of teaching, the purposes served and the curriculum methods employed with each model. Also includes legal and ethical issues, teaching as a profession, and strategies and practices for increasing instructional effectiveness.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Requires a paid subscription to TaskStream electronic portfolio.

EDU 272 Educational Psychology**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the basic principles of educational psychology relating to the areas of physical, psychological, moral, social and cognitive development. Includes personal and social development, cognitive processes in the classroom, behaviorism, constructivism, learning theorists, and assessment.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Requires a paid subscription to TaskStream electronic portfolio.

EDU 273 Introduction to Special Education**3 cr. hrs. 3 periods (3 lec.)**

Introduction to a variety of instructional, classroom management and assessment strategies pertinent to teaching in a special education program. Includes role and function of the special education teacher, preparing for instruction, constructing lesson plans, assessment, instruction, classroom management, instructional media learning tools, and special education compliance.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires a 10-hour practicum. Requires a paid subscription to TaskStream electronic portfolio. Additional fees apply.

EDU 275 Classroom Management**3 cr. hrs. 3 periods (3 lec.)**

Mastery of the knowledge and skills necessary to create and maintain a positive classroom environment. Includes overview of classroom management, students' basic needs, creating positive interpersonal relationships, creating positive peer relationships, working with parents and student motivation and learning. Also includes developing standards for classroom behavior, responding to violations of rules and procedures, using problem solving techniques, developing individual behavior plans, and school-wide student management programs.

Information: Post-Degree Teacher Certification Program or Education Department approval is required before enrolling in this course. Requires a paid subscription to TaskStream electronic portfolio.

EDU 276 Foundation of Reading Instruction**3 cr. hrs. 3 periods (3 lec.)**

Literacy instruction at the elementary school level. Includes literacy development theory; literacy development at the preschool, early childhood and intermediate grade level; instruction techniques for all facets of literacy development; and comprehension strategies, including bilingual learners and special populations. Also includes focus on organizing the classroom and curriculum to enhance literacy development, techniques and assessment as tools for instruction and working with parents to enhance student achievement.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This class requires a 15-hour practicum and can be used to fulfill some elements of the Reading Endorsement. Please contact the Post-Degree Teacher Education office or contact the Arizona Department of Education Certification office for specific information. Requires a paid subscription to TaskStream electronic portfolio.

EDU 277 Phonics Instruction in a Balanced Literacy Setting/Practicum**3 cr. hrs. 3 periods (3 lec.)**

Overview and exploration of phonemic awareness, phonics instruction and related research findings. Includes quality literacy programming, understanding language and words, word study about letters and words, and thinking comprehensively.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This class requires a 15-hour practicum and can be used to fulfill some elements of the Reading Endorsement. Please contact the Post-Degree Teacher Education office or contact the Arizona Department of Education Certification office for specific information. Requires a paid subscription to TaskStream electronic portfolio.

EDU 278 Elementary Science Methods and Curriculum Development**3 cr. hrs. 3 periods (3 lec.)**

Overview of the content and instructional methods of teaching science in kindergarten through eighth grade. Includes the academic content of teaching science, the instructional methods of teaching science, practical application, and observation and evaluation.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires a 15-hour practicum. Requires a paid subscription to TaskStream electronic portfolio. Additional fees apply.

EDU 279 Elementary Math Methods and Curriculum Development**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the content and methods of curriculum development in elementary math for the elementary and middle school teacher. Includes standards, resources, teaching math concepts, cooperative learning, topics, teaching aids, activity lessons, integrating mathematics lessons with other disciplines, and presenting a lesson.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires a 15-hour practicum. Requires a paid subscription to TaskStream electronic portfolio. Additional fees apply.

EDU 280 Social Studies Methods and Curriculum Development**3 cr. hrs. 3 periods (3 lec.)**

Overview of the content and methodology of teaching social studies in kindergarten through eighth grade. Includes the social studies academic content, methods of teaching social studies instruction, and evaluation.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires a 15-hour practicum. Requires a paid subscription to TaskStream electronic portfolio. Additional fees apply.

EDU 285 Secondary Teaching Methods**3 cr. hrs. 3 periods (3 lec.)**

Introduction to a variety of relevant secondary instructional, classroom management, and assessment strategies. Includes the role and function of the teacher in a secondary classroom setting, preparing for instruction, developing lesson plans, designing assessments, delivering instruction, managing the classroom, working with instructional media, and assisting special needs students.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires a 15-hour practicum. Requires a paid subscription to TaskStream electronic portfolio. Additional fees apply.

EDU 290 Internship**8 cr. hrs. 40 periods (40 lab)**

Overview of the student teaching experience, Teacher Preparation Program (TPP) Internship. Includes initial discussion, observation, assessing the learning environments, evaluating educational resources, long and short-term planning, mid-term evaluation, curriculum development and implementation; and accommodation to individual needs. Also includes assessments, parent and community collaboration, portfolio, teamwork, and professional development and evaluation.

Information: This course requires admission to the Post Degree Teacher Certification Program and TPP Internship and Education department approval before enrolling in this course. EDU 290A, 290B, 290C and 290D together constitute EDU 290.

EDU 290A Internship I**2 cr. hrs. 10 periods (10 lab)**

Overview of the student teaching experience, Teacher Preparation Program (TPP) Internship. Includes initial discussion, observation, assessing the learning environments, evaluating educational resources, long and short-term planning, mid-term evaluation, curriculum development and implementation; and accommodation to individual needs. Also includes assessments, parent and community collaboration, portfolio completion, teamwork, and professional development and evaluation.

Information: This course requires admission to the Post Degree Teacher Certification Program and TPP Internship and Education department approval before enrolling in this course. EDU 290A, 290B, 290C and 290D together constitute EDU 290.

EDU 290B Internship II**2 cr. hrs. 10 periods (10 lab)**

Continuation of EDU 290A, Teacher Preparation Program (TPP) Internship. Includes initial discussion, observation, assessing the learning environments, evaluating educational resources, long and short-term planning, mid-term evaluation, curriculum development and implementation; and accommodation to individual needs. Also includes assessments, parent and community collaboration, portfolio completion, teamwork and professional development and evaluation.

Information: This course requires admission to the Post Degree Teacher Certification Program and TPP Internship and Education department approval prior to registration. **Information:** EDU 290A, 290B, 290C and 290D together constitute EDU290.

EDU 290C Internship III**2 cr. hrs. 10 periods (10 lab)**

Continuation of EDU 290B, Teacher Preparation Program (TPP) Internship. Includes initial discussion, observation, assessing the learning environments, evaluating educational resources, long and short-term planning, mid-term evaluation, curriculum development and implementation; and accommodation to individual needs. Also includes assessments, parent and community collaboration, portfolio completion, teamwork, and professional development and evaluation.

Information: This course requires admission to the Post Degree Teacher Certification Program and TPP Internship and Education department approval prior to registration. EDU 290A, 290B, 290C and 290D together constitute EDU 290.

EDU 290D Internship IV**2 cr. hrs. 10 periods (10 lab)**

Continuation of EDU 290C, Teacher Preparation Program (TPP) Internship. Includes initial discussion, observation, assessing the learning environments, evaluating educational resources, long and short-term planning, mid-term evaluation, curriculum development and implementation; and accommodation to individual needs. Also includes assessments, parent and community collaboration, portfolio completion, teamwork, and professional development and evaluation.

Information: This course requires admission to the Post Degree Teacher Certification Program and TPP Internship and Education department approval prior to registration. EDU 290A, 290B, 290C, and 290D together constitute EDU 290.

Education – General/Post Degree

For courses numbered 098, 198, 298, see “Topic Courses” on page 233

EDC 240 Adolescent Development**3 cr. hrs. 3 periods (3 lec.)**

Examination of early to young adult adolescent development, investigation of developmental theories and methods, and comprehensive analysis of problems encountered by today’s youth. Topic focus includes physical, cognitive, moral, and personality development; familial and peer relations; dating and sexuality; and psychosocial problems such as teen suicide, delinquency, and substance abuse. Also includes ethnic and cultural considerations in addition to educational and vocational issues.

Information: This course requires a 10-hour practicum. Meets the Fitness and Sport Sciences Coaching Certificate requirements in conjunction with other coursework.

EDC 250 Introduction to Teaching**3 cr. hrs. 3 periods (3 lec.)**

Introduction to teaching as a profession in the United States educational system. Includes professional teaching standards, school governance, and various perspectives on education (including historical, philosophical, social, legal, and ethical issues). Also includes an introduction to lesson planning, data literacy, and school culture and climate.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Same as ESE 250.

EDC 251 Educational Psychology**3 cr. hrs. 3 periods (3 lec.)**

Overview of how children develop (physically, psychologically, socially, and cognitively) and the ways in which this information guides instruction. Includes theories of how learning is constructed and describes various factors that impact learning, such as student differences, motivation, engagement, classroom management, differentiated instruction, metacognition, assessment, and teacher self-reflection.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Same as ESE 251.

EDC 252 Survey of Exceptional Education**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the field of Exceptional Education. Includes history and current laws; special education processes and procedures; effective communication; techniques for collaboration and consultation with general and special education teachers and parents; and characteristics of students with exceptionalities. Also includes current and relevant trends in special education, technology, and effective instructional strategies and resources that meet the needs of learners with exceptionalities.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Same as ESE 252.

EDC 253 Educational and Assistive Technology**3 cr. hrs. 3 periods (3 lec.)**

Introduction for pre-service teachers to the uses of technology in the K-12 school environment to enhance and support instruction and learning, including assistive technology for students with exceptionalities. Includes legal and ethical issues, instructional practices that incorporate technology, assessment, and use of technology to connect with the broader school community. Also includes conducting research, creating presentations, observing classrooms via virtual practica, and creating lesson plans.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Same as ESE 253.

EDC 254 Classroom Management: Elementary**3 cr. hrs. 3 periods (3 lec.)**

Overview of classroom management styles and strategies that support student engagement and achievement in grades 1-8. Includes learner differences, motivation, interpersonal relationships, teacher expectations, communication, and collaboration. Also includes organizational strategies, procedures, routines, current trends and restorative practices.

Prerequisite(s): EDC 250 and 251.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

EDC 256 Classroom Management: Secondary**3 cr. hrs. 3 periods (3 lec.)**

Effective classroom management components that support student achievement and engagement in grades 7-12. Includes analysis of how learner differences, teacher expectations, effective communication, effective instruction, positive relationships, and restorative practices can impact learner behavior. Also includes self-assessment, classroom management strategies, including rules, procedures, and organizational strategies.

Information: Post Degree Teacher Certification Program approval is required before enrolling in this course.

EDC 257 21st Century Learning**3 cr. hrs. 3 periods (3 lec.)**

Introduction to strategies, tools, and resources for teaching in today's classrooms. Includes K-12 content standards, instructional objectives, lesson planning, data literacy, and 21st century skills. Also includes benefits and challenges of technology integration and functions of technology.

Information: Post Degree Teacher Certification Program approval is required before enrolling in this course. Same as ESE 257.

EDC 262 Practicum 1: Elementary**2 cr. hrs. 4 periods (1 lec., 3 lab)**

In a grades 1-8 classroom placement, educator candidates will learn effective teaching strategies for elementary students through performance, personal reflection and discussions. Includes professional ethics, self-assessment, effective collaboration, student assessment, motivating and engaging students, lesson planning and implementation, effective use of content standards, and digital responsibility.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires 32 hours of practicum placement in a grades 1-8 classroom.

EDC 263 Practicum 2: Elementary**2 cr. hrs. 4 periods (1 lec., 3 lab)**

In a grades 1-8 classroom placement, educator candidates will learn effective teaching strategies for elementary students through performance, personal reflection and discussions. Includes teaching strategies, effective assessment, matching learning styles to teaching strategies, data analysis, creating effective collaborations, effective use of the learning cycle, and enhancing learning with technology.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires 32 hours of practicum placement in a grades 1-8 classroom.

EDC 264 Practicum 1: Secondary**2 cr. hrs. 4 periods (1 lec., 3 lab)**

In a grades 6-12 classroom placement, educator candidates will learn effective teaching strategies for secondary students through performance, personal reflection and discussions. Includes professional ethics, self-assessment, effective collaboration, student assessment, motivating and engaging students, lesson planning and implementation, effective use of content standards, and digital responsibility.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires 32 hours of practicum placement in a grades 6-12 classroom.

EDC 265 Practicum 2: Secondary**2 cr. hrs. 4 periods (1 lec., 3 lab)**

In a grades 6-12 classroom placement, educator candidates will learn effective teaching strategies for secondary students through performance, personal reflection and discussions. Includes professional ethics, self-assessment, effective collaboration, student assessment, motivating and engaging students, lesson planning and implementation, effective use of content standards, and digital responsibility.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires 32 hours of practicum placement in a grades 6-12 classroom.

EDC 266 Internship Practicum**2 cr. hrs. 4 periods (1 lec., 3 lab)**

Overview of the intern experience in a grades K-12 Educator Preparation Program (EPP) internship classroom. Includes classroom management, learning objectives, assessment, lesson planning, differentiation, collaboration, and education laws.

Information: Admission to the Post-Degree Teacher Certification Program and EPP Internship approval are required before enrolling in this course. May be taken two times for a maximum of four credits; if this course is repeated, see a financial aid advisor or Veteran's Affairs advisor to determine funding eligibility as appropriate.

EDC 267 Traditional Practicum**2 cr. hrs. 4 periods (1 lec., 3 lab)**

Effective teaching strategies in an appropriate K-12 practicum placement with an experienced teacher. Includes classroom management, instructional strategies, lesson planning, assessment, differentiation, collaboration, and educational technologies.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires 32 hours of practicum placement in a K-12 classroom.

EDC 270 Elementary Methods: English Language Arts**3 cr. hrs. 3 periods (3 lec.)**

Emphasizes the application of theories, methods, and techniques for teaching English Language Arts (ELA) and Literacy in grades 1-8. Includes standards-based instruction, elements of effective instruction, differentiation, 21st century skills, technology, and assessment.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

EDC 271 Elementary Methods: Math**3 cr. hrs. 3 periods (3 lec.)**

Emphasizes the application of theories, methods, and techniques for teaching Mathematics in grades 1-8. Includes standards-based instruction, elements of effective instruction, differentiation, 21st century skills, technology, and data literacy.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

EDC 272 Elementary Methods: Reading/Phonics**3 cr. hrs. 3 periods (3 lec.)**

Overview of reading and phonics instruction at the elementary level (grades 1-8). Includes developmental stages of literacy and strategies for teaching phonics, phonemic awareness, vocabulary, decoding, fluency, and reading comprehension.

Emphasizes the use of various assessment tools to analyze miscues, diagnose learner needs, guide planning, and differentiate instruction.

Prerequisite(s): EDC 270.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

EDC 273 Elementary Methods: Science/Social Studies**3 cr. hrs. 3 periods (3 lec.)**

Emphasizes the application of theories, methods, and techniques for teaching Science and Social Studies (SS) in grades 1-8. Includes standards-based instruction, inquiry learning, problem-based learning, strategies to increase student engagement, 21st century learning, and digital technologies for Science and Social Studies instruction.

Prerequisite(s): EDC 270 and 271.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

EDC 274 Elementary Methods: Instruction Across the Curriculum**3 cr. hrs. 3 periods (3 lec.)**

Instructional methods for organizing and integrating Literacy and Math across the elementary curriculum. Includes interdisciplinary teaching strategies, inquiry learning, formative and summative assessment, unit planning, lesson planning, and technology integration. Also includes writing instruction and assessment.

Prerequisite(s): EDC 270 and 271.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

EDC 275 Secondary Methods: English Language Arts/Social Sciences**3 cr. hrs. 3 periods (3 lec.)**

Instructional methods in English Language Arts (ELA) and Social Sciences (SS) for the secondary teacher. Includes considerations in instructional design and assessment such as standards-based lessons and objectives; instructional strategies, including differentiated instruction; 21st century Learning skills; informal and formal assessment strategies; and analyzing data. Also includes domains and concepts central to the discipline, as well as methods for self-assessment in content knowledge and application.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

EDC 276 Secondary Methods: Math/Science**3 cr. hrs. 3 periods (3 lec.)**

Instructional methods in Mathematics and Science for the secondary teacher. Includes considerations in instructional design related to mathematics and science such as the Essential Elements of Instruction (EEI), learning objectives, scaffolding instruction, cross-curricular instruction, differentiated instruction, assessment, instructional strategies, learning theories, identifying technology resources, Arizona College and Career Ready Standards, and Arizona Science Standards/Next Generation Science Standards. Also includes factors impacting student learning and achievement such as teacher bias, socio-economic status, gender, language, culture, special needs, teacher expectations, motivation, engagement, and classroom management.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

EDC 277 Secondary Methods: Instruction Across the Curriculum**3 cr. hrs. 3 periods (3 lec.)**

Instructional methods focused on integrating English Language Arts (ELA)/Literacy and Math across secondary curriculum with a focus on strategies aligned with the Arizona College and Career Ready Standards (AZCCRS), Arizona Social Studies Standards, and Arizona Science Standards/Next Generation Science Standards. Includes the Essential Elements of Instruction (EEI), designing developmentally appropriate instruction, cross-curricular instruction, and learner collaboration. Also includes strategies for incorporating 21st Century Learning Skills into the curriculum, data literacy strategies, and strategies that promote learner development of social and cultural perspectives that expand understanding of local and global issues.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

EDC 286 Structured English Immersion Methods**3 cr. hrs. 3 periods (3 lec.)**

Introduction to Structured English Immersion (SEI) methods, designed to meet state standards for pre-service and in-service educators of English Language Learners (ELLs). Includes SEI foundations, ELL proficiency standards, second language acquisition, home/school partnerships, assessment, data analysis, instructional strategies, digital tools, and lesson planning.

Information: Meets SEI Endorsement requirements for the Arizona Department of Education.

EDC 291 Student Teaching: Elementary**8 cr. hrs. 20 periods (2 lec., 18 lab)**

Student teaching in an elementary classroom with an experienced teacher mentor. Includes classroom management, objectives, assessment, lesson planning, differentiation, and collaboration.

Information: Admission to the Post-Degree Teacher Certification Program and Capstone readiness approval are required before enrolling in this course. This course requires 12 weeks (60 full instructional days) of field experience in a grades K-8 classroom. EDC 291A and EDC 291B together constitute EDC 291.

EDC 291A Student Teaching I: Elementary**4 cr. hrs. 10 periods (1 lec., 9 lab)**

Overview of the student teaching experience in a grades 1-8 Educator Preparation Program (EPP) Internship classroom. Includes developmentally appropriate instruction, teaching with collaborative and self-directed learning, goal setting, utilizing prior knowledge, and selecting appropriate teaching resources.

Information: Admission to the Post-Degree Teacher Certification Program and EPP Internship approval are required before enrolling in this course. EDC 291A and EDC 291B together constitute EDC 291.

EDC 291B Student Teaching II: Elementary**4 cr. hrs. 10 periods (1 lec., 9 lab)**

Continuation of the student teaching experience in a grades 1-8 Educator Preparation Program (EPP) Internship classroom. Includes classroom management, learning objectives, assessment, lesson planning, differentiation, and collaboration.

Information: Admission to the Post-Degree Teacher Certification Program and EPP Internship approval are required before enrolling in this course. EDC 291A and EDC 291B together constitute EDC 291.

EDC 292 Student Teaching: Secondary**8 cr. hrs. 20 periods (2 lec., 18 lab)**

Student teaching in a secondary classroom with an experienced teacher mentor. Includes classroom management, objectives, assessment, lesson planning, differentiation, and collaboration.

Information: Admission to the Post-Degree Teacher Certification Program and Capstone readiness approval are required before enrolling in this course. This course requires 12 weeks (60 full instructional days) of field experience in a grades 6-12 classroom. EDC 292A and EDC 292B together constitute EDC 292.

EDC 292A Student Teaching I: Secondary**4 cr. hrs. 10 periods (1 lec., 9 lab)**

Introduction to the student teaching experience in a grades 6-12 Educator Preparation Program (EPP) Internship classroom. Includes classroom management, learning objectives, assessment, lesson planning, differentiation, and collaboration.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. EDC 292A and EDC 292B together constitute EDC 292.

EDC 292B Student Teaching II: Secondary**4 cr. hrs. 10 periods (1 lec., 9 lab)**

Continuation of the student teaching experience in a grades 6-12 Educator Preparation Program (EPP) Internship classroom. Includes classroom management, learning objectives, assessment, lesson planning, differentiation, and collaboration.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. EDC 292A and EDC 292B together constitute EDC 292.

Education – Special/Post Degree

For courses numbered 098, 198, 298, see “Topic Courses” on page 233

ESE 250 Introduction to Teaching**3 cr. hrs. 3 periods (3 lec.)**

Introduction to teaching as a profession in the United States educational system. Includes professional teaching standards, school governance, and various perspectives on education (including historical, philosophical, social, legal, and ethical issues). Also includes an introduction to lesson planning, data literacy, and school culture and climate.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Same as EDC 250.

ESE 251 Educational Psychology**3 cr. hrs. 3 periods (3 lec.)**

Overview of how children develop (physically, psychologically, socially, and cognitively) and the ways in which this information guides instruction. Includes theories of how learning is constructed and describes various factors that impact learning, such as student differences, motivation, engagement, classroom management, differentiated instruction, metacognition, assessment, and teacher self-reflection.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Same as EDC 251.

ESE 252 Survey of Exceptional Education**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the field of Exceptional Education. Includes history and current laws, special education processes and procedures, effective communication, techniques for collaboration and consultation with general and special education teachers and parents, and characteristics of students with exceptionalities. Also includes current and relevant trends in special education, technology, and effective instructional strategies and resources that meet the needs of learners with exceptionalities.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Same as EDC 252.

ESE 253 Educational and Assistive Technology**3 cr. hrs. 3 periods (3 lec.)**

Introduction for pre-service teachers to the uses of technology in the K-12 school environment to enhance and support instruction and learning, including assistive technology for students with exceptionalities. Includes legal and ethical issues, instructional practices that incorporate technology, assessment, and use of technology to connect with the broader school community. Also includes conducting research, creating presentations, observing classrooms via virtual practica, and creating lesson plans.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. Same as EDC 253.

ESE 254 Foundations of Instruction: Mild-Moderate Disabilities**3 cr. hrs. 3 periods (3 lec.)**

Framework for understanding and working with students with mild-moderate disabilities. Includes characteristics of students with mild-moderate disabilities and special education procedures and processes. Also includes collaboration and consultation practices; effective educational techniques to support the needs of learners with disabilities; assistive and educational technology; and current social, cultural, and/or academic trends.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

ESE 255 Classroom Management for Mild-Moderate Disabilities**3 cr. hrs. 3 periods (3 lec.)**

Effective classroom management components that support student achievement and engagement for students with mild-moderate disabilities in grades K-12. Includes how teacher expectations, effective communication, positive relationships, and restorative practices can impact learner behavior. Also includes organizing the physical environment, establishing effective classroom rules and procedures, Functional Behavioral Assessments (FBA), and Behavior Intervention Plans (BIP).

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

ESE 257 21st Century Learning**3 cr. hrs. 3 periods (3 lec.)**

Introduction to strategies, tools, and resources for teaching in today's classrooms. Includes K-12 content standards, instructional objectives, lesson planning, data literacy, and 21st century skills. Also includes benefits and challenges of technology integration and functions of technology.

Information: Post Degree Teacher Certification Program approval is required before enrolling in this course. Same as EDC 257.

ESE 260 Practicum 1: Mild-Moderate Disabilities**2 cr. hrs. 4 periods (1 lec., 3 lab)**

In a grades K-12 classroom placement, educator candidates will learn effective teaching strategies for students with mild-moderate disabilities through performance, personal reflection and discussions. Includes professional ethics, self-assessment, effective collaboration, student assessment, motivating and engaging students, lesson planning and implementation, effective use of content standards, and digital responsibility.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires 32 hours of practicum placement in a grades K-12 classroom.

ESE 261 Practicum 2: Mild-Moderate Disabilities**2 cr. hrs. 4 periods (1 lec., 3 lab)**

In a grades K-12 classroom placement, educator candidates will learn effective teaching strategies for students with mild-moderate disabilities through performance, personal reflection and discussions. Includes teaching strategies, effective assessment, matching learning styles to teaching strategies, data analysis, creating effective collaborations, effective use of the learning cycle, and enhancing learning with technology.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course. This course requires 32 hours of practicum placement in a grades K-12 classroom.

ESE 270 Methods of Instruction: Students/Mild-Moderate Disabilities**3 cr. hrs. 3 periods (3 lec.)**

Application of materials, strategies, methods, and techniques for creating lessons that promote mastery of learning and active participation for teaching students with mild-moderate disabilities. Includes Essential Elements of Instruction (EEI) and Arizona Academic Standards. Also includes the incorporation of differentiated instruction and technology into lesson planning.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

ESE 271 Mild-Moderate Methods: K-12 Inst. Across the Curriculum**3 cr. hrs. 3 periods (3 lec.)**

Instructional strategies for integrating English Language Arts (ELA)/Literacy and Math cross-disciplinary instruction for students with mild-moderate exceptionalities. Includes Arizona Academic Standards (AAS), lesson/unit planning, incorporating digital tools, strategies for critical thinking, differentiated instruction, and assessment.

Prerequisite(s): ESE 254 and 270.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

ESE 272 Developmental Reading, Instruction, Assessment, Remediation**3 cr. hrs. 3 periods (3 lec.)**

Comprehensive review of reading instruction for struggling learners. Includes reading development; characteristics of effective readers and those with difficulties; formal and informal assessment of phonics, fluency, phonemic awareness, comprehension, and vocabulary; and methods, materials, and techniques for teaching phonics, fluency, phonemic awareness, comprehension, and vocabulary. Also includes lesson planning, reading technology for home/school connection, and current academic reading trends.

Prerequisite(s): ESE 254 and 270.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

ESE 273 Diagnosis and Assessment of Mild-Moderate Disabilities**3 cr. hrs. 3 periods (3 lec.)**

A comprehensive review of measurement terminology, principles, ethical practices, and types; testing accommodations and modifications; testing bias; using technology to create forms of feedback; and creating informal assessments. Also includes cognitive processes that influence learning, data analysis, and the use of data to plan instruction.

Information: Post-Degree Teacher Certification Program approval is required before enrolling in this course.

ESE 290 Student Teaching: Mild-Moderate Disabilities**8 cr. hrs. 20 periods (2 lec., 18 lab)**

Student teaching in a mild-moderate special education classroom with an experienced teacher mentor. Includes classroom management, objectives, Individualized Education Programs (IEPs), assessment, lesson planning, differentiation, and collaboration.

Information: Admission to the Post-Degree Teacher Certification Program and Capstone readiness approval are required before enrolling in this course. This course requires 12 weeks (60 full instructional days) of field experience in a grades K-12 classroom. ESE 290A and ESE 290B together constitute ESE 290.

ESE 290A Student Teaching I: Mild-Moderate Disabilities**4 cr. hrs. 10 periods (1 lec., 9 lab)**

Introduction to the student teaching experience in a grades K-12 Educator Preparation Program (EPP) Internship classroom having students with mild-moderate disabilities. Includes classroom management, learning objectives, assessment, lesson planning, differentiation, and collaboration.

Information: Admission to the Post-Degree Teacher Certification Program and EPP Internship approval are required before enrolling in this course. ESE 290A and ESE 290B together constitute ESE 290.

ESE 290B Student Teaching II: Mild-Moderate Disabilities**4 cr. hrs. 10 periods (1 lec., 9 lab)**

Continuation of the student teaching experience in a grades K-12 Educator Preparation Program (EPP) Internship classroom having students with mild-moderate disabilities. Includes classroom management, learning objectives, assessment, lesson planning, differentiation, and collaboration.

Information: Admission to the Post-Degree Teacher Certification Program and EPP Internship approval are required before enrolling in this course. ESE 290A and ESE 290B together constitute ESE 290.

Educational Technology Training

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ETT 101 Introduction to Educational Technology**3 cr. hrs. 3 periods (3 lec.)**

An introduction to educational technology exploring the current and emerging technologies available to teachers. Includes theoretical foundations of educational technology, technology enhanced instruction, digital technologies for the classroom, and an overview of productivity, school and classroom management software.

Electrical Utilities Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

EUT 101 Introduction to Electrical Utilities**3 cr. hrs. 3 periods (3 lec.)**

Overview of the electrical utility field. Includes electricity generation, generating station, generation, transmission, and distribution, power policies and procedures, radio procedures, electrical utility disciplines, human resources, and system protection.

EUT 102 Electrical Distribution Math**3 cr. hrs. 3 periods (3 lec.)**

Basic math operations related to electrical distribution. Includes the review of basic math, solving and converting, basic algebra, and Ohm's Law.

EUT 103 Generation Steam Systems**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to steam systems, thermodynamics, and boiler operation. Includes steam as an energy generating source, steam system operation, and boilers. Also includes pressure and temperature control.

EUT 104 Overhead and Underground Systems, Hardware, and Equipment**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Procedures for working in the overhead and underground distribution components. Includes pole hardware, overhead conductors, porcelain and polymer equipment, overhead transformers, underground equipment installation, electrical utility disciplines, and safety.

EUT 106 Measuring Electricity**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Overview of the theories and devices used to measure electricity. Includes electric utility metering terminology, Blondel's theorem, kilowatt-hour meter operating principles, single-phase and network meters, wiring connections for mounting devices, voltmeter, voltage indicator, and ammeter usage, and Direct Current (DC), and Alternating Current (AC), circuits.

Emergency Medical Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

EMT 089 Skills Reinforcement for EMT 100**2 cr. hrs. 4 periods (1 lec., 3 lab)**

Overview, techniques, and skills for pre-hospital emergency response. Includes equipment operations, communication, documentation, packaging, and patient assessment.

Recommendation: Concurrent enrollment in EMT 100.

Information: Course supplements lecture time and laboratory experience for EMT 100.

EMT 090 National Registry Skills Preparation**.5 cr. hrs. .5 periods (.5 lec.)**

Introduction to the practical portion of the EMT-B National Registry Skills stations. Includes introduction to the six stations required for EMT-B certification. Also includes opportunity to serve as a patient in medical and trauma scenarios, and to practice hands on assessment with other students.

Recommendation: Designed for students enrolling in EMT 100 the following semester.

Information: Prepares students to serve as patients for National Registry testing.

EMT 091 Ambulance Operations**2 cr. hrs. 4 periods (1 lec., 3 lab)**

Practical experience and safe operation of emergency vehicles. Includes operating an ambulance on a closed course to become familiar with its handling and operations, and subsequent completion of an obstacle course similar to the Emergency Vehicle Operators Course (EVOC). Also includes proper gurney operation and key safety matters pertaining to the use of lights and sirens.

Recommendation: Concurrent enrollment in EMT 100 or 110.

Information: Students must possess a valid driver's license.

EMT 092 Cardiac Monitor (EKG) for the EMT**1.5 cr. hrs. 1.5 periods (1.5 lec.)**

Introduction to the cardiac monitor or electrocardiograph (EKG). Includes an in-depth look at the cardiac monitor, the many different cardiac rhythms students may encounter as an EMT, and discussion of various treatments for abnormal rhythms.

Corequisite(s): Concurrent enrollment in EMT 100 or 110.

Information: Not a substitute for Advanced Cardiac Life Support (ACLS), but appropriate for entry level EMT students. Ideal exploration course for those considering a career beyond EMT, such as Paramedic or Nursing.

EMT 100 Emergency Medical Technology**9 cr. hrs. 15 periods (6 lec., 9 lab)**

Techniques of pre-hospital emergency medical care for the Emergency Medical Technician (EMT). Includes history of emergency medical care delivery systems, roles and responsibilities of emergency medical services (EMS) providers, ethical and legal issues, and patient assessment. Also includes symptoms of illnesses, injuries, medical emergencies, appropriate medical techniques, triage, and ambulance operations.

Information: Students must be 18 years of age when class begins. Students must have cardiopulmonary resuscitation (CPR) certification at the Healthcare Provider or Professional Rescuer Level and receive a minimum score of 69 on the Accuplacer reading assessment. Students must show proof of personal medical insurance and provide immunization records for MMR, TD, TB skin test, and Varicella; flu vaccine is encouraged. Students must show proof of Arizona Department of Public Safety (AZ DPS) Fingerprint Clearance Card or proof of pending AZ DPS application approval (applications provided by the EMT Service Center. Students must meet College admissions' requirements and create an Arizona Department of Health Services online account. Students must submit to drug screening (form provided by the EMT Service Center), and must meet with EMT staff/ prior to registration.

EMT 106 Overview of Emergency Medical Services**3 cr. hrs. 3 periods (3 lec.)**

Overview of Emergency Medical Services (EMS). Includes health care delivery systems, medical terminology, ethics and professionalism, patient rights and responsibilities; communication; basic patient assessment; workplace and personal safety.

EMT 109 Human Anatomy and Physiology for EMT**3 cr. hrs. 3 periods (3 lec.)**

Human anatomy and physiology for Emergency Medical Technicians (EMT). Includes basic physiology of the body systems and medical terminology addressed in the NREMT/AZDHS. Also includes patient assessment, differential diagnosis, and treatment pathways.

Information: Intended for students interested in EMT 100.

Recommendation: REA 112 or equivalent score on Reading assessment. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

EMT 110 Emergency Medical Responder**3 cr. hrs. 3 periods (3 lec.)**

Techniques in pre-hospital emergency care appropriate to the Emergency Medical Responder (EMR) Scope of Practice. Includes identifying signs and symptoms associated with illness and traumatic injuries. Also includes intervention used in managing patient and transfer of patient to higher level medical authority.

Information: This course will prepare those wishing to enroll in EMT 100. Covers the DOT curriculum for EMR/EMT as well as the National Registry Practical portion of EMR. Course is designed to prepare eligible students for NREMT EMR examination.

EMT 111 Heartsaver First Aid Provider**.5 cr. hrs. .5 periods (.5 lec.)**

Beginning first aid concepts and techniques for the lay person. Includes principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with either medical or traumatic injuries and complaints. Includes first aid general principles, medical, and trauma. Also includes adult Cardiopulmonary Resuscitation (CPR), Adult Automatic External Defibrillator (AED), and environmental emergencies.

Information: The Heartsaver First Aid and CPR and AED Provider Manuals are required.

EMT 112 Heartsaver Cardiopulmonary Resuscitation**.5 cr. hrs. .5 periods (.5 lec.)**

Concepts and techniques to assess and treat patients with airway obstruction, respiratory, and cardiac arrest for the lay person. Includes the integration of principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with foreign body airway obstruction, respiratory and/or cardiac arrest. Includes choice of two topics: Adult Cardiopulmonary Resuscitation (CPR) and Pediatric CPR.

Information: Purchase of the Heartsaver CPR provider manual prior to class is required.

EMT 113 Healthcare Provider Certification: BLS, HIPAA, OSHA and BBP**2 cr. hrs. 4 periods (1 lec., 3 lab)**

Overview of recommended cardiopulmonary resuscitation guidelines and national best practices for healthcare providers. Includes federal governances of personal and workplace safety within emergency services and medicolegal considerations. Also includes Occupational Safety and Health Administration regulations and recommendations. Also includes theory and practice for treatment of infants, children and adults in cardiac arrest or with airway obstructions.

Information: Upon successful completion of course, students may obtain American Heart Association Basic Life Support for healthcare provider CPR, American Heart Association Blood Borne Pathogens certification, American Heart Association First Aid certification, and Health Insurance Portability and Accountability Act awareness certification.

EMT 140 Pre-Hospital Trauma Life Support**1.5 cr. hrs. 2 periods (1 lec., 1 lab)**

Concepts and techniques for evaluating assessment findings to formulate a field impression and implementation of a field treatment plan for a trauma patient. Includes systemic approach to patient assessment and management, airway and ventilation management, shock, soft tissue and burn injuries, isolated and multi-systems trauma, and various types of trauma patients.

EMT 141 Pre-Hospital Trauma Life Support Refresher**1.5 cr. hrs. 2 periods (1 lec., 1 lab)**

Concepts and scenario-based techniques for evaluating assessment findings to formulate a field impression and implementation of a field treatment plan for a trauma patient. Includes a systemic approach to patient assessment and management, airway and ventilation management, shock, soft tissue and burn injuries, isolated and multi-systems trauma, and various types of trauma patients.

Information: Includes teaching and evaluation stations as a review and update for those students who have taken EMT 140.

EMT 155 Advanced Medical Life Support (AMLS) Provider**1.5 cr. hrs. 1.5 periods (1.5 lec.)**

Overview, concepts and techniques to study medical emergencies related to adult patients. Includes a pragmatic approach and systematic format regarding patient assessment and management. Includes interactive scenario-based lectures with hands-on physical assessment of patients. Includes a global and initial assessment taking into account the patient's environmental and scene issues that allows the participant to formulate a general impression, determine the patient's stability, and explore the possibilities of differential diagnoses. Also includes using a systematic approach to obtain an initial assessment, vital signs, present illness, past medical, focused physical exam; the participant will be driven by the differential diagnoses.

Information: AMLS is an advanced course that assumes a previous working knowledge of medical emergencies, there are necessary prerequisites: EMT-B, EMT-I, EMT-P, RN, MD, DO, and other advanced level healthcare providers with at least one year of clinical experience. Participant must read the AMLS textbook before class and come to class prepared and complete the pre-test. EMT-B will have a separate pre-test and post-test written evaluation for EMT-Basic providers.

EMT 158 Transition Training for EMT**1.5 cr. hrs. 2.5 periods (1 lec., 1.5 lab)**

Review of current techniques in pre-hospital emergency care for the basic Emergency Medical Technician (EMT). Includes signs and symptoms of illness, injuries, medical emergencies, appropriate medical techniques, and ambulance operations.

Information: EMT-B State of Arizona current certification is required before enrolling in this course. May be taken six times for a maximum of nine credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

EMT 159 Cardiopulmonary Resuscitation: Healthcare Provider**.5 cr. hrs. .75 periods (.25 lec., .5 lab)**

Introduction to the techniques required to provide Cardiopulmonary Resuscitation (CPR) at the healthcare provider level. Includes introduction to body systems and disease states, which lead to cardiac and respiratory arrest. Also includes the assessment and intervention for the airway, respiration and central circulation.

Information: Course meets American Heart Association guidelines for the healthcare provider level. May be taken six times for a maximum of three credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

EMT 170 Advanced Life Support Operations**1.5 cr. hrs. 2 periods (1.25 lec., .75 lab)**

Introduction to skills necessary to assess, extricate, and care for victims of crash incidents. Includes exposure to scene management skills to include size-up, disentanglement, victim stabilization for single and multi-victim situations, hazardous materials incidents, integration of local emergency medical services (EMS) for patient assessment and management, and standard operating procedures to selected victim scenarios.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 205 ALS Pharmacology and Medication Administration**3.5 cr. hrs. 4.5 periods (3 lec., 1.5 lab)**

Elements of pharmacological agents and their administration. Includes basic pharmacological background and actions of drugs, regulations, human body systems, and pharmacokinetics. Also includes medications for patient in an emergency setting, and pharmacological mathematics.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 214 ALS Advanced Special Considerations**2 cr. hrs. 2.5 periods (1.75 lec., .75 lab)**

Advanced life support skills approach to emergency care of the emotionally disturbed. Includes emotional aspects, approach to the patient, and psychiatric emergencies. Also includes techniques of management and demonstration of skills within a simulated hospital environment.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 218 Paramedic National Registry Preparation**3 cr. hrs. 6 periods (1.5 lec., 4.5 lab)**

Review and preparation in standards of paramedic emergency care at the state and national levels. Includes developing testing skills and questions related to assessment, analysis, intervention or evaluation. Also includes each component of the Emergency Medical Technician Paramedic National Standard Curriculum.

Information: Acceptance into a Paramedic program is required before enrolling in this course.

EMT 219 ALS Foundations**1 cr. hrs. 1 periods (1 lec.)**

Introduction to the Advanced Life Support (ALS) career field. Includes roles and responsibilities, Emergency Medical Services (EMS) components, well being, illness and injury prevention, ethics, medical and legal considerations.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 221 ALS Airway and Ventilation**2 cr. hrs. 2.5 periods (1.75 lec., .75 lab)**

Techniques for establishing and/or maintaining a patient's airway. Also includes anatomy and physiology, age specific techniques and procedures, introduction to respiratory pharmacology and respiratory drug profiling.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 222 ALS Patient Assessment and Assessment Based Management**2 cr. hrs. 3 periods (1.5 lec., 1.5 lab)**

Skills to take a proper history and perform an advanced physical assessment on an emergency patient, and communicate the findings to the patient and others. Includes the physical exam, integrative and on-going exams, communications and documentation. Also includes the implementation of a management plan for patients with common complaints and injuries, dispatch scenarios, scene size-up and forming impressions.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 223 ALS Trauma Emergencies and Systems**2.5 cr. hrs. 3 periods (2.25 lec., .75 lab)**

Techniques to formulate a field impression and implement the treatment plan for the trauma or shock patient. Includes shock, burn injuries, and isolated and multi-systems trauma.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 224 ALS Medical Emergencies**4 cr. hrs. 5 periods (3.5 lec., 1.5 lab)**

Introduction to the utilization of assessment findings to formulate a field impression and implement the treatment plan for the medical patient. Includes respiratory, cardiovascular, neurological, endocrine, allergic, toxic, abdominal and urologic, environmental, behavioral and gynecological emergencies.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 225 ALS Special Medical Considerations**2.5 cr. hrs. 3 periods (2.25 lec., .75 lab)**

Introduction to special medical consideration concepts. Includes utilizing assessment findings to formulate a field impression and implement the treatment plan for obstetric, neonatal, pediatric, geriatric, and chronic-care patients.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 227LC ALS Practicum: Clinical Lab-Emergency Room**1.5 cr. hrs. 4.5 periods (4.5 lab)**

Techniques for performing skills and completing documentation in accordance with established guidelines, orders, and protocols for critical care, emergency department, labor and delivery, pediatrics, and other specialty units. Includes applying skills associated to the scope of practice for the Advanced Life Support (ALS) Professional.

Information: Acceptance into an Paramedic program is required before enrolling in this course.

EMT 228LC ALS Practicum: Vehicular Lab-Team Member**2 cr. hrs. 6 periods (6 lab)**

ALS vehicular lab concepts. Includes techniques for performing and documenting in accordance with established guidelines, orders, and protocols, and acting within the scope of practice of the ALS Professional and under medical supervision during a vehicular lab.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 230 Basic ECG Interpretation**3 cr. hrs. 3.4 periods (2.8 lec., .6 lab)**

Introduction to all levels of emergency care providers with basic electrocardiographic (ECG) rhythm analysis. Includes interpretation and related care in a clinical and pre-hospital setting.

Information: Required content for the identification and treatment of cardiac emergencies. This course is designed for paramedics and paramedic students.

EMT 233 Basic Cardiac Life Support Instructor**.75 cr. hrs. .75 periods (.75 lec.)**

Concepts, techniques, and skills in how to teach the Basic Cardiac Life Support of the Heartsaver First Aid Provider course. Includes basic principles, course management, personnel issues, time and resource management, and remediation.

Information: Provides the challenge portion of the American Heart Association (AHA) online course in Advanced Cardiac Life Support (ACLS). AHA certificate is required at the beginning of class.

EMT 238 Advanced Cardiac Life Support Instructor**1 cr. hrs. 1 periods (1 lec.)**

Overview, concepts, and techniques in how to teach the Advanced Cardiac Life Support in the Provider course. Includes basic principles, course management, personnel issues, time and resource management, and remediation.

EMT 239 Pediatric Advanced Cardiac Life Support Instructor**1 cr. hrs. 1 periods (1 lec.)**

Overview, concepts, and techniques in how to teach Pediatric Advanced Cardiac Life Support (PALS) course to the provider. Includes pediatric basic principles, course management, personnel issues, time and resource management, and remediation.

EMT 242 ALS Advanced Foundations**4 cr. hrs. 4.5 periods (3.75 lec., .75 lab)**

Continuation of EMT 219. Foundations of skills and principles in preparing to be a paramedic. Includes medical terminology, the human body structure, and pathophysiology.

Prerequisite(s): EMT 219.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 244 ALS Advanced Medical Emergencies**2.5 cr. hrs. 3 periods (2.25 lec., .75 lab)**

Continuation of EMT 224. Advanced life support techniques using pre-hospital approaches to the recognition and intervention of medical emergencies related to toxicology, infectious disease, and hematology. Includes poisoning, drug overdose, and transmission of infectious diseases.

Prerequisite(s): EMT 224.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 247LC ALS Advanced Practicum: Clinical Lab-Specialized Care**2 cr. hrs. 6 periods (6 lab)**

Continuation of EMT 227LC. In-hospital clinical procedures for the ALS professional. Includes placement in the clinical (hospital) setting for supervised skills application with real patients.

Prerequisite(s): EMT 227LC.

Information: Acceptance into the Paramedic program is required before enrolling in this course.

EMT 248LC ALS Advanced Practicum: Vehicular Lab-Team Lead**4 cr. hrs. 12 periods (12 lab)**

Continuation of EMT 228LC. Pre-hospital emergency medical procedures for the ALS professional. Includes skills appropriate to the ALS scope of practice in the pre-hospital setting according to established protocols.

Prerequisite(s): EMT 228LC.

Information: Acceptance into the Paramedic program is required before enrolling in this course. This is the capstone course for degree.

EMT 250 Advanced Cardiac Care**1 cr. hrs. 1.5 periods (.75 lec., .75 lab)**

Introduction to the integration of pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with cardiovascular disease/injury based on 3-lead and 12-lead cardiac monitoring and interpretation. Also includes information on cardiovascular anatomy and physiology, cardiovascular pathologies and management, and adjunctive diagnostics.

EMT 251 Advanced Cardiac Care Refresher**.75 cr. hrs. 1 periods (.5 lec., .5 lab)**

Review of the integration of pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with cardiovascular disease/injury based on 3-lead and 12-lead cardiac monitoring and interpretation. Also includes information on cardiovascular anatomy and physiology, cardiovascular pathologies and management, and adjunctive diagnostics.

EMT 252 Pediatric Advanced Life Support**1 cr. hrs. 1.5 periods (.75 lec., .75 lab)**

Techniques for emergency services for children. Integrates physiological, psychological, and social changes throughout human growth and development. Includes information on pediatric assessment, airway management and respiratory emergencies, cardiovascular emergencies. Also includes information on neonatal emergencies, children with special healthcare needs, and Sudden Infant Death Syndrome (SIDS).

EMT 253 Pediatric Advanced Life Support Refresher**.75 cr. hrs. 1 periods (.5 lec., .5 lab)**

Overview of techniques for emergency services for children. Integrated physiological, psychological, and social changes throughout human growth and development. Includes information on pediatric assessment, airway management and respiratory emergencies, cardiovascular emergencies. Also includes information on neonatal emergencies, children with special healthcare needs, and Sudden Infant Death Syndrome (SIDS).

EMT 254 Advanced ECG Interpretation**2 cr. hrs. 2.5 periods (1.75 lec., .75 lab)**

Continuation of EMT 230. Integration of pathophysiological principles and assessment findings to formulate a field impression and implement the treatment plan for the patient with cardiovascular disease/injury based on 3-lead and 12-lead cardiac monitoring and interpretation. Also includes information on cardiovascular anatomy and physiology, electrocardiographic monitoring, and adjunctive diagnostics.

Prerequisite(s): EMT 230.

EMT 255 Instructional Strategies**2 cr. hrs. 2.5 periods (1.5 lec., 1 lab)**

Introduction for organization and preparation of curriculum materials for presentation. Includes instructor roles and responsibilities, legal issues, the adult learner, creating an effective learning environment, and instructional strategies and methods.

EMT 258 Pediatric Education for Pre-Hospital Professionals**1.5 cr. hrs. 2 periods (1 lec., 1 lab)**

Foundations of skills and principles in dealing with pediatric patients in a pre-hospital setting. Includes information on the integration of the physiological, psychological, and social changes throughout human growth and development with assessment and communication strategies for patients of all ages.

EMT 259 Pediatric Education for Pre-Hospital Professionals Refresher**.75 cr. hrs. 1 periods (.5 lec., .5 lab)**

Overview of the foundations of skills and principles in dealing with pediatric patients in a pre-hospital setting. Includes information on the integration of the physiological, psychological, and social changes throughout human growth and development with assessment and communication strategies for patients of all ages.

EMT 263 Tox-Medic**1.5 cr. hrs. 1.5 periods (1.5 lec.)**

Provides paramedics with the training required which authorizes them to perform a medical treatment or administer a drug when responding to a hazardous materials incident.

EMT 295 ALS Independent Research**1 cr. hrs. 3 periods (3 lab)**

Independent research in advanced pre-hospital care. Includes developing and writing an independent, applied research project, utilizing American Psychological Association (APA) style and format. Also includes exploration of current issues in Emergency Medical Services (EMS) or related subject matter through active research.

Information: Research and writing will be done independently with assistance from the course instructor. Student will select a research topic with approval of course instructor.

Engineering

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ENG 102IN Problem-Solving and Engineering Design**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Design, effective team participation, and career preparation in engineering. Includes the different engineering fields and careers, basic skills associated with engineering problem solving and communication, the design process, participation in hands-on design projects, and ethics and professional responsibility.

Prerequisite(s): MAT 189 or higher.

ENG 105IN Introduction to MATLAB I**1 cr. hrs. 2 periods (.5 lec., 1.5 lab)**

Fundamental knowledge and practical abilities in MATLAB utilizing technical numerical computations in engineering courses. Includes script files, creating arrays, mathematical operations with 1-D arrays, two dimensional plots, and polynomials.

Prerequisite(s): MAT 220.

ENG 110IN Solid State Chemistry**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Fundamental principles of the chemistry of condensed states of matter including metals, polymers, molecular solids, and ceramics. Includes quantization, atomic structure, bonding, band and crystalline structure, conductivity, thermodynamics, and phase diagrams. Also includes electrochemistry and electrochemical devices, glass, optical properties and devices, and semiconductor devices.

Prerequisite(s): CHM 151IN and MAT 220 or concurrent enrollment.

ENG 120IN Civil Engineering Graphics and Design**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Introduction to civil engineering graphics and design using sketching and computer-aided design (CAD) Civil 3D software. Includes engineering basic applications, basic math and geometry, basic math and algorithms, corridor development, site grading and earthwork concepts, piping and draining concepts, surveying concepts and procedures, and visualization and construction documents.

Prerequisite(s): MAT 189.

ENG 122IN Engineering Graphics and Design with Solid Modeling**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Introduction to engineering graphics and the concepts of engineering design. Includes sketching, dimensioning practices and tolerances, computer-aided design (CAD), basic part modeling, and three-dimensional (3D) assembly modeling.

Prerequisite(s): MAT 189.

ENG 130IN Elementary Surveying**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to the subject of surveying as it pertains to the field of civil engineering. Includes measurement of distances, leveling, profiling and grade calculations, measurement of angles, remote elevations, and traverse closure. Also includes topographic surveys, public land surveying, and land ownership.

Prerequisite(s): MAT 189.

ENG 175IN Computer Programming for Engineering Applications I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Programming in C with emphasis on numerical applications in engineering. Includes structure of C programs; data types, operations, and basics of C; selection, repetition, arrays, functions, and data files.

Prerequisite(s): MAT 189.

ENG 201 Introduction to Mining Engineering**3 cr. hrs. 3 periods (3 lec.)**

Basic introduction to the fundamental operations involved in mining engineering. Includes the fundamental processes for sustainable resource development, mine planning, and design based on data and operating parameters. Also includes science, engineering, and policies to locate an ore deposit, plan surface, underground mines, operating mines and processing facilities, reclaim mine sites, and work with communities.

Prerequisite(s): ENG 102IN.

ENG 205IN Introduction to MATLAB II**1 cr. hrs. 2 periods (.5 lec., 1.5 lab)**

Fundamental knowledge for problem solving and programming using MATLAB. Includes creating arrays, mathematical operations with 2-D arrays, curve fitting and interpolation, programming in MATLAB, functions and function files, three-dimensional plots, and solving a system of linear equations.

Prerequisite(s): ENG 105IN or concurrent enrollment.

ENG 210 Engineering Mechanics: Statics**3 cr. hrs. 3 periods (3 lec.)**

Engineering analysis of static mechanical systems. Includes statics of particles, rigid bodies and equilibrium, distributed forces, analysis of structure, forces in beams and cables, friction, and moments of inertia.

Prerequisite(s): MAT 231 and PHY 210IN.

ENG 218 Fluid Mechanics**3 cr. hrs. 3 periods (3 lec.)**

Introduction and fundamental concepts of fluid dynamics and fluid statics. Includes basic equations for a control volume, fluids in motion, inviscid flow, dimensional analysis, flow in pipes and ducts, and boundary layers.

Prerequisite(s): ENG 210 and MAT 241.

ENG 220 Engineering Mechanics: Dynamics**3 cr. hrs. 3 periods (3 lec.)**

Study of the motion of bodies under the action of forces. Includes introduction to dynamics, kinematics of particles and rigid body, and kinetics of particles and rigid body.

Prerequisite(s): ENG 210, and MAT 241.

ENG 220RC Engineering Mechanics: Dynamics Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with ENG 220 in order to provide supplemental instruction. Facilitated discussions, discrete study groups, and collaborative problem solving provide more exposure to and more thorough discourse on engineering mechanics concepts and theory. Emphasizes applying mathematics, science, and engineering concepts to solve kinematic and kinetics problems; while providing opportunity to apply problem solving techniques and critical thinking. Study of the motion of bodies under the action of forces. Includes introduction to dynamics, kinematics of particles and rigid body, and kinetics of particles and rigid body.

Prerequisite(s): ENG 210 and MAT 241.

Corequisite(s): ENG 220

Information: Pass-Fail only. Students receiving a grade of C in ENG 210 or MAT 241 will be required to register for the ENG 220RC course concurrently; for students receiving a B grade or higher in ENG 210 and MAT 241, the ENG 220RC course is optional, but highly recommended. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

ENG 230 Mechanics of Materials**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the analysis and design of the mechanical properties of materials. Includes the concept of stress and strain, axially loaded members, torsion, stresses and strains in beams, analysis of stress and strain, deflections of beams, statically indeterminate beams, and columns.

Prerequisite(s): ENG 210 with a grade of B or better. Students receiving a grade of C in ENG 210 will be required to register for the ENG 230RC course concurrently; for students receiving a grade of B or higher in ENG 210, the ENG 230RC course is optional.

ENG 230RC Mechanics of Materials Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with ENG 230 in order to provide supplemental instruction. Facilitated discussions, discrete study groups, and collaborative problem solving provide more exposure to and more thorough discourse on engineering concepts and theory. Emphasizes applying mathematics, science, and engineering concepts to solve mechanics of materials problems; while providing opportunity to apply problem solving techniques and critical thinking. Introduction to the analysis and design of the mechanical properties of materials. Includes the concept of stress and strain, axially loaded members, torsion, stresses and strains in beams, analysis of stress and strain, deflections of beams, statically indeterminate beams, and columns.

Prerequisite(s): ENG 210.*Corequisite(s):* ENG 230

Information: Pass-Fail only. Students receiving a grade of C in ENG 210 will be required to register for the ENG 230RC course concurrently; for students receiving a B grade or higher in ENG 210, the ENG 230RC course is optional, but highly recommended. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

ENG 232 Thermodynamics**3 cr. hrs. 3 periods (3 lec.)**

Basic laws and examples of engineering applications of macroscopic thermodynamics. Includes an introduction to concepts and definitions, energy and the first law of thermodynamics, evaluating properties, control volume energy analysis, the second law of thermodynamics, using entropy, vapor power systems, gas power systems, and refrigeration and heat pump systems.

Prerequisite(s): With a grade of B or higher: MAT 241 and PHY 210IN. Students receiving a grade of C in MAT 241 or PHY 210IN will be required to register for the ENG 232RC course concurrently; for students receiving a grade of B or higher in MAT 241 and PHY 210IN, the ENG 232RC course is optional.

ENG 232RC Thermodynamics Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with ENG 232 in order to provide supplemental instruction. Facilitated discussions, discrete study groups, and collaborative problem solving provide more exposure to and more thorough discourse on engineering concepts and theory. Emphasizes applying mathematics, science, and engineering concepts to solve thermodynamics problems; while providing opportunity to apply problem solving techniques and critical thinking. Basic laws and examples of engineering applications of macroscopic thermodynamics. Includes an introduction to concepts and definitions, energy and the first law of thermodynamics, evaluating properties, control volume energy analysis, the second law of thermodynamics, using entropy, vapor power systems, gas power systems, and refrigeration and heat pump systems.

Prerequisite(s): MAT 241 and PHY 210IN.*Corequisite(s):* ENG 232

Information: Pass-fail only. Students receiving a grade of C in MAT 241 or PHY 210IN will be required to register for the ENG 232RC course concurrently; for students receiving a B grade or higher in MAT 241 and PHY 210IN, the ENG 232RC course is optional, but highly recommended. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

ENG 260 Electrical Engineering**3 cr. hrs. 3 periods (3 lec.)**

Introductory survey of the electrical engineering discipline with emphasis on electrical power applications. Includes resistive circuits, inductance and capacitance, transients, steady-state sinusoidal analysis, and logic circuits. Also includes operational amplifiers, microcomputers, and diode electronics.

Prerequisite(s): MAT 231 and PHY 216IN.**ENG 274IN Digital Logic****4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to the theory and design of digital logic circuits. Includes combinational logic design, sequential logic design, combinational and sequential component design, register-transfer level design, optimizations and tradeoffs, and physical implementation.

Prerequisite(s): ENG 175IN and MAT 231.**ENG 276IN Computer Programming for Engineering Applications II****3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of ENG 175IN. Advanced programming in C for engineering applications. Includes review of C programming, memory concepts, algorithms and analysis, and an introduction to C++

Prerequisite(s): ENG 175IN.

ENG 282IN Basic Electric Circuits**5 cr. hrs. 7 periods (4 lec., 3 lab)**

Introduction to the fundamentals of alternating current (AC) and direct current (DC) circuits. Includes circuit variables, circuit elements, simple resistive circuits, techniques of circuit analysis, the operational amplifier; inductance, capacitance, and mutual inductance; response of first-order resistor-inductor (RL) and resistor-capacitor (RC) circuits, natural and step responses of RLC circuits, and sinusoidal steady-state analysis.

Prerequisite(s): MAT 231 and PHY 216IN.

Corequisite(s): MAT 262

ENG 297 Mineral Resources Engineering Topics Seminar**1 cr. hrs. 1 periods (1 lec.)**

Proseminar provides a first opportunity for students to research and exchange information on topics of interest in mineral resource engineering. Includes basic mining concepts and systems, mining technologies throughout the mine life, safety and environmental issues, current challenges, and technology innovations in the broad area of mining resources. Further develop skills in technical writing, project design, and apply knowledge from general education courses to challenges in the global development of resources.

Prerequisite(s): ENG 102IN.

English as a Second Language

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ESL 060CM Oral Communication for Non-Native Speakers of English I**4 cr. hrs. 4 periods (4 lec.)**

High beginning-level communication for situations and tasks relevant to daily and academic life. Includes conversation about social and academic topics with communicative appropriateness and clarity. Also includes listening and speaking strategies and practice, basic vocabulary, study strategies, technology, and exploration of college resources.

Prerequisite(s): Required score on ESL assessment test.

Recommendation: Concurrent enrollment in an ESL Reading and Vocabulary course (RV) and an ESL Writing and Grammar course (WG) according to previous course completion or ESL assessment test score.

Information: Prerequisite may be waived with consent of instructor. See an ESL instructor for details.

ESL 060MT Beginning Writing Mechanics and Technology**1 cr. hrs. 1 periods (1 lec.)**

Instruction and practice using beginning techniques for writing in English. Includes standard format and handwriting, writing mechanics, and basic technology skills for language learning.

Prerequisite(s): Required score on ESL assessment test.

Recommendation: Concurrent enrollment in ESL 060WG.

Information: Prerequisite(s) may be waived with consent of instructor. See an ESL instructor for details.

ESL 060PR Pronunciation I**2 cr. hrs. 2 periods (2 lec.)**

Pronunciation and spelling for non-native English speakers at the basic level. Includes basic sound-symbol patterns and production of corresponding sounds, and the stress, rhythm and intonation to develop fluency in communication.

Prerequisite(s): Required score on ESL assessment test.

Recommendation: Concurrent enrollment in ESL Oral Communication course (CM).

Information: Prerequisite(s) may be waived with consent of instructor. See an ESL instructor for details.

ESL 060RV Reading & Vocabulary for Non-Native Speakers of English I**4 cr. hrs. 4 periods (4 lec.)**

High beginning-level reading and vocabulary skills for non-native speakers of English. Includes comprehension of narrative and informational texts, vocabulary, written tasks, information literacy, study strategies, college resources, and a community of readers.

Prerequisite(s): Required score on ESL assessment test.

Recommendation: Concurrent enrollment in an ESL Oral Communication course (CM) and an ESL Writing and Grammar course (WG) according to previous course completion or ESL assessment test score.

Information: Prerequisite may be waived with permission of instructor. See an ESL instructor for details.

ESL 060WG Writing and Grammar for Non-Native Speakers of English I**4 cr. hrs. 4 periods (4 lec.)**

High beginning-level writing and grammar skills for non-native speakers of English. Includes rhetorical forms, writing processes and conventions, sentence structure, grammar, study strategies, technology, and college resources.

Prerequisite(s): Required score on ESL assessment test.

Recommendation: Concurrent enrollment in ESL Oral Communication course (CM) and an ESL Reading and Vocabulary course (RV) according to previous course completion or ESL assessment test score.

Information: Prerequisite may be waived with consent of instructor. See an ESL instructor for details.

ESL 070CM Oral Communication for Non-Native Speakers of English II**4 cr. hrs. 4 periods (4 lec.)**

Intermediate-level communication skills for increased fluency and comprehension. Includes conversation about social and academic topics with increased proficiency and clarity; listening and speaking strategies and practice; vocabulary building skills; study strategies; technology; and increased awareness of college resources.

Prerequisite(s): Required score on ESL assessment test OR completion of ESL 060CM with a grade of C or better.

Recommendation: Concurrent enrollment in an ESL Reading and Vocabulary course (RV) and an ESL Writing and Grammar course (WG) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 070CU Survey of American Culture**1 cr. hrs. 1 periods (1 lec.)**

Intermediate-level course on American culture for ESL students. Includes readings on various American culture topics, and vocabulary development.

Prerequisite(s): ESL 060RV with a C or better, or required score on ESL assessment test.

Information: Prerequisite(s) may be waived with consent of instructor. See an ESL instructor for details. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ESL 070MT Intermediate Writing Mechanics and Technology**1 cr. hrs. 1 periods (1 lec.)**

Instruction and practice using intermediate techniques for writing in English. Includes standard formats, writing mechanics, and intermediate technology skills.

Prerequisite(s): ESL 060WG with a C or better, or required score on ESL assessment test.

Recommendation: Concurrent enrollment in ESL 070WG.

Information: Prerequisite(s) may be waived with consent of instructor. See an ESL instructor for details.

ESL 070PR Pronunciation II**2 cr. hrs. 2 periods (2 lec.)**

Pronunciation for non-native English speakers at the intermediate level. Includes word stress, sentence stress and rhythm, and intonation patterns.

Prerequisite(s): ESL 060CM with a C or better, or required score on ESL assessment test.

Recommendation: Concurrent enrollment in ESL Oral Communication course (CM).

Information: Prerequisite(s) may be waived with consent of instructor. See an ESL instructor for details.

ESL 070RV Reading and Vocabulary for Non-Native Speakers of English II**4 cr. hrs. 4 periods (4 lec.)**

Intermediate-level reading and vocabulary skills for non-native speakers of English. Includes comprehension of narrative and informational texts, vocabulary, written tasks, information literacy, study strategies, college resources, and a community of readers.

Prerequisite(s): Required score on ESL assessment test OR completion of ESL 060RV with a grade of C or better.

Recommendation: Concurrent enrollment in an ESL Oral Communication course (CM) and an ESL Writing and Grammar course (WG) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 070WG Writing and Grammar for Non-Native Speakers of English II**4 cr. hrs. 4 periods (4 lec.)**

Intermediate-level academic writing and grammar skills. Includes rhetorical forms, writing process and conventions, sentence structure, grammar, study strategies, technology, and college resources.

Prerequisite(s): Required score on ESL assessment test OR completion of ESL 060WG with a grade of C or better.

Recommendation: Concurrent enrollment in an ESL Oral Communication course (CM) and an ESL Reading and Vocabulary course (RV) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 079EI Institute for American English and Culture I**1-15 cr. hrs. 1-15 periods (1-15 lec.)**

Intermediate level English immersion program for non-English speaking international students. Includes English skills development in intermediate oral communication, writing, reading, and vocabulary; and exploration of cross-cultural issues.

Information: Restricted registration. See an international advisor for further information. Extent of emphasis placed on specific activities and objectives in Program I will vary depending on audience and number of credits.

ESL 080CM Oral Communication for Non-Native Speakers of English III**3 cr. hrs. 3 periods (3 lec.)**

High intermediate-level communication skills for increased fluency and comprehension. Includes listening comprehension and retention, speaking and academic presentations, and communicative appropriateness.

Prerequisite(s): Score of 48 on ESL assessment test, OR completion of ESL 070CM and ESL 060RV and ESL 060WG, OR completion of ESL 070CM and score of 39 on ESL assessment test.

Recommendation: Concurrent enrollment in an ESL Reading and Vocabulary course (RV) and an ESL Writing and Grammar course (WG) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 080MT Advanced Writing Mechanics and Technology**1 cr. hrs. 1 periods (1 lec.)**

Instruction and practice using advanced techniques for writing in English. Includes standard formats, writing mechanics, and advanced technology skills.

Prerequisite(s): ESL 070WG with a C or better, or required score on ESL assessment test.

Recommendation: Concurrent enrollment in ESL 080WG or 085WG.

Information: Prerequisite(s) may be waived with consent of instructor. See an ESL instructor for details.

ESL 080PR Pronunciation III**2 cr. hrs. 2 periods (2 lec.)**

Pronunciation for non-native English speakers at the advanced level. Includes word stress and vowel reduction, sentence stress and rhythm, and intonation and phrasing.

Prerequisite(s): ESL 070CM with a C or better, or required score on ESL assessment test.

Recommendation: Concurrent enrollment in ESL Oral Communication course (CM).

Information: Prerequisite(s) may be waived with consent of instructor. See an ESL instructor for details.

ESL 080RV Reading & Vocabulary for Non-Native Speakers of English III**4 cr. hrs. 4 periods (4 lec.)**

High intermediate-level reading and vocabulary skills for non-native speakers of English. Includes comprehension of narrative and informational texts, vocabulary, written tasks, information literacy, study strategies, college resources, and a community of readers.

Prerequisite(s): Score of 48 on ESL assessment test OR completion of ESL 070RV and ESL 060CM and ESL 060WG with a grade of C or better OR completion of ESL 070RV with a C or better and score of 39 on ESL assessment test.

Recommendation: Concurrent enrollment in an ESL Oral Communication course (CM) and an ESL Writing and Grammar course (WG) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 080WG Writing and Grammar for Non-Native Speakers of English III**4 cr. hrs. 4 periods (4 lec.)**

High intermediate-level academic writing and grammar skills. Includes rhetorical forms, writing process and conventions, sentence structure, grammar, study strategies, technology, and college resources.

Prerequisite(s): Score of 48 on ESL assessment test OR completion of ESL 070WG and ESL 060RV and ESL 060CM with a grade of C or better, OR score of 39 on ESL assessment test and completion of ESL 070WG with a grade of C or better.

Recommendation: Concurrent enrollment in an ESL Oral Communication course (CM) and an ESL Reading and Vocabulary course (RV) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 085CM Oral Communication for Non-Native Speakers of English IV**3 cr. hrs. 3 periods (3 lec.)**

Advanced-level academic communication skills for increased fluency and comprehension. Includes listening comprehension and retention, speaking and oral presentations, communicative appropriateness, and critical thinking skills.

Prerequisite(s): Score of 57 on ESL assessment test, OR completion of ESL 080CM and ESL 070RV and ESL 070WG, OR completion of ESL 080CM and score of 48 on ESL assessment test.

Recommendation: Concurrent enrollment in an ESL Reading and Vocabulary course (RV) and an ESL Writing and Grammar course (WG) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 085RV Reading and Vocabulary for Non-Native Speakers of English IV**4 cr. hrs. 4 periods (4 lec.)**

Advanced-level reading and vocabulary skills for non-native speakers of English. Includes comprehension of narrative and informational texts, selections from college textbooks, vocabulary, written tasks, information literacy, study strategies, college resources, and a community of readers.

Prerequisite(s): Score of 57 on ESL assessment test OR completion of ESL 080RV and ESL 070CM and ESL 070WG with a grade of C or better OR completion of ESL 080RV with a grade of C or better and score of 48 on ESL assessment test.

Recommendation: Concurrent enrollment in an ESL Oral Communication course (CM) and an ESL Writing and Grammar course (WG) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 085WG Writing and Grammar for Non-Native Speakers of English IV**4 cr. hrs. 4 periods (4 lec.)**

Advanced-level academic writing and grammar for non-native speakers of English. Includes rhetorical forms, writing process and conventions, sentence structure, grammar, study strategies, technology, and college resources.

Prerequisite(s): Score of 57 on ESL assessment test OR completion of ESL 080WG and ESL 070RV and ESL 070CM with a grade of C or better OR score of 48 on the ESL assessment test and completion of ESL 080WG with a grade of C or better.

Recommendation: Concurrent enrollment in an ESL Reading and Vocabulary course (RV) and ESL Oral Communication course (CM) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 088RV Reading and Vocabulary for Non-Native Speakers of English V**4 cr. hrs. 4 periods (4 lec.)**

High advanced-level reading and vocabulary skills for non-native speakers of English. Includes comprehension of narrative, informational, and college textbooks; vocabulary at a high advanced level, written tasks, information literacy, study strategies, college resources, and a community of readers.

Prerequisite(s): Score of 65 on ESL assessment test OR completion of ESL 085RV and ESL 080CM and ESL 080WG with a grade of C or better OR completion of ESL 085RV with a grade of C or better and a score of 57 on ESL assessment test.

Recommendation: Concurrent enrollment in an ESL Oral Communication course (CM) and an ESL Writing and Grammar course (WG) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 088WG Writing and Grammar for Non-Native Speakers of English V**4 cr. hrs. 4 periods (4 lec.)**

High advanced-level academic writing and grammar for non-native speakers of English. Includes rhetorical forms, writing process and conventions, sentence structure, grammar, study strategies, technology, and college resources.

Prerequisite(s): Score of 65 on ESL assessment test OR completion of ESL 085WG and ESL080RV and ESL 080CM with a grade of C or better OR score of 57 on ESL assessment test and completion of ESL 085WG with a grade of C or better.

Recommendation: Concurrent enrollment in an ESL Oral Communication course (CM) and an ESL Reading and Vocabulary course (RV) according to previous course completion or ESL assessment test score.

Information: Prerequisites may be waived with consent of instructor. See an ESL instructor for details.

ESL 089EI Institute for American English and Culture II**1-15 cr. hrs. 1-15 periods (1-15 lec.)**

Advanced level English immersion program for non-English speaking international students. Includes English skills development in advanced oral communication, writing, reading, and vocabulary; and exploration of cross-cultural issues.

Information: Restricted registration. See an international advisor for further information. Extent of emphasis placed on specific activities and objectives in Program II will vary depending on audience and number of credits.

Fashion Design and Clothing

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

FDC 110 Clothing Construction I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

An introduction to basic clothing construction techniques designed for inexperienced sewers. Includes terminology, tools and equipment, garment pattern components, fabric components, interfacing, and construction sample and pressing techniques.

FDC 111 Clothing Construction II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of FDC 110. Intermediate principles of clothing construction. Includes planning the garment, preparation of garment pieces, assembly, unit production, and evaluation.

Prerequisite(s): FDC 110 with a B or better.

Information: Prerequisite may be waived with consent of instructor.

FDC 121 Flat Pattern Making**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to the flat pattern method of pattern making for apparel production. Includes principles of pattern manipulation, practical applications, and evaluating the applications to a selected design project.

Recommendation: Completion of FDC 111 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FDC 122 History of Clothing**3 cr. hrs. 3 periods (3 lec.)**

Introduction to clothing and personal decoration as a reflection of the wearer's culture, time and place. Includes definition of essential characteristics in the western world, evolution of clothing, geographical and chronological grouping, and areas of analysis through research and projects.

FDC 123 Computer Patternmaking I**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to patternmaking for apparel production using computer software. Includes measurements, creating a basic set of slopers, checking sloper fit, and basic pattern concepts.

Recommendation: Completion of FDC 111 and 121 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FDC 126 Textiles**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Study of textile fibers, yarns, fabrication, characteristics, methods of coloration, printing, finishes, and influence on product performance. Includes fiber content, fabric construction, fabric swatches, finishes and techniques, and textile trends.

FDC 131 Fashion Styling**3 cr. hrs. 3 periods (3 lec.)**

Overview of the function of wardrobe in contemporary life. Includes U.S. and world trends, elements and principles of design applied to clothing selection and coordination, color, figure analysis, personal style, wardrobe evaluation, and hair and makeup as a key element in wardrobe and fashion styling.

FDC 132 Global Fashion and Culture**3 cr. hrs. 3 periods (3 lec.)**

Human behavior in relationship to clothing, body image, and self-concept. Includes global behavior and dress, clothing as messenger, the ritual of dress, global fashion for the masses; life stages and clothing; and image needs.

FDC 135 Fashion Show/Event Planning**3 cr. hrs. 3 periods (3 lec.)**

A survey of fashion direction, publicity and fashion event coordination. Includes development of an event, student fashion show production, and wrap up.

Recommendation: Completion of FDC 141 before enrolling in this course.

FDC 141 Introduction to Fashion Design**3 cr. hrs. 3 periods (3 lec.)**

Survey of the business of apparel manufacturing and fashion design. Includes history of the industry, careers in fashion, designing the garment, influences on design, and organization of a clothing line.

FDC 144 Fashion Drawing**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Technical drawing of a garment on the fashion figure. Includes working on original designs and presenting them in a portfolio. Also includes fabrics and how to render them as well as a basic knowledge of garment construction.

Information: Having prior drawing coursework would be beneficial, recommend ART 110 or 213 before enrolling in this course. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FDC 196 Independent Studies in Fashion Design and Clothing**3 cr. hrs. 5- periods (2 lec., 3 lab)**

Independent projects for continuing individual development in fashion design and clothing under the guidance of a faculty member.

Information: May be taken three times for a maximum of 9 credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Students must have taken at least twelve (12) credits hours in FDC courses before enrolling in this course.

FDC 199 Co-op: Fashion Design and Clothing**1 cr. hrs. 1 periods (1 lec.)**

Introduction to the work environment in the Fashion Apparel field. Includes the internship process, applying course work, oral and written communication skills, and self management on the job.

Corequisite(s): FDC 199WK

Information: Consent of instructor or department chair and successful completion of twelve (12) credit hours of FDC course work is required before enrolling in this course. May be taken four times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FDC 199WK Co-op Work: Fashion Design and Clothing**1-5 cr. hrs. 5-25 periods (5-25 lab)**

A supervised work environment in the Fashion Apparel field. Includes completion of hours, knowledge of fashion industry job site, demonstration of aptitudes and abilities, journal/record of daily experiences and observations, and maintaining a written and digital contact list.

Corequisite(s): FDC 199

Information: Consent of instructor or department chair and successful completion of twelve (12) credit hours of FDC course work required before enrolling in this course. May be taken four times for a maximum of twenty credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FDC 211 Clothing Construction III**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of FDC 111. Advanced techniques in construction of clothing. Includes pattern layout options, construction techniques and principles applied to special fabrics, fabric selection for specialty garments, and evaluation.

Prerequisite(s): FDC 111 with a B or better.

Information: Prerequisite may be waived with consent of instructor.

FDC 212 Tailoring: Jackets**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Traditional and speed-tailoring methods for jackets utilizing advanced techniques and materials. Includes pattern alterations for jackets, buttonholes, welt pockets, shaping the interfacing, inner structure of jackets, and complete garment evaluation.

Prerequisite(s): FDC 211 with a grade of B or better.

Recommendation: Completion of FDC 112 with a grade of B or better before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Prerequisite may be waived with consent of instructor.

FDC 213 Tailoring: Pants and Shirts**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Traditional and speed-tailoring methods for pants and shirts utilizing advanced techniques and materials. Includes pant construction, shirt construction, and completed garment evaluation.

Prerequisite(s): FDC 211 with a grade of B or better.

Recommendation: Completion of FDC 112 with a grade of B or better before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Prerequisite may be waived with consent of instructor.

FDC 214 Bridal and Formal Wear**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced construction techniques applied to specialty fabrics for formal wear. Includes client vs. customer, fitting the client, creating the muslin, constructing the formal wear garment, and closing contracts with the client

Prerequisite(s): FDC 211 with a grade of B or better.

Recommendation: Successful completion of FDC 111 and 212 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Prerequisite may be waived with consent of instructor.

FDC 215 Sewing with Knits**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Skills and techniques used in the construction of garments made from knit fabrics. Includes pattern selection, fabric selection, tools and equipment, pattern fit and alteration; layout, cutting, and marking; and construction techniques.

Prerequisite(s): FDC 111 with a B or better.

Recommendation: Completion of FDC 211 with a grade of B or better before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Prerequisite may be waived with consent of instructor.

FDC 221 Flat Pattern Making II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of FDC 121. Includes measurement, marking and fitting, review of sloper slash and spread methods of design, pattern preparation, determining garment patterns, garment construction, and evaluation of individual garment design and construction.

Prerequisite(s): FDC 121.

Recommendation: Students should have a grade of C or higher in the prerequisite course before enrolling in this course.

FDC 223 Computer Patternmaking II**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of FDC 123. Includes introduction to software pattern libraries, advanced computer flat patternmaking, and using computer-aided pattern design.

Prerequisite(s): FDC 123.

FDC 231 Flat Patternmaking III**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of FDC 221. Application and analysis of advanced patternmaking techniques and principles of grading (sizing) base patterns. Includes advanced patternmaking techniques, review of sloper for design and fitting purposes, creation of original designs, grading, and evaluation of individual garment design and construction.

Prerequisite(s): FDC 221 with a B or better

Information: Prerequisite(s) may be waived with consent of instructor.

FDC 241 Draping**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Application of design principles using the draping method of fashion design to create an original garment on a dress form. Includes review of essential design principles, muslin preparation, determining garment patterns, applying fabrics to the dress form, garment construction, and evaluation of individual garment design and construction.

Recommendation: Completion of FDC 111 and 211 with a grade of B or better before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FDC 245 Digital Fashion Design**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to the use of computer software to design fashion and technical drawings. Includes the fashion work arena, features and applications used to create digital fashion drawings, vocabulary, terms and technical criteria, fashion software, and developing multiple color patterns and textures.

Recommendation: Completion of ART 100, FDC 111 and 144 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FDC 288 Portfolio Preparation**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Overview of the development and marketing of a professional portfolio. Includes definition and evaluation of coherent bodies of work, documentation of work, preparation of portfolio production, production of a portfolio, parts of a portfolio, and marketing.

Information: For advanced students who have completed coursework in their specific areas. Portfolio concentrations will be determined in a conference between student and instructor. Same as ART 288.

Finance

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

FIN 200 Business Finance**3 cr. hrs. 3 periods (3 lec.)**

Fundamental principles of managerial finance in firms. Includes financial statements, common ratios, cash forecasting, time value of money, and investment decisions. Prerequisite: ACC 211.

Fire Science

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

FSC 101 Principles of Emergency Services**3 cr. hrs. 3 periods (3 lec.)**

Introduction to fire protection and emergency services. Includes career opportunities in fire protection and related fields, culture and history of emergency services, fire loss analysis, organization and function of public and private fire protection services, and fire departments as part of local government. Also includes laws and regulations affecting the fire service, fire service nomenclature, specific fire protection functions, basic fire chemistry and physics, introduction to fire protection systems, introduction to fire strategy and tactics, and life safety initiatives.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 110 Rope I**.75 cr. hrs. 1.25 periods (.5 lec., .75 lab)**

Introduction to basic rope rescue: safety, equipment, rope craft, anchors, mechanical advantage, belay systems, medical considerations, identifying terrain types, low angle evacuations, steep angle evacuations and steep angle rappel. Includes performance in rope craft, anchor construction, mechanical advantage construction, belay technique, patient packaging, low angle evacuations, and steep angle rappelling.

Information: This class meets State of Arizona Fire Marshal requirements: NFPA 1983, NFPA 1500 special operations, NFPA 1670.

FSC 111 Rope II**.75 cr. hrs. 1.25 periods (.5 lec., .75 lab)**

Continuation of FSC 110. Concepts, techniques, and skills for rope rescue areas: safety, ropecraft, advanced anchors, applied mechanical advantage, belay systems, self-rescue, and high angle pickoffs. Also includes knot passing through technical evacuation systems, rope rescue strategy, and tactics.

Information: This class meets State of Arizona Fire Marshal requirements: NFPA 1983, NFPA 1500 special operations, NFPA 1670.

FSC 112 Rope III**.75 cr. hrs. 1.25 periods (.5 lec., .75 lab)**

Continuation of FSC 111. Concepts, techniques, and skills for advanced rope rescue areas: safety, rope craft, anchors, applied mechanical advantage, belay systems, self rescue, high angle pickoffs, knot passing through technical evacuation systems. Also includes rescue tactics and strategies relating to vertical rescues.

Prerequisite(s): FSC 111.

Information: This class meets State of Arizona Fire Marshal requirements: NFPA 1983, NFPA 1500 special operations, NFPA 1670.

FSC 118 Swift Water Rescue for First Responders**1 cr. hrs. 1 periods (1 lec.)**

Concepts and techniques to prepare the emergency responder to perform swift water rescue. Includes rescuer safety and philosophy, river dynamics, hydrology and hazards, and methods of effecting swift water rescues including boat handling operations. Includes basic water accident management techniques in still water. Also includes the water accident portion of this course taught at a swimming pool and the practical application conducted in moving water.

Prerequisite(s): FSC 110, 111, 112.

Information: This class meets State of Arizona Fire Marshal requirements: NFPA 1983, NFPA 1500 special operations, NFPA 1670.

FSC 120 Fire Behavior and Combustion**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the theories and fundamentals of fire behavior and combustion. Includes physical and chemical properties of fire, materials and their relationship to fire as fuel, and the use of water and other fire suppression agents and strategies.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 123 Building Construction Related to the Fire Service**3 cr. hrs. 3 periods (3 lec.)**

Introduction to components of building construction as related to firefighter and life safety. Includes elements of construction and structure design shown to be key factors when inspecting buildings, preplanning fire operations, and operating at emergencies.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 124 Fire Prevention**3 cr. hrs. 3 periods (3 lec.)**

Introduction to fundamental concepts relating to the field of fire prevention. Includes history and philosophy of fire prevention, 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.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 125 Hydraulics and Water Supply**2.5 cr. hrs. 3.5 periods (2 lec., 1.5 lab)**

Introduction to hydraulics and water supply in fire service. Includes theoretical foundations and principles of water use in fire protection, water distribution systems, and survey of hydraulic principles to analyze and to solve water supply problems.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 126 Fire Protection Systems in the Fire Service**3 cr. hrs. 3 periods (3 lec.)**

Introduction to fire protection systems in the fire service. Includes features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppressions systems, water supply for fire protection, and portable fire extinguishers.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 127 Principles of Emergency Services Safety and Survival**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the basic principles and history related to national firefighter life safety initiatives. Includes cultural and behavioral change, organizational health, safety profile, research investigation, national health and safety, risk management, and public education of fire and life safety.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 128 Incident Safety Officer**1 cr. hrs. 1 periods (1 lec.)**

Concepts, techniques and skills for the Company Officer (CO) to function as the Safety Officer at fire department incident operations. Includes decision-making skills and personal safety (safety cues). Includes a focus on Safety Officer's responsibility in responding to incident scenes. Also includes incident-specific, scene-oriented application using safety scenarios.

Information: This class meets State of Arizona Fire Marshal requirements: NFPA 1983, NFPA 1500 special operations, NFPA 1670.

FSC 130 Strength and Fitness for the Fire Service**1 cr. hrs. 2 periods (.5 lec., 1.5 lab)**

Overview of fitness as it pertains to prospective firefighters. Includes endurance training, flexibility training, strength conditioning and use of equipment in Fire Incident Readiness Evaluation.

Information: Consent of instructor is required before enrolling in this course.

FSC 149 Fire Operations I**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Specialized classroom and practical experience in the techniques of firefighting. Includes the chemistry of fire, use of water and other agents, firefighting equipment and its uses, firefighting practices and safety.

Information: Completion of FSC 149 and 150 will help prepare the student for successful completion of State of Arizona Firefighter I & II practical evaluations. Only when taken as a part of the Pima Community College Fire Academy can students be concurrently enrolled in FSC 149 and 150.

FSC 150 Fire Operations II**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Continuation of FSC 149. Specialized classroom and practical experience in the practices and techniques of fire fighting. Includes principles of community fire defense, methods of entry, rescue, tools, apparatus, equipment, salvage, hydraulics, and fire extinguishment.

Prerequisite(s): FSC 149.

Information: Completion of FSC 149 and 150 will help prepare the student for successful completion of State of Arizona Firefighter I & II practical evaluations. Only when taken as a part of the Pima Community College Fire Academy can students be concurrently enrolled in FSC 149 and 150.

FSC 152 Fundamentals of Fire Prevention**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the principles of fire prevention. Includes authority, responsibility and organization of fire prevention, inspection procedures and reports, fire hazard recognition, building construction, and occupancy classifications. Also includes site access and means of egress, water-based fire protection and water supply systems, portable extinguishers, special agent, extinguishing systems, and fire detection and alarm systems, plans review, hazardous materials and flammable and combustible liquids, and storage, handling, and use of other hazardous materials.

Prerequisite(s): FSC 149.

FSC 153 Hazardous Materials**1.5 cr. hrs. 2 periods (1.25 lec., .75 lab)**

Basic chemical concepts and their applications to the field of fire science. Includes classes and properties of hazardous materials; recognition and identification of materials; management of materials in transit, in use, and in storage; and management of hazardous materials incidents.

Information: Equivalent to State of Arizona's First Responder, 40-hour course.

FSC 154 Advanced Fire Prevention**3 cr. hrs. 3 periods (3 lec.)**

Introduction to high risk and industrial fire prevention. Includes code interpretation and application, research, implementing policy, testifying in legal proceedings, and creating forms and job aids. Also includes conducting field inspections and plans review, and building and fire code applications to simulated situations.

Information: Completion of this course will allow the student to test for Arizona State Certification as Inspector II.

FSC 160 Wildland Firefighting**2 cr. hrs. 3 periods (1.5 lec., 1.5 lab)**

Basic wildland firefighting. Includes locating and reporting the fire, incident operations and management, suppression equipment, fire behavior, size-up, methods of suppression, and safety.

Information: This course meets Arizona Center for Fire Service Excellence and Arizona Department of Forestry Guidelines for Wildland Firefighting Training.

FSC 163 Fire Apparatus and Equipment**3 cr. hrs. 3.5 periods (2.75 lec., .75 lab)**

Overview, concepts, and techniques to use fire equipment. Includes automotive apparatus (pumpers, aerial ladders, lift platforms, hose wagons, transports and utility vehicles), water towers, heavy auxiliary mechanical equipment and appliances, generators, compressors, rescue and forcible entry tools and cutting torches.

Prerequisite(s): FSC 149 and 150.

FSC 168 Special Hazard Tactical Problems**3 cr. hrs. 3 periods (3 lec.)**

Concepts and techniques designed for the experienced firefighter on successfully mitigating incidents that involve hazards that are not commonly experienced such as hazardous materials under fire conditions. Other examples may include a train derailment and biological attack. Also includes real-life incidents in order to learn from prior experiences, as well as practice with potential scenarios created from the surrounding area.

Prerequisite(s): FSC 153.

Information: Designed for experienced firefighters.

FSC 170 Fire Service Leadership**3 cr. hrs. 3 periods (3 lec.)**

Practical training for fire service leadership and supervision. Includes decision-making, problem solving, running a meeting, managing multiple roles, creativity, power, and ethics. Also includes situational leadership, delegation, coaching, and discipline.

Prerequisite(s): FSC 149.

Information: This course meets National Fire Academy (NFA) requirements for Leadership I, II, and III. FSC 170A, 170B, and 170C together constitute FSC 170.

FSC 170A Fire Service Leadership I**1 cr. hrs. 1 periods (1 lec.)**

Practical training for fire service leadership and supervision. Includes decision-making, problem solving, and running a meeting.

Prerequisite(s): FSC 149.

Information: This course meets National Fire Academy (NFA) requirements for Leadership I, II, and III. FSC 170A, 170B and 170C together constitute FSC 170.

FSC 170B Fire Service Leadership II**1 cr. hrs. 1 periods (1 lec.)**

Continuation of FSC 170A. Includes practical training for fire service leadership and supervision. Also includes managing multiple roles, creativity, power, and ethics.

Prerequisite(s): FSC 149.

Information: This course meets National Fire Academy (NFA) requirements for Leadership I, II, and III. FSC 170A, 170B, and 170C together constitute FSC 170.

FSC 170C Fire Service Leadership III**1 cr. hrs. 1 periods (1 lec.)**

Continuation of FSC 170B. Includes practical training for fire service leadership and supervision. Also includes situational leadership, delegation, coaching, and discipline.

Prerequisite(s): FSC 149.

Information: This course meets National Fire Academy (NFA) requirements for Leadership I, II, and III. FSC 170A, 170B, and 170C together constitute FSC 170.

FSC 173 Records and Reports**.5 cr. hrs. .5 periods (.5 lec.)**

Introduction to the elements and qualities of good report writing and comprehensive documentation. Includes form, style, and methodologies for writing various reports, techniques for developing an accurate narrative, and proper and improper conclusions. Also includes effective and correct use of grammar and the mechanics of writing.

Prerequisite(s): FSC 149.

FSC 174 Fire Investigation I**3 cr. hrs. 3 periods (3 lec.)**

Introduction to fundamental concepts of fire scene investigation. Includes emergency responder responsibilities and observations, conducting origin and cause interpretation, preservation of evidence and documentation, scene security, motives of the fire setter, and elements of fire dynamics.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 180 Driver Training for Fire Service**3 cr. hrs. 3 periods (3 lec.)**

Techniques for driving and handling fire vehicles. Includes safe operating procedures, defensive driving, apparatus inspection, training in emergency maneuvers, and the key components of the driving system.

Prerequisite(s): FSC 149, 150 and 151.

Information: Consent of instructor is required before enrolling in this course.

FSC 230 Fire Investigation II**3 cr. hrs. 3 periods (3 lec.)**

Continuation of FSC 174. Principles and advanced concepts of fire investigation. Includes rule of law, fire scene analysis, fire behavior, evidence collection and preservation, scene documentation, case preparation, and courtroom testimony.

Prerequisite(s): FSC 174 with a C or better.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 249 Occupational Safety and Health for Emergency Services**3 cr. hrs. 3 periods (3 lec.)**

Concepts of occupational health and safety related to emergency service organizations. Includes risk and hazard evaluation, incident management, occupational health and safety, and control procedures for emergency service organizations.

Prerequisite(s): FSC 127 with a C or better.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 250 Principles of Fire and Emergency Services Administration**3 cr. hrs. 3 periods (3 lec.)**

Principles and concepts of administration for the fire and emergency services department. Includes relationship of government agencies to fire service, responsibility and authority, public policy, ethics, and leadership of the company officer.

Prerequisite(s): FSC 101 with a C or better.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 251 Hazardous Materials Chemistry**3 cr. hrs. 3 periods (3 lec.)**

Overview of the basic chemistry of hazardous materials. Includes recognition, identification, reactivity, and health hazards encountered by emergency services.

Prerequisite(s): FSC 120 with a C grade or better.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 252 Fire Service Strategy and Tactics**3 cr. hrs. 3 periods (3 lec.)**

Principles and tactics of fire service ground control. Includes fireground factors and management, command operations and functions, life safety, personnel, equipment, and extinguishing agents.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum. This is the capstone course for degree.

FSC 253 Legal Aspects of Emergency Services**3 cr. hrs. 3 periods (3 lec.)**

Overview of the federal, state, and local laws that regulate emergency services. Includes a review of national standards, regulations, and consensus standards.

Prerequisite(s): FSC 101 and 250 with a C grade or better.

Information: This class is in compliance with the Fire and Emergency Services Higher Education (FESHE) model curriculum.

FSC 260 Fire and Emergency Services Instructor**2 cr. hrs. 2 periods (2 lec.)**

Theoretical and practical training in developing and instructing fire and emergency services training programs. Includes an exploration of safety and legal issues, adult learning psychology, developing, planning and presenting effective instruction, evaluating student learning, teaching diverse learners, and use of instructional media.

Prerequisite(s): FSC 189.

Information: Consent of instructor is required before enrolling in this course concurrently with FSC 189. Meets the requirements for the Arizona State Fire Marshal Instructor I certification and NFPA 1041.

FSC 270 Leadership I for Fire Service Executives**1 cr. hrs. 1 periods (1 lec.)**

Concepts, techniques, and application of effective executive leadership. Includes leadership styles and characteristics, the effective executive, and leaders with vision, influence and motivation. Also includes being a change facilitator in a traditional organization, and the future of leadership.

Prerequisite(s): FSC 170.**FSC 271 Leadership II for Fire Service Executives****1 cr. hrs. 1 periods (1 lec.)**

Continuation of FSC 270. Includes organizational structure, roles and responsibilities, and organizational values. Also includes organizational vision, fiscal management and priorities, innovative organizations, and executive leadership.

Prerequisite(s): FSC 270.**FSC 272 Leadership III for Fire Service Executives****1 cr. hrs. 1 periods (1 lec.)**

Continuation of FSC 271. Includes communication skills, presentation skills, and verbal and writing skills at an executive level. Also includes interpersonal skills, labor relations, conflict management, ethical and unethical persuasion, and the media.

Prerequisite(s): FSC 271.**FSC 273 Leadership IV for Fire Service Executives****1 cr. hrs. 1 periods (1 lec.)**

Continuation of FSC 272. Includes the local fire department in relation to its city government, local policy development. Also includes legal aspects of the city and department procedures, relationships with organized labor, networking and community relations, relations with local and state fire service providers, and understanding the national and international fire service.

Prerequisite(s): FSC 272.**FSC 274 Leadership V for Fire Service Executives****1 cr. hrs. 1 periods (1 lec.)**

Continuation of FSC 273. Includes reasoning, thinking patterns, problem identification, and problem solving strategies. Also includes problem solving styles, decision-making models and approaches, personal decision making, and evaluation.

Prerequisite(s): FSC 273.**FSC 280 Fire Chief Preparation****4 cr. hrs. 4 periods (4 lec.)**

Preparation for professional fire personnel to become chief officers. Includes incident command, communication, and disaster management.

FSC 289 Current Issues in Fire Science**2 cr. hrs. 4 periods (1 lec., 3 lab)**

Study of current issues in the fire service. Includes developing and writing an independent, applied research project, utilizing various computer applications for formatting and design, and use of the Internet and library resources.

Recommendation: WRT 101 or an equivalent AGEC course that prepares student to complete the independent research project which requires college level writing skills.

Information: Completion of twenty credits in FSC prefix courses is required before enrolling in this course.

Fitness and Sport Sciences

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

FSS 155 Athletic-Academic Success**2 cr. hrs. 2 periods (2 lec.)**

Survey of successful educational strategies in support of individual academic plans, career goals, and personal decision making. Includes taking the first step, goals and time, creative thinking, memory, note-taking skills, disarm tests, and communicating. Also includes health and nutrition, diversity, and resources.

Information: May be taken three times for a maximum of six credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FSS 182 Theory of Coaching Basketball**2 cr. hrs. 2 periods (2 lec.)**

Instruction in the theory of coaching basketball including techniques, methods, and ideas. Includes introduction, role of the coach, program development, and fundamentals and techniques.

Recommendation: Participation on a basketball team or league and some knowledge of the game before enrolling in this course.

FSS 183 Theory of Coaching Baseball**2 cr. hrs. 2 periods (2 lec.)**

Instruction in the theory of coaching baseball techniques and methods. Includes role of the coach, game management, and improving performance.

Recommendation: Participation on a baseball team or league and some knowledge of the game before enrolling in this course.

FSS 184 Theory of Coaching Football**2 cr. hrs. 2 periods (2 lec.)**

Instruction in the theory of coaching football including techniques, methods, and ideas. Includes introduction, role of the coach, program development, and fundamentals and techniques.

Recommendation: Participation on a football team or league and some knowledge of the game before enrolling in this course.

FSS 208 Group Fitness Instructor**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Gain knowledge necessary to prepare for a nationally accredited certification exam as a group fitness instructor. Includes introduction to group fitness class and to the certified group fitness instructor.

Prerequisite(s): Completion of or concurrent enrollment in: FSS 234 or 234A or 234B.

Information: This course requires physical activity and is intended for students pursuing the Fitness Professional certificate program.

FSS 218 Professional Activities: Weight Training**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to resistance training principles. Includes history, anatomy and physiology, biomechanics and kinesiology, weight training principles and concepts, assessment and program development.

Prerequisite(s): Completion of or concurrent enrollment in: FSS 234 or 234A or 234B.

Information: This course requires physical activity and is intended for students pursuing the Fitness Professional Certificate program.

FSS 234 Fundamentals of Exercise Science**4 cr. hrs. 4 periods (4 lec.)**

Overview of various systems, reactions, and adaptations to exercise and movement. Includes muscular system and anatomy, nervous system, kinesiology, metabolism, principles of exercise training, adaptations to exercise training; and the cardiovascular, respiratory, and endocrine systems.

Information: FSS 234A and 234B together constitute FSS 234.

FSS 234A Fundamentals of Exercise Science: Module A**2 cr. hrs. 2 periods (2 lec.)**

Overview of various systems, reactions, and adaptations to exercise and movement. Includes muscular system and anatomy, nervous system, kinesiology, metabolism, and principles of exercise training.

Information: FSS 234A and 234B together constitute FSS 234.

FSS 234B Fundamentals of Exercise Science: Module B**2 cr. hrs. 2 periods (2 lec.)**

Overview of various systems, reactions, and adaptations to exercise and movement. Includes exercise training, metabolism; and the cardiovascular, respiratory, and endocrine systems.

Information: FSS 234A and 234B constitute FSS 234.

FSS 236 Health Communication: Behavioral Change**2 cr. hrs. 2 periods (2 lec.)**

Communication skills and interviewing techniques for the fitness professional. Includes psychological theories, stages of change, and communication techniques.

Prerequisite(s): Completion of or concurrent enrollment in: FSS 234 or 234A or 234B.

Information: This course is intended for the Fitness Professional Certificate program and continuing education for fitness professionals, coaches, and physical education teachers.

FSS 238 Introduction to Sports Injury Management**3 cr. hrs. 3 periods (3 lec.)**

Introduction to principles and techniques of preventing, recognizing, treating, and rehabilitating sports related injuries. Includes overview of sports injury management, recognition of common sports injuries, taping/wrapping techniques, principles of rehabilitation, and event preparation and risk management.

FSS 241 Nutrition for Exercise and Sport**3 cr. hrs. 3 periods (3 lec.)**

Examination of the relationship between nutrition and the human body. Includes introduction to nutrition, food habits, food selection for optimal exercise performance, diet analysis, eating disorders, and application to the athlete.

Information: This course is intended for the Fitness Professional Certificate program and professional development for coaches.

FSS 260 Business Practices for the Personal Trainer**2 cr. hrs. 2 periods (2 lec.)**

Practices associated with employment, creating, and managing a personal training business. Includes introduction to the fitness industry, creating your own personal training business, marketing and managing a personal training business; legal and professional responsibilities; and financing and accounting principles.

Information: This course is intended for the Fitness Professional Certificate program and continuing education for fitness professionals, coaches, and physical education teachers.

FSS 262 Personal Trainer: Special Populations**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Exercise management for persons with chronic diseases. Includes medical model health appraisal, allied health profession referrals, chronic disease and disabilities, and functional exercise adaptations.

Prerequisite(s): FSS 218 and 276.

Information: This course is intended for students in the Fitness Professional Certificate program or for current physical education teachers or healthcare providers for continuing education credit. Students who are not currently certified as personal trainers must be in the second or later semester of the certificate program before enrolling in this course.

FSS 271 Sport Psychology**3 cr. hrs. 3 periods (3 lec.)**

Development of the basics of sports psychology. Includes psychological perspective, psychology skills for coaches, psychological skills for athletes, and implementing skills training.

Information: This course is intended for the Coaching Certificate program and continuing education for fitness professionals, coaches, and physical education teachers.

FSS 272 Coach Techniques/Practices**3 cr. hrs. 3 periods (3 lec.)**

Coaching Techniques and Practices Concepts and strategies for teaching athletes both new skills and fine tuning of existing skills. Includes preparing to teach skills; presenting, developing, and maintaining skills; and cognitive processes involved in skills.

Information: Appropriate for coaches of athletes of all ages and skill levels.

FSS 273 Sport Physiology**3 cr. hrs. 3 periods (3 lec.)**

Principles of fitness training for peak performance. Includes sport physiology and the athlete, training for muscular and energy fitness, and designing training programs.

Information: This course is intended for the Coaching Certificate program and continuing education for fitness professionals, coaches, and physical education teachers.

FSS 276 Exercise Testing and Prescription**3 cr. hrs. 3 periods (3 lec.)**

Assessment and interpretation of results for individualized programs designed for cardiovascular endurance, muscular strength and endurance, flexibility, and body composition. Includes exercise pre-participation health screening, assessment, interpretation of results, variables in program design, and exercise prescription.

Prerequisite(s): Completion of or concurrent enrollment in: FSS 234 or 234A or 234B.

Information: This course is intended for students pursuing the Fitness Professional Certificate program.

FSS 277 Cardiovascular Training: Physiology and Programming**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Cardiovascular principles underlying assessment and program development. Includes risk assessment, development of goals, program development, and special considerations.

Prerequisite(s): Completion of or concurrent enrollment in: FSS 234 or 234A or 234B.

Information: This course requires physical activity and is intended for students pursuing the Fitness Professional Certificate program.

FSS 280 Weight Management Specialist**1 cr. hrs. 1 periods (1 lec.)**

Principles of behavior change, communication, psychology, and assessment for weight management success. Includes client assessment and communication, basic nutritional guidelines, and developing a plan.

Information: This course is intended for the Fitness Professional Certificate, Fitness and Wellness Specialist Certificate, and continuing education for fitness professionals, coaches, and physical education teachers.

Recommendation: Completion of FSS 236 or concurrent enrollment. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FSS 281 Capstone: Certified Personal Trainer**1 cr. hrs. 1 periods (1 lec.)**

Comprehensive examination of the different areas of study for the personal trainer. Includes exercise physiology, anatomy and kinesiology, nutrition, health screening and fitness assessments, programming, communication, special populations, injuries and emergency procedures, and legal and professional responsibilities.

Prerequisite(s): Successful completion of or current enrollment in: FSS 208 and 218; 234 or 234A or 234B; 276, and 277.

Information: This course is intended for the Fitness Professional Certificate program. Prerequisites may be waived with consent of instructor. Upon successful completion of this course, students will be able to sit for a national exam.

FSS 285 Principles of Athletic Coaching**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the principles of athletic coaching. Includes principles of behavior, teaching, exercise training, and management.

FSS 291 Fitness and Sport Sciences Internship**3-4 cr. hrs. 7-10 periods (1 lec., 6-9 lab)**

Volunteer fitness professional field experience at an approved work site. Includes communication in the fitness facility, positive work attitudes and practices, fitness professional ethics, fitness professional systems, and professional development. Also includes employment strategies, final evaluation, employment interview, and fitness professional field experience.

Prerequisite(s): FSS 208, 218, 234 (or 234A and 234B), 236, 276, and 277 or concurrent enrollment.

Information: May be taken concurrently with above prerequisites in the last semester. Designed for students in their final semester of course work in the Fitness Professional Certificate program. This course requires approximately 90 hours of supervised internship time at two or more facilities, in addition to weekly one hour lecture periods.

FSS 296 Independent Study in Fitness and Sport Sciences**1-4 cr. hrs. 1-4 periods (1-4 lec.)**

Students independently continue their academic development in health, physical education, recreation, coaching, dance, or fitness, with the help of a faculty member.

Information: May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Consent of instructor is required before enrolling in this course.

FSS 299 Co-op: Fitness Professional**1 cr. hrs. 1 periods (1 lec.)**

Introduction to Cooperative Education which provides for success in securing and retaining a job related to subject area. Includes communication skills, time and energy management, stress and its management, and careers. Also includes placing yourself on the job market, principles, theories, and practices in the career field, and problems in the work situation.

Corequisite(s): FSS 299WK

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. This course is intended for the Fitness Professional program and may be taken in the 2nd semester or later upon satisfactory completion of either FSS 276 or FSS 277.

FSS 299WK Co-op Work: Fitness Professional**2 cr. hrs. 10 periods (10 lab)**

A supervised cooperative work program for students in an occupation related area. Teacher-coordinators work with students and their supervisors.

Corequisite(s): FSS 299

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. This course is intended for the Fitness Professional program and may be taken in the 2nd semester or later upon satisfactory completion of either FSS 276 or FSS 277.

Fitness and Wellness

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

FAW 104F1 Conditioning: For Physically Demanding Jobs**1 cr. hrs. 2 periods (2 lab)**

Total body conditioning designed to prepare or enhance fitness required for physically demanding professions such as law enforcement, fire-fighting, or the military. Includes personal safety and preparation, fitness assessments and goal setting, strength and conditioning, and reassessment.

Information: This course is intended for individuals who are preparing for a job related physical fitness test or who have physically demanding jobs. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 104F2 Conditioning: Speed, Agility, and Quickness**1 cr. hrs. 2 periods (2 lab)**

Total body conditioning designed to enhance sport-related fitness for athletes or fitness enthusiasts. Includes personal safety and preparation, fitness assessments and goal setting, and conditioning.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. This course is intended for individuals who have been participating in regular conditioning or sport activities.

FAW 105 Strength and Conditioning for Sport**1 cr. hrs. 2 periods (2 lab)**

Advanced sport-specific programs of strength and conditioning designed to enhance athletic performance. Includes focus on advanced assessments, sport related drills, and sport conditioning.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 106F2 Individual Fitness: Running**1 cr. hrs. 2 periods (2 lab)**

Cardiovascular conditioning through running and walk/run workouts intended for the beginning and intermediate runner. Includes an introduction to running, personal safety and preparation, components of training, the distances, and designing your training program.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. This course is suitable for students who wish to run a few miles a week to those training for distances up to a marathon.

FAW 106F3 Individual Fitness: Swimming**1 cr. hrs. 2 periods (2 lab)**

Cardiovascular conditioning through lap swimming. Includes essential water and personal safety, basic stroke review, techniques of endurance swimming, and personal fitness assessment and activity modifications.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. This course is not suitable for students with a fear of water or who do not have some initial swimming skill.

FAW 106F4 Individual Fitness: Walking**1 cr. hrs. 2 periods (2 lab)**

Cardiovascular conditioning, improved fitness, and weight management through various walking workouts. Includes introduction to walking, personal safety and preparation, components of training, correcting common faults, designing your training program, and race walking techniques.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 110F1 Weight Training and Cardiovascular Fitness Level I**1 cr. hrs. 2 periods (2 lab)**

Introduction to a personalized fitness program using resistance, cardiovascular, and flexibility training. Includes orientation to the fitness facility, personal fitness assessment and activity modifications, and principles of basic program design.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. This course is appropriate for students desiring to improve either health fitness or athletic performance and may NOT be taken concurrently with FAW 110F2 or FAW 110F3.

FAW 110F2 Weight Training and Cardiovascular Fitness Level II**2 cr. hrs. 4 periods (4 lab)**

A personalized fitness program using resistance, cardiovascular, and flexibility training. Includes review procedures of the fitness facility, personal fitness assessment and activity modifications, and principles of basic program design.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. This course is appropriate for students desiring to improve either health fitness or athletic performance and may NOT be taken concurrently with FAW 110F1 or FAW 110F3. This course requires twice the time commitment in lab hours as FAW 110F1.

FAW 110F3 Weight Training and Cardiovascular Fitness Level III**2 cr. hrs. 4 periods (4 lab)**

Continuation of FAW 110F1 or FAW 110F2. Includes reviewing procedures of the fitness facility, personal fitness assessment and activity modifications, principles of program design, and written assignments.

Prerequisite(s): FAW 110F1 or FAW 110F2.

Information: May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. This course is appropriate for students desiring to improve either health fitness or athletic performance and may NOT be taken concurrently with FAW 110F1 or FAW 110F2. Prerequisites may be waived with consent of instructor. This course requires the same time commitment in lab hours as FAW 110F2 but includes written assignments.

FAW 112F1 Ballroom/Latin Dance**1 cr. hrs. 2 periods (2 lab)**

Introduction to ballroom and Latin dancing. Includes key components of each dance, floorwork/locomotor skills, dancing as a total activity, personal fitness assessment and activity modifications, and evaluation.

Information: Traditional ballroom dances covered are the six majors: Foxtrot, Waltz, East Coast Swing, Tango, Cha Cha, and Rumba. Other popular social dances that may be covered are the Salsa/Mambo, Night Club Two Step, and West Coast Swing. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 113F1 Belly Dance**1 cr. hrs. 2 periods (2 lab)**

Introduction to Egyptian, Turkish, and American belly dance with emphasis on foot placement and efficient execution of basic skills. Includes key components of belly dance, class protocol, dancing as a total activity, personal fitness assessment and activity modifications, and evaluation of basic belly dance skills.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 123F1 Salsa/Latin Dance**1 cr. hrs. 2 periods (2 lab)**

Introduction to salsa and other Latin dances with emphasis on basic steps, turns, and techniques to build confidence for dancing socially. Includes key components of each dance, floorwork and locomotor skills, and personal fitness assessment and activity modifications.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 128F3 Cardio Cross-Training**1 cr. hrs. 2 periods (2 lab)**

Cardiovascular and muscular exercises generally set to music and performed rhythmically. Includes personal safety and preparation, personal fitness assessment and activity modifications, rhythmic cardio routines, and interval training.

Information: This course will utilize a variety of cardiovascular training modalities which may include floor exercise, steps, and interval training. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 128F6 Cardio Step**1 cr. hrs. 2 periods (2 lab)**

Cardiovascular and muscular exercises set to music, performed rhythmically using basic to complex stepping patterns on the floor and on a raised platform. Includes personal safety and preparation, personal fitness assessment and activity modifications, and elements of rhythmic cardio routines.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 129F3 Zumba®**1 cr. hrs. 2 periods (2 lab)**

Cardiovascular and muscular endurance exercises inspired by Latin dance and music using Zumba® techniques. Includes personal safety and preparation, personal fitness assessment and activity modifications, and elements of cardio routines.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 130 Boot Camp Style Circuit Training**1 cr. hrs. 2 periods (2 lab)**

Total body conditioning using various exercises, stations, and equipment which provides a cardiovascular challenge while emphasizing development of muscular strength and endurance. Includes personal safety and preparation, personal fitness assessment and activity modifications, and exercise techniques.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 131 Indoor Cycling**1 cr. hrs. 2 periods (2 lab)**

Cardiovascular conditioning set to music and performed on a stationary bicycle. Includes personal safety and preparation, key concepts, personal fitness assessment and activity modifications, and elements of indoor cycling training.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 132 Kickboxing**1 cr. hrs. 2 periods (2 lab)**

Total body conditioning using various kickboxing exercises, stations, and equipment that provide a cardiovascular challenge while emphasizing development of muscular strength and endurance through upper and lower body striking activities. Includes personal safety and preparation, personal fitness assessment and activity modifications, and kickboxing skill development.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Students are expected to provide their own bag gloves or hand wraps for contact with the bags and pads.

FAW 134F1 Pilates**1 cr. hrs. 2 periods (2 lab)**

Introduction to the six core principles of Pilates in individual exercises and sequences of movements. Includes key components of Pilates integrative practice, and personalizing one's practice. Also includes emphasis on total body conditioning to improve strength, flexibility, coordination, proper body alignment, breath control, and overall body awareness.

Information: This course does not use reformers and is primarily mat based. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 136 Strength and Flexibility**1 cr. hrs. 2 periods (2 lab)**

Muscular strength, endurance, and flexibility exercises designed to improve total body fitness with exercises generally set to music. Includes personal safety and preparation, fitness assessment and activity modifications, and exercise techniques.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 138F1 Yoga**1 cr. hrs. 2 periods (2 lab)**

Introduction to stress reduction through yoga. Includes key components of yoga, essential movements and postures, mind-body practice, personalizing one's practice, and personal fitness assessment and activity modifications.

Information: There are many styles of yoga and the specific philosophy offered in a given section will reflect that of the instructor; however, this course is gentle to moderate intensity. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 148F1 Golf**1 cr. hrs. 2 periods (2 lab)**

Fundamentals of golf intended for the novice or player with limited experience. Includes key components of each shot, essentials for game play, game management, and personal fitness assessment.

Information: A required range and/or course fee will be payable to the golf course. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 155F1 Tennis**1 cr. hrs. 2 periods (2 lab)**

Fundamentals of tennis intended for the novice or player with limited experience. Includes key components of tennis, fundamental stroke development, game management, and personal fitness assessment.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 158 Sports Officiating**3 cr. hrs. 3 periods (3 lec.)**

Familiarization with and application of the rules of various sports from the standpoint of the official. Includes introduction to the art of officiating, discussion of interpretation of rules for each sport, officiating duties, and guest officials and coaches from each sport. Also includes field experience at Pima team scrimmages.

Recommendation: WRT 090 or 096 or satisfactory score on the writing assessment test. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 163 Self Defense for Women**1 cr. hrs. 2 periods (2 lab)**

Introduction to the mental attitudes and physical skills needed to defend oneself against an attack. Includes knowing your surroundings, basic safety location techniques, and defensive physical skills.

Information: May be taken three times for a maximum of three credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 165 Tai-chi Chuan**1 cr. hrs. 2 periods (2 lab)**

Fundamentals of T'ai-chi chuan, a form of martial arts. Includes an introduction, principles, T'ai-chi for a healthier lifestyle, solo exercises, self-defense, and personal fitness assessment and activity modifications.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 166 Football**1 cr. hrs. 2 periods (2 lab)**

Fundamental football skills for the student athlete or recreational player. Includes key component of football, personal safety and preparation, individual skills, and team skills.

Information: May be taken two times for a maximum of two credit hours. If course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 167 Baseball**1 cr. hrs. 2 periods (2 lab)**

Fundamental baseball skills for the student athlete or recreational player. Includes key components of baseball, personal safety and preparation, individual skills, and team skills.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 168 Basketball**1 cr. hrs. 2 periods (2 lab)**

Fundamental basketball skills for the recreational player. Includes key components of basketball, personal safety and preparation, individual skills, and team skills.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 170 Soccer**1 cr. hrs. 2 periods (2 lab)**

Fundamental soccer skills for the recreational player. Includes key components of soccer, personal safety and preparation, individual skills, and team skills.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 173 Volleyball**1 cr. hrs. 2 periods (2 lab)**

Fundamental volleyball skills for the student athlete or recreational player. Includes personal safety and preparation, individual skills, and team skills and systems.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

FAW 182 Healthy Living and Mind-Body Training**3 cr. hrs. 3 periods (3 lec.)**

Promotion of self-awareness of our daily lifestyle choices that impact our health and well-being. Includes dynamic alignment training, postural assessment, mind-body (somatic) training, wellness model, nutrition, relaxation, and self-care techniques.

FAW 183 Health Coach Professional**3 cr. hrs. 3 periods (3 lec.)**

Introduction to health coach professional and methods of facilitating behavioral change. Includes communication strategies for effective coaching, nutrition and physiological science, client screening and assessment, and nutrition and exercise program design and implementation.

FAW 184 Health, Wellness, and Physical Activity**3 cr. hrs. 3 periods (3 lec.)**

Development of skills for personal lifestyle changes that promote health, wellness, and fitness over a lifetime. Includes physical activity, special considerations, nutrition and body composition, and stress and health.

FAW 291 Fitness and Wellness Internship**2 cr. hrs. 5 periods (.5 lec., 4.5 lab)**

Volunteer health coach and employee wellness field experience at approved work sites. Includes positive work attitudes and practices, professional ethics, and employment strategies.

Prerequisite(s): Completion of or concurrent enrollment in: FAW 182, 183, 184, FSS 234 (or 234A and 234B), FSN 154 or FSS 241.

Information: May be taken concurrently with above prerequisites in the last semester. Designed for students in their final semester of course work in the Fitness and Wellness Specialist Certificate program.

Food Science & Nutrition

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

FSN 127HC Human Nutrition and Biology: Honors

4 cr. hrs. 6 periods (3 lec., 3 lab)

Principles of nutrition presented in the context of human biology. Includes chemistry, digestion, absorption, and metabolism of nutrients. Also includes biological and nutritional perspectives on various health issues such as cardiovascular disease, hypertension, cancer, diabetes, and osteoporosis, including genetic and epigenetic effects. Also covers analysis of scientific studies relating to nutrition. Also includes additional Honors content.

Information: Same as BIO 127HC. Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive research using the highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in format appropriate for the discipline with research presented in class or to a wider audience.

FSN 127IN Human Nutrition and Biology

4 cr. hrs. 6 periods (3 lec., 3 lab)

Principles of nutrition presented in the context of human biology. Includes chemistry, digestion, absorption, and metabolism of nutrients. Also includes biological and nutritional perspectives on various health issues such as cardiovascular disease, hypertension, cancer, diabetes, and osteoporosis, including genetic and epigenetic effects. Also covers analysis of scientific studies relating to nutrition.

Information: Same as BIO 127IN.

FSN 154 Nutrition

3 cr. hrs. 3 periods (3 lec.)

Examination of nutrients and their use by the body for growth and development. Includes maintenance of health through proper diet.

French

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

FRE 101 Elementary French I

4 cr. hrs. 4 periods (4 lec.)

Introduction to French. Includes basic listening, reading, and writing skills and cultural and geographic awareness.

FRE 102 Elementary French II

4 cr. hrs. 4 periods (4 lec.)

Continuation of FRE 101. Includes further development of oral and written forms, pronunciation, and additional grammatical structures, interpersonal transactions, and geographical and cultural distinctions. Also includes an emphasis on balancing more complex structures with active communication.

Prerequisite(s): FRE 101.

FRE 201 Intermediate French I

4 cr. hrs. 4 periods (4 lec.)

Continuation of FRE 102. Includes intermediate grammar structures and vocabulary contexts in oral and written forms and using a variety of materials in the target language and cultures to promote proficiency in reading, writing, speaking and listening.

Prerequisite(s): FRE 102.

Information: Prerequisite(s) may be waived with two years of high school French. This course will be conducted primarily in French.

FRE 202 Intermediate French II

4 cr. hrs. 4 periods (4 lec.)

Continuation of FRE 201. Includes intermediate grammar structures and vocabulary contexts in oral and written forms and use of a variety of materials in the target language and cultures to promote proficiency in reading, writing, speaking, and listening. Also includes reading selections from authentic media, advanced conversation and discussions, and compositions using intermediate grammar structures.

Prerequisite(s): FRE 201.

Information: This course will be conducted primarily in French.

FRE 296 Independent Study in French**1-4 cr. hrs. 1-4 periods (1-4 lec.)**

Independent study in French literature, grammar, or special projects under the supervision of an instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Game Design

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

GAM 101 Game Design I**4 cr. hrs. 4 periods (4 lec.)**

Textual analysis of game play. Includes history of games, formal elements of the game, game design elements, documentation, playtesting, game shapes, serious games, impact of games on culture, psychological impact of games, working in the game industry, and digital game development.

GAM 102 Game Design II**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Continuation of GAM 101. Includes linear narratives, nonlinear narratives, structure of the game, genre, dramatic traditions, experimental games, process, communication, and concept development.

Prerequisite(s): GAM 101.**GAM 120 Introduction to Game Programming****4 cr. hrs. 5 periods (3 lec., 2 lab)**

Introduction to game engine programming. Includes Unity 3D game engine, C# language features, input interaction, image maps, user interface (UI), particles, and three-dimensional (3D) models. Prerequisites: GAM 101.

Recommendation: Previous or concurrent enrollment in MAT 145 (preferred) or MAT 142 or higher. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.**GAM 150 Game Programming I****4 cr. hrs. 5 periods (3 lec., 2 lab)**

Iterative game programming using Unity and intermediate C# features. Includes spatial math, version control, serialization, rendering, meshes, animation, design patterns, and optimization.

GAM 151 Game Programming II**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Continuation of GAM 150. Intermediate concepts of game programming using managed DirectX and C#. Includes graphic concepts, High Level Shader, sound, and user input.

Prerequisite(s): GAM 150.**GAM 201 Game Design III****4 cr. hrs. 5 periods (3 lec., 2 lab)**

Continuation of GAM 102. Includes conceptualizing a game; prototyping; playtesting; functionality, completeness, and balance, controls and interface; design team; and storyboarding.

Prerequisite(s): GAM 102 or 120.**GAM 218 Game Design Portfolio Capstone****4 cr. hrs. 5 periods (3 lec., 2 lab)**

Production of a professional quality game design portfolio with a focus on a comprehensive capstone project. Includes production of a digital art portfolio, development of a game trailer, playable prototype, project management, current digital arts tools and processes, resumes and interviews, and presentation of a portfolio.

Prerequisite(s): GAM 120 or 201.

GAM 296 Independent Study in Game Design**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Self-directed projects in game programming at the advanced level. Includes defining a project, tool and medium, conceptualize and execute a project, professional environment, and completing and critiquing the project.

Recommendation: Completion of CIS 142, CIS 278 and GAM 150 is highly recommended before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: May be taken four times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Gender and Women's Studies

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

GWS 100 Introduction to Feminist Studies**3 cr. hrs. 3 periods (3 lec.)**

Interdisciplinary survey and analysis of women's issues in structured inequalities and globalization. Includes feminist studies: study of gender, culture, and society; theoretical approaches to gender; learning gender socialization; contemporary feminist issues: socialization, work, and family; body and health issues; gender issues and intimacy; gender and the economy; gender, politics, government, and the military; gender, education, creativity, and language; and gender and spirituality.

GWS 201 La Chicana**3 cr. hrs. 3 periods (3 lec.)**

Interdisciplinary analysis of Chicanas/Mexicanas' status in the United States. Includes Chicana/Mexicana scholarship and Social Justice Movements, and Chicana/Mexicana feminism in the Southwest, Chicana/Mexicana community empowerment, Chicanas/Mexicanas on the U.S.-Mexico border.

Information: Same as MAS 201.

GWS 202 Sexuality, Gender and Culture**3 cr. hrs. 3 periods (3 lec.)**

Anthropological examination of gender identity, roles, relations, and variation. Includes theories and methods of the anthropology of sex and gender, historical origins and development of the sub-discipline, and sex, gender and sexuality in cross-cultural, ethnographic perspective. Also includes selected case studies and cross-cultural frameworks for analysis.

Information: Same as ANT 202.

GWS 280 Feminist Research Methods**3 cr. hrs. 3 periods (3 lec.)**

Introduces research methods applied in contemporary feminist research. Includes introduction to feminist research, research methods, methodologies, and epistemology, feminist construction of knowledge, feminist research as Theory in Action, qualitative research methods/cross-cultural approaches, feminist research issues of power, academic visibility, empowerment, ethics, social justice and agency, and implications of feminist research.

General Technical Writing

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

GTW 101 Writing for Trades and Technical Occupations**3 cr. hrs. 3 periods (3 lec.)**

Applied technical reading and writing components necessary for trade and industrial occupations. Includes review of grammar; spelling and sentence building basics; reading trade and technical texts critically; and practical application of writing including writing for clarity, accuracy and professionalism as they relate to job functions, occupational requirements and effective communications across trades.

Prerequisite(s): ICS 079 with a B or better, or required score on the writing assessment test for WRT 090.

General Technologies Math

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

GTM 105 Applied Technical Mathematics

3 cr. hrs. 3 periods (3 lec.)

Applied geometry and trigonometry operations. Includes review of basic math operations, review of pre-algebra, elements of geometry, plane trigonometry, and practical applications.

Prerequisite(s): With a grade of C or better: ICS 081 or MAT 086 or completion of module 15 in MAT 089A or satisfactory score on the Mathematics assessment test.

GTM 105V Applied Technical Mathematics for Aviation

3 cr. hrs. 3 periods (3 lec.)

Applied geometry and trigonometry operations. Includes review of basic math operations, review of pre-algebra, elements of geometry, plane trigonometry, and aviation practical applications.

Prerequisite(s): With a grade of C or better: ICS 081 or MAT 086 or completion of Module 15 in MAT 089A or satisfactory score on the Mathematics assessment test.

Geography

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

GEO 101IN Physical Geography: Weather and Climate

4 cr. hrs. 6 periods (3 lec., 3 lab)

Introduction to the physical elements. Includes earth-sun relationships, atmospheric processes, global heat balance, global pressure and temperature patterns, annual weather and climate patterns, weather and air pollution, urban influences on weather and climate, and climatic change. Also includes weather and people, wave cyclones of middle latitudes, weather maps and weather prediction, basic ecological principles, and energy.

GEO 102IN Physical Geography: Land Forms and Oceans

4 cr. hrs. 6 periods (3 lec., 3 lab)

Introduction to the surface of the earth and the forces of nature that shape it. Includes continental drift and plate tectonics, geomorphic processes, the hydrologic cycle, pollution esthetics of landforms, recreation and other utilization, and map reading and interpretation.

GEO 103 Cultural Geography

3 cr. hrs. 3 periods (3 lec.)

Examination of the human world from a geographic perspective. Includes geography as a discipline, culture and human geography, the changing Earth, descriptive fundamentals of population geography, migration, and geography of language and religion. Also includes rural traditions and livelihoods, urban geography, economic changes and industrialization, as well as political and medical geography.

GEO 104 World Regional Geography

3 cr. hrs. 3 periods (3 lec.)

Geographic concepts and information organized by conventional regions and nations. Includes geographic perspectives on the physical environment, and aspects of culture such as: population, language, religion, political systems, economic development, health, and history.

GEO 265 Mapping Concepts

1 cr. hrs. 1 periods (1 lec.)

Introduction to the practical use of maps. Includes map basics and attributes, scales and measurements, direction, geographic coordinate systems, relief and contours, and aerial photography.

Information: Same as ANT/ARC/GIS 265.

GEO 267 Introduction to Geographic Information Systems**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to geographic information systems (GIS) using the industry standard ESR software. Includes data types, data management, coordinate systems and map production. Also includes understanding attribute data, basic editing and queries using SQL.

Prerequisite(s): ANT/ARC/GEO/GIS 265 or concurrent enrollment.

Information: Prerequisite may be waived with consent of instructor. Basic computer skills are required before enrolling in this course. Same as ANT/ARC/GIS 267.

GEO 296 Independent Studies in Geography**.5-6 cr. hrs. 1-12 periods (.25-3 lec., .75-9 lab)**

Students independently continue their studies in Geography under the supervision of a faculty member.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of six credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Geology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

GLG 101IN Physical Geology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to the physical aspects of the Earth's crust. Includes scientific measurements, maps, and the scientific method; hands-on identification and assessment of rocks and minerals; and introduction to geology, earth composition, surface processes, subsurface processes, investigative tools, geologic structures, geologic resources, and earth history. Also includes a field trip to observe and interpret geologic processes in a natural setting.

GLG 102IN Historical Geology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to the physical, chemical, and biological history of the Earth, including hands-on identification and classification of major fossil groups according to their phyla, ages, and ecosystems. Includes scientific measurements, maps, scientific method, history of historical geology (Uniformitarianism, Catastrophism); identification and interpretation of rocks and sedimentary textures, environments, and structures; geologic time, the evolution of life, planetary evolution, plate tectonics, evolution of the Earth's surface (including the physical environments, resources, and life of the Precambrian, Paleozoic, Mesozoic, and Cenozoic); and human evolution and human impacts. Also includes a field trip to observe rocks and structures and interpret geologic history and fossils in a natural outdoor setting.

GLG 110IN Geological Disasters and Environmental Geology**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Survey of geologic processes with respect to the interactions between humans and the Earth. Includes identifying geologic hazards, understanding the challenges of predicting and preventing natural disasters, and mitigating and preventing pollution; the relationship of natural resources to population distribution, resource usage and impacts, and waste management and pollution prevention; and the hydrologic cycle, plate tectonics, volcanoes, earthquakes, and catastrophic events, such as floods, fires, landslides, earthquakes, and volcanic action. Also includes water quality, resource availability, toxic and radioactive waste disposal problems and proposed solutions, global climate change, sea level rise, greenhouse gases, and extreme weather. Also includes a field trip to investigate local geologic hazards.

GLG 296 Independent Studies in Geology**.5-3 cr. hrs. 1.5-9 periods (1.5-9 lab)**

Independent studies, projects, and/or laboratory exercises in geology. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken three times for a maximum of nine credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Geospatial Information Studies

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

GIS 181 Global Positioning Systems Basics

1 cr. hrs. 1 periods (1 lec.)

Introduction to the use of Global Positioning Systems (GPS) receivers in a field setting for non-technical applications. Includes GPS vocabulary, operation, field data collection and data transfer. Also includes using equipment, resources and facilities of the Archaeology Centre.

Information: Same as ANT/ARC 181.

GIS 265 Mapping Concepts

1 cr. hrs. 1 periods (1 lec.)

Introduction to the practical use of maps. Includes map basics and attributes, scales and measurements, direction, geographic coordinate systems, relief and contours, and aerial photography.

Information: Same as ANT/ARC/GEO 265.

GIS 267 Introduction to Geographic Information Systems

3 cr. hrs. 5 periods (2 lec., 3 lab)

Introduction to geographic information systems (GIS) using the industry standard ESR software. Includes data types, data management, coordinate systems and map production. Also includes understanding attribute data, basic editing and queries using SQL.

Prerequisite(s): ANT/ARC/GEO/GIS 265 or concurrent enrollment.

Information: Prerequisite may be waived with consent of instructor. Basic computer skills are required before enrolling in this course. Same as ANT/ARC/GEO 267.

GIS 281 Global Positioning Systems

1 cr. hrs. 3 periods (3 lab)

Introduction to the technical use of Global Positioning Systems (GPS) receivers in a field setting. Includes review of GPS vocabulary and concepts, comprehensive initialization of handheld GPS receivers, data collection with handheld GPS, the use of mapping software with data from handheld GPS, concepts of differential GPS, operation of and field data collection with precision GPS, and use of software packages for differential correction and map production. Also includes using equipment, resources and facilities of the Archaeology Centre.

Prerequisite(s): ANT/ARC/GIS 181

Information: Prerequisite may be waived with equivalent experience or consent of instructor. Same as ANT/ARC 281.

GIS 284 Computer Cartography and CAD

3 cr. hrs. 5 periods (2 lec., 3 lab)

Cartographic techniques and hardware for computer generation of maps. Includes an introduction to: methods and techniques, and application projects.

Prerequisite(s): ANT/ARC/GEO/GIS 265 or concurrent enrollment.

Information: Same as ANT/ARC 284.

GIS 286 Electronic and Digital Field Mapping

3 cr. hrs. 6 periods (1.5 lec., 4.5 lab)

Overview of the creation of electronic and digital maps in a field setting. Includes an introduction to instrument operation, field data, producing maps, and computer applications.

Prerequisite(s): ANT/ARC 265 and ANT/ARC/GIS 281.

Recommendation: Consult instructor for alternative prerequisite(s).

Information: Same as ANT/ARC 286.

German

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

GER 101 Elementary German I

4 cr. hrs. 4 periods (4 lec.)

Introduction to German. Includes basic listening, reading, and writing skills, and cultural and geographic awareness.

GER 102 Elementary German II**4 cr. hrs. 4 periods (4 lec.)**

Continuation of GER 101. Includes further development of oral and written forms, pronunciation, and additional grammatical structures, interpersonal transactions, and geographical and cultural distinctions. Also includes an emphasis on balancing more complex structures with active communication.

Prerequisite(s): GER 101.

GER 201 Intermediate German I**4 cr. hrs. 4 periods (4 lec.)**

Continuation of GER 102. Includes intermediate grammar structures and vocabulary contexts in oral and written forms and use of a variety of materials in the target language and cultures to promote proficiency in reading, writing, speaking, and listening. Also includes reading selections from authentic media, advanced conversation and discussions, and compositions using intermediate grammar structures.

Prerequisite(s): GER 102 with a grade of C or better.

Information: Two years of high school German may fulfill prerequisite.

GER 202 Intermediate German II**4 cr. hrs. 4 periods (4 lec.)**

Continuation of GER 201. Includes intermediate grammar structures and vocabulary contexts in oral and written forms and use of a variety of materials in the target language and cultures to promote proficiency in reading, writing, speaking, and listening. Also includes reading selections from authentic media, advanced conversation and discussions, and compositions using intermediate grammar structures.

Prerequisite(s): GER 201 with a grade of C or better.

GER 296 Independent Study in German**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Independent study in German literature, or special projects under the supervision of an instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Global Studies

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

GLS 110 Introduction to Cities and Global Society**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the study of the urban environment. Includes exploring the city, city form and city culture, urban diversity, and urban and global dilemmas and possible solutions. Also includes a special emphasis on understanding cities and the impact of globalization at community, national, and international levels.

Information: Same as SOC 110.

Health Care

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

HCA 103 Orientation to Pharmacology**3 cr. hrs. 3 periods (3 lec.)**

An overview of the principles of pharmacology for professional allied health care providers. Includes medication sources, classifications and actions, oversight by the government, administration, and safety precautions. Also includes standard mathematical formulas for converting among measuring systems to assure accuracy in medication dosage and preparation.

HCA 119 Orientation to Human Anatomy and Physiology**3 cr. hrs. 3 periods (3 lec.)**

Orientation to basic anatomy and physiology appropriate for the health care setting. Includes structural organization of the human body, body systems, major organs, and common pathology. Also includes CLIA waived testing and analysis used to determine common disease.

HCA 152 Advanced Cardiovascular Life Support (ACLS)**1 cr. hr. 1 period (1 lec.)**

The Advanced Cardiovascular Life Support (ACLS) provider course is designed for healthcare providers who either direct, or participate in the management of, cardiopulmonary arrest or other cardiovascular emergencies. Includes didactic instruction and active participation in simulated cases, enhance skills in the recognition and intervention of cardiopulmonary arrest, post-cardiac arrest, acute arrhythmia, stroke, and acute coronary syndromes (ACS).

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course. A current Basic Life Support (BLS) certification from the American Heart Association is required for enrolling in this course.

Health Education

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

HED 140 First Aid and Cardiopulmonary Resuscitation**1 cr. hrs. 1 periods (1 lec.)**

Theory and practice for treatment of infants, children, and adults. Includes standard first aid and cardiopulmonary resuscitation (CPR).

Health Information Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

HIT 100 Introduction to Health Information Management**3 cr. hrs. 3 periods (3 lec.)**

An overview of health care delivery systems and mechanisms in the U.S. Includes the medical model of healthcare and delivery, public policy, healthcare finance and regulation, data content structures and standards, information protection, informatics, and the role of leadership.

HIT 101 Introduction to ICD Coding**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to principles and application of the International Classification of Disease (ICD) coding system. Includes overview of coding, introduction to ICD 10th Revision Clinical Modifications/Procedural Coding System (10-CM/PCS). Includes coding conventions, coding guidelines, hospital inpatient, outpatient and physician office coding, and overview of HCPCS.

Recommendation: HIT 105 and BIO160IN. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

HIT 102 CPT Coding**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to principles and application of Current Procedural Terminology (CPT) Coding System. Includes overview of CPT and CPT coding. Also includes the following CPT sections: Anesthesia, Evaluation and Management, Medicine, Radiology, Surgery, and Pathology and Laboratory.

Recommendation: Completion of HIT 105 and BIO 160IN. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

HIT 105 Medical Terminology**3 cr. hrs. 3 periods (3 lec.)**

Terminology used in the medical field. Includes word parts and forms, terms pertaining to the body as a whole, anatomy and structural organization of the body. Also includes terminology of body systems, organs and function including disease processes and symptoms, laboratory tests, clinical procedures and use of medical dictionaries and other resource materials for research and practice.

HIT 108 Health Information Employment Policies**1 cr. hrs. 2.5 periods (.5 lec., 2 lab)**

Prepares students for employment in Health Information Technology. Includes employer requirements for CPR training, employment resources, resume development, Privacy and Security, immunizations, and the criminal background check.

HIT 112 Health Insurance and Medical Billing**3 cr. hrs. 3 periods (3 lec.)**

Overview and principles of the basics of health insurance and medical billing. Includes principles of health insurance and medical billing, health insurance contracts, claims process, insurance terminology, abbreviations, and symbols. Also includes diagnostic and procedural coding (with emphasis on medical terminology, anatomy and physiology), client eligibility and reimbursement processes, health care statistics, and supervision and management.

Prerequisite(s): HIT 101 and 102.

Recommendation: Completion of HIT 100 and 105 are recommended before enrolling in the course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

HIT 125 Pathophysiology and Pharmacology for HIT**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Principals of pharmacology and pathophysiology. Includes disease processes according to body system, causes, diagnosis and treatment with emphasis on drug actions and classifications. Includes pharmacotherapy and laboratory findings; basic concepts in pharmacology, pharmacokinetics, dosage calculations, and pharmacology as applied to disease and conditions distinct to each body system.

HIT 150 Introduction to Health Management Information Systems**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to Health Information Management Systems (HIMS). Includes overview of electronic health record, software, administrative management, scheduling and patient management, HIPAA, and HIM roles and functions. Also includes clinical inputs and outputs; coding; billing and reimbursement; clinical decision support systems and quality improvement; personal health records; patient portals; and HIMS adoption and implementation.

HIT 175 Health Information Statistics and Research**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Principles of health information statistics and research. Includes a statistical approach to healthcare, sources of data collection, data sources and databases. Also includes health care research processes and strategies, project development, data collection, design and analysis, report structure and presentation.

HIT 201 Advanced ICD Coding**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced use of references and source documents for outpatient and inpatient hospital coding. Includes interpretation of International Classification Diseases (ICD), Clinical Modification (CM), and Procedural Coding System (PCS) guidelines relative to application of inpatient and outpatient diagnostic and procedural codes.

Prerequisite(s): HIT 101 and 102.

HIT 202 Advanced Classification Systems Applications**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Advanced application and demonstration of coding skills. Includes use of references and source documents for International Classification of Diseases Clinical Modification and Procedural Coding System (ICD-CM and PCS), Current Procedural Terminology (CPT) coding and evaluation, Uniform Hospital Discharge Data Set (UHDDS), and Diagnostic-Related Group (DRG) guidelines and regulations.

Prerequisite(s): HIT 101 and HIT 102.

HIT 210 Medical Quality Assurance and Supervision**3 cr. hrs. 3 periods (3 lec.)**

Principles of medical quality assurance and supervision. Includes health information management skills and human resource roles and responsibilities. Also includes HIPAA regulations, accreditation and licensure, organizational models, technologies and planning for a professional career in health care.

Prerequisite(s): HIT 100 and 105.

HIT 211 Medicolegal Aspects in Health Information Management**3 cr. hrs. 3 periods (3 lec.)**

Regulatory requirements in health care and application of general principles of law in health information management and legal proceedings. Includes American legal system, court systems and legal procedures, principles of liability, patient record requirements, access to health information, patient rights and confidentiality. Also includes judicial process of health information, specialized patient records, risk management and quality management, HIV information, computerized patient records, health care fraud and abuse, and ethics.

Prerequisite(s): HIT 100 and 105.

HIT 225 Advanced Health Management Information Systems**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Continuation of HIT 150. Applied concepts in Health Information Management (HIM) Systems. Includes the evolution of healthcare legislation and standards; and health records content and documentation. Also includes electronic health record system legislation and implementation; and health information technologies and data analytics.

Prerequisite(s): HIT 150.

HIT 290 Health Information Technology Internship**4.5 cr. hrs. 12.5 periods (.5 lec., 12 lab)**

Health Information Technology Professional Practice experience (PPE) includes meaningful engagement within the healthcare industry through an approved work site or project-based study. Includes HIT skills development, professional networking and communications, goal setting, employment strategies, values and ethics, and use of health information systems and resources.

Prerequisite(s): HIT 105 and 108.

Information: Consent of instructor is required before enrolling in this course. Designed for students in their final semester of course work in the Health Information Technology option. Students complete 180 clock hours of supervised placement at approved work site (or project-based study).

History

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

HIS 101 Introduction to Western Civilization I**3 cr. hrs. 3 periods (3 lec.)**

Pre-history to the Wars of Religion, a period extending from 10,000 BCE to 1648 CE. Includes transition from pre-historic to the historic period, Greco-Roman world, Early, Central, and Late Middle Ages, and Renaissance and Reformation.

HIS 101HC Introduction to Western Civilization I: Honors**3 cr. hrs. 3 periods (3 lec.)**

Pre-history to the Wars of Religion, a period extending from 10,000 BCE to 1648 CE. Includes transition from pre-historic to the historic period, Greco-Roman world, Early, Central, and Late Middle Ages, and Renaissance and Reformation. Also includes Honors content.

Prerequisite(s): Must qualify for Honors program.

Information: Faculty or Advisor approval is required before enrolling in this course. Honors Content: Intensive research using the highest standards and best practices for the discipline; a significant number/variety of readings of both primary and secondary sources; a publishable quality peer reviewed paper or project in a format appropriate for the discipline; and presentation of research, in class or to a wider audience.

HIS 102 Introduction to Western Civilization II**3 cr. hrs. 3 periods (3 lec.)**

History of the origins and development of the modern Western world. Includes Wars of Religion, the Enlightenment, the Eighteenth century, the Nineteenth century, and the Twentieth century.

HIS 102HC Introduction to Western Civilization II: Honors**3 cr. hrs. 3 periods (3 lec.)**

History of the origins and development of the modern Western world. Includes Wars of Religion, the Enlightenment, the Eighteenth century, the Nineteenth century, and the Twentieth century. Also includes additional Honors content.

Information: Must qualify for the Honors program. Instructor or advisor/counselor approval may be required registering for this course. Honors Content may include: Intensive research using the highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in a format appropriate for the discipline with research presented in class or to a wider audience.

HIS 105 Introduction to Chicano Studies**3 cr. hrs. 3 periods (3 lec.)**

Chicano(a) life in historical context since 1848. Includes defining Chicano(a) ideologies and realities from an interdisciplinary perspective. Also includes Chicano(a) history and culture within the world systems of Native Americans, New Spain, Mexico and the United States.

Information: Same as MAS 105.

HIS 113 Chinese Civilization**3 cr. hrs. 3 periods (3 lec.)**

Introductory survey of the civilization of China from its origins to the present. Formative Period (prehistory - 221 B.C.), unification and expansion (221 B.C. - A.D. 221), period of disunity (222-588), flowering of Chinese culture (589-1279), impact of the Mongols on Chinese civilization (1280-1368), Ming Dynasty peace and prosperity (1368-1644), Qing Dynasty - The Manchu Conquest (1644-1911), Republican China (1912-1949), and People's Republic of China (1949-).

HIS 114 Japanese Civilization**3 cr. hrs. 3 periods (3 lec.)**

Introductory survey of the civilization of Japan from its origins to the present. Includes the Formative Period (prehistory-A.D. 250); influence of Chinese civilization on Japan (300-794); Heian Period - emergence of uniquely Japanese cultural forms (794-1185); Kamakura Shogunate - establishment of military government (1185-1336); Ashikaga Shogunate - civil war and the reunification of Japan (1336-1573); Tokugawa Period (1600-1867); Meiji Period (1868-1912); Taisho Period (1912-1925); Showa Period (1926-1989); and Heisei Period (1990-present).

HIS 122 Tohono O'odham History and Culture**3 cr. hrs. 3 periods (3 lec.)**

Survey of Tohono O'odham culture, historical development, and modern issues. Includes development of culture and world view, sources of Tohono O'odham history, role in economic and social development of Northwestern Mexico and Southwestern United States, and contemporary Tohono O'odham issues.

Information: Same as AIS 122.

HIS 124 History and Culture of the Yaqui People**3 cr. hrs. 3 periods (3 lec.)**

Survey of the cultural heritage of the Yaqui people and the history of their struggles to protect Yaqui land and customs. Includes Yaqui origins, pre-Columbian Yaqui society, oral traditions and world view, early Spanish contacts, Catholic influences, economic development, rebellions, resistance and leadership, and policies regarding Native Americans. Also includes the deportation and enslavement of the Yaqui from the 17th to the 20th centuries by the Spanish and American governments and the deportation of the Yaqui by the United States in the 1880's. Also examines acts of genocide and subjugation against the Yaqui in revolutionary Mexico, 20th century relocation and adaptation strategies of the Yaqui in the United States and the Yaqui culture of the 21st century.

Information: Same as AIS 124.

HIS 127 History and Culture of the Mexican-American in the Southwest**3 cr. hrs. 3 periods (3 lec.)**

Historical survey of Mexicano(a)/Chicano(a) people from their indigenous origins in Meso-America and the Gran Chichimeca to the present in the United States. Includes historical writings, movements north under Spain and Mexico, repression and resistance. Also covers the political, economic, religious and social movements of the 19th, 20th and early 21st centuries.

Prerequisite(s): WRT 101.

Information: Same as ANT 127 and MAS 127.

HIS 141 History of the United States I**3 cr. hrs. 3 periods (3 lec.)**

Survey of the major developments in American history from the Columbian voyages to the Era of Reconstruction. Includes Colonial America, the Formative Years - 1776-1815, the Early National Period - 1815-1850, and the coming of the Civil War and its aftermath. Also includes the social, intellectual, and political aspects of early American life.

HIS 141HC History of the United States I: Honors**3 cr. hrs. 3 periods (3 lec.)**

Survey of the major developments in American history from the Columbian voyages to the Era of Reconstruction. Includes Colonial America, the Formative Years - 1776-1815, the Early National Period - 1815-1850, and the coming of the Civil War and its aftermath. Includes the social, intellectual, and political aspects of early American life. Also includes Honors content.

Prerequisite(s): Must qualify for Honors program.

Information: Faculty or Advisor approval is required before enrolling in this course. Honors Content: Intensive research using the highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources; a publishable quality peer reviewed paper or project in a format appropriate for the discipline: presentation of research, in class or to a wider audience.

HIS 142 History of the United States II**3 cr. hrs. 3 periods (3 lec.)**

Survey of the major developments in American history from era of Reconstruction to the present. Includes the era of Reconstruction, the emergence of modern America, the Early 20th Century, and America as a world power. Also includes the social, intellectual, and political aspects of contemporary American life.

HIS 147 History of Arizona**3 cr. hrs. 3 periods (3 lec.)**

Survey of the major developments in the history of Arizona. Includes the Pre-Columbian period through the Spanish era, the Mexican Republic, the years as a U.S. territory, and the time since statehood to the present. Also includes the contributions of the various peoples who have formed the unique cultural and ethnic fabric of this area.

HIS 148 History of Indians of North America**3 cr. hrs. 3 periods (3 lec.)**

History of the cultural development of Native Americans of North America and the interrelations of cultures. Includes Native American origins, early economic and social development, Europeans, eras in Native American history, modern leadership, and research studies.

Information: Same as AIS/ANT 148.

HIS 160 Latin America Before Independence**3 cr. hrs. 3 periods (3 lec.)**

Survey of the history and people of Latin America from indigenous origins to Independence. Includes theory and geography, indigenous Latin America, European backgrounds, colonial economy and society, and resistance and movements for independence in Spanish America.

Prerequisite(s): WRT 101.

Recommendation: Placement on Pima Community College assessment exam into REA 112. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

HIS 161 Modern Latin America**3 cr. hrs. 3 periods (3 lec.)**

Survey of the history and people of Latin America from Independence to the present. Includes Post-Colonial consolidation, United States-Latin America relations, guerilla movements and reactions and Latin America today.

Prerequisite(s): WRT 101.

Recommendation: Placement on Pima Community College assessment exam into REA 112. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

HIS 180 Women in Western History**3 cr. hrs. 3 periods (3 lec.)**

Survey of women's history in the Western World from Antiquity to the Modern Age. Includes Ancient Near Eastern civilizations, women of the Classical World, medieval women, reformation and revolution in early modern and progressive eras, women and war in the Western World, and postwar social developments and movements.

HIS 240 Medieval History**3 cr. hrs. 3 periods (3 lec.)**

A survey of the medieval period of Western Civilization from A.D. 410-1453. Includes an examination of the major political, military, social, economic, religious, artistic, and intellectual events of the Middle Ages.

HIS 245 Abraham Lincoln and the American Civil War**3 cr. hrs. 3 periods (3 lec.)**

Overview of the American Civil War. Includes a survey of conditions that led to the American Civil War; an examination of the major political, military, social and economic events of the Civil War; and a treatment impact of the Civil War on the United States and the Confederate States of America. Also includes an emphasis on the political career of Abraham Lincoln and the destruction of slavery.

HIS 254 History of Women in the United States: The 20th Century**3 cr. hrs. 3 periods (3 lec.)**

Survey of American women's history from 1890 to the present. Includes early 20th century gender, race/ethnicity, class formation, women and war, civil rights, feminist and other social movements, and feminism's change to the present.

HIS 274 The Holocaust**3 cr. hrs. 3 periods (3 lec.)**

Examines the causes, events and legacies of the Nazi assault on humanity. Includes the history of hatred against the Jews and other ethnic, religious, and political groups in Europe, historical antecedents and preconditions of the Holocaust, the rise of the Third Reich and the creation of a racial state, the "Final Solution" and the aftermath.

HIS 280 History of the World Wars**3 cr. hrs. 3 periods (3 lec.)**

Survey of the two world wars of the twentieth century. Includes prelude to war, outbreak of the Great War, war of two fronts, inter-war years, World War II, and post war world. Also includes changes created in society, government, and international relations as a result of the two wars.

HIS 281 Cold War: Soviet Confrontations and Vietnam**3 cr. hrs. 3 periods (3 lec.)**

Causes and effects of US-Soviet confrontations from WW II to 1994. Includes origins of the Cold War from WW II, initial Soviet probes, challenges in the Far East, probes and rhetoric, Soviet globalism, Vietnam, period of detente, end of detente, new challenge to Soviet Expansionism, and new vision and new world order.

Information: This is a continuation course to HIS 280 History of the World Wars; however, HIS 280 is not a prerequisite. This course will require a college level reading ability.

HIS 296 Independent Study in History**1-3 cr. hrs. 1-3 periods (1-3 lec.)**

Independent study in history. Includes topic identification, research plan, data gathering, and presentation of findings.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of three credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Honors Program

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

HON 101 Honors Colloquium**3 cr. hrs. 3 periods (3 lec.)**

An interdisciplinary course introducing honors students to scholarly research, writing, and conversation. Includes defining and debating contemporary issues in the arts, humanities, sciences, social sciences, business, technology, and/or math. Also includes opportunities for students to develop their critical thinking and creativity; to enhance their practices of research, critical reflection, argumentation, and collaboration; to identify and clarify "real world" issues; to improve their problem-solving capabilities using appropriate group interaction; and to explore their understandings of cultural diversity in local and global contexts.

Information: Students must be eligible for Honors courses based on placement tests, and have a 3.5 GPA or higher, and/or be a Pima Scholar before enrolling in this course.

HON 210 College Honors Advisory Council**1 cr. hrs. 1 periods (1 lec.)**

Student representatives to the College Honors Advisory Council (CHAC) attend CHAC meetings and participate in discussions and decision making; participate in Honors Program events and engagement activities, including local campus events; and take on leadership roles in the Honors Program, the Honors Club, PTK, and/or their local campuses.

Prerequisite(s): HON 101 or concurrent enrollment.

Information: May be taken three times for a maximum of three credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

HON 244 Honors Field Excursions**1-3 cr. hrs. 1-3 periods (1-3 lec.)**

Field excursions provide academic development through travel and study. Students study issues and ideas related to the arts, humanities, sciences, social sciences, businesses, technology, and/or math in real world settings. Excursions provide students with direct experience of domestic cultures and subcultures. Excursions may include a range of visits to domestic or foreign cultural and educational sites; to scientific or business locations; local field excursions; or attendance at conferences and meetings.

Recommendation: Consult instructor for prerequisite(s) and/or corequisite(s) specific to planned excursions.

Information: Must qualify for Honors program. Faculty or Advisor approval may be required. Depending on the nature of the excursion, there may be additional prerequisite(s) and/or corequisite(s). May require domestic or foreign travel expenses.

HON 280 Advanced Honors Colloquium**1-3 cr. hrs. 1-3 periods (1-3 lec.)**

In-depth interdisciplinary course enhancing honors students' scholarly research, writing, and conversation. Includes defining, discussing, and debating contemporary issues in the arts, humanities, sciences, social sciences, business, technology, and math. Also includes opportunities for students to develop their creativity; to improve their practices of critical reflection, argumentation, research, and collaboration; to identify and clarify "real world" issues; and to improve problem-solving capabilities using appropriate group interaction. Course content may be organized around special topics, themes,

Information: Must qualify for Honors program. Faculty or Advisor approval may be required before enrolling in this course.

HON 296 Honors Independent Study Project**1-3 cr. hrs. 1-3 periods (1-3 lec.)**

Exploration of special interest areas for Honors students. Content to be determined jointly by student and faculty mentor.

Prerequisite(s): HON 101.*Information:* May be taken three times for a maximum of three credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Hotel and Restaurant Management

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

HRM 100 Introduction to the Hospitality Industry**3 cr. hrs. 3 periods (3 lec.)**

Overview of the hospitality industry, including the food service business, restaurants and hotels, and the meeting and conference industry. Also includes hospitality industry management and leadership; human resources; marketing and promotion; franchising; and ethics in hospitality management.

HRM 101 Front Office Procedures**3 cr. hrs. 3 periods (3 lec.)**

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. Also includes reservations, registration, front office accounting, check out and settlement, night audit, and revenue management.

HRM 104 Hotel Food and Beverage Management**3 cr. hrs. 3 periods (3 lec.)**

Hotel food and beverage operations and management. Includes management structure and functions, personnel management, cost control/quality assurance, tools and equipment, facilities, and purchasing and storage. Also includes volume food management; beverage management and service; food products and preparation techniques; menus and recipes; sanitation; and liability issues.

HRM 110 Food Service Systems Management**3 cr. hrs. 3 periods (3 lec.)**

Introduction the various components of systematic food service management. Includes investigation of management principles, various management control methods, and critical operational functions.

HRM 111 Commercial Food**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to all facets of hot food preparation in a commercial kitchen. Includes the application of proper cooking skills and techniques. Also includes the use and/or preparation of a variety of food items, such as sauces, thickening agents, soups, vegetables, starches, meats, and pastries.

Prerequisite(s): HRM 110*Information:* This course requires 10 hours of commercial kitchen demonstration.**HRM 120 Meetings and Convention Management****3 cr. hrs. 3 periods (3 lec.)**

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. Also includes practical tools for preliminary planning and needs analysis, program design and budgeting, site selection, and on-site management.

HRM 140 Introduction to Bar and Beverage Management**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the fundamental areas of beverage operations. Includes planning of the bar, bar staffing and training, legal regulations, standardized recipes, drink costing and pricing, and beverage production methods and mixology. Also includes product identification; purchasing, receiving, storing and issuing beverages; service of spirits, wine and beer products; marketing and menu development; and cost controls of a beverage operation.

Prerequisite(s): HRM 110.*Recommendation:* Students should be at least 21 years of age.

HRM 150 Hospitality Property Management**3 cr. hrs. 3 periods (3 lec.)**

An 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.

HRM 199 Introductory Co-op: Hotel and Restaurant Management**1 cr. hrs. 1 periods (1 lec.)**

Introduction to cooperative education for first-year students. Includes instruction that supports success in securing and retaining a training job related to hotel and restaurant management. Also includes communication skills; time, energy, and stress management; career information and its uses; the job market; principles, theories, and practices in the career field; and problems in the work environment.

Corequisite(s): HRM 199WK

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

HRM 199WK Co-op Work: Hotel and Restaurant Management**1-8 cr. hrs. 5-40 periods (5-40 lab)**

A supervised cooperative work program for students in hotel and restaurant management. Teacher-coordinators work with students and their supervisors. Variable credit is available by special arrangement.

Corequisite(s): HRM 199

Information: May be taken two times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. offered: Fall, Spring.

HRM 210 Managing Customer Service for the Hospitality Industry**3 cr. hrs. 3 periods (3 lec.)**

Introduction to managing customer service expectations and experiences, with strategies and tactics for managing the customer service experience in all hospitality enterprises. Emphasis on customer satisfaction, customer retention, company profitability, and differing customer service approaches analyzed and evaluated. Topics include: exceptional customer service, communication with the internal customer, handling guest complaints, and managing customer relations. Also includes: how to create a positive customer service climate that harnesses the natural talents of service professionals; guidance on the hiring, training, supporting, retention, and empowerment of service professionals.

Prerequisite(s): HRM 100.**HRM 235 Hospitality Law****3 cr. hrs. 3 periods (3 lec.)**

Examination of legal aspects of hospitality management. Includes basic legal principles governing hospitality operations; the hotel-guest relationship; the hotel's duties to guests and others; laws governing restaurants, foodservice, and bars; and laws relating to hotel employees.

Prerequisite(s): HRM 100.**HRM 289 Hospitality Management Capstone****1 cr. hrs. 1 periods (1 lec.)**

Capstone experience that addresses organizational theory, strategic planning, and simulated problem solving in hospitality management. Includes use of students' awareness of various environmental influences (cultural, political, and social) to solve hospitality business problems. Also includes application of critical thinking skills to preparation of portfolios, case presentations, written case-analysis assignments, interviewing, and resume-writing.

Prerequisite(s): HRM 100, 101, 110, 111, 150 and WRT 102.**HRM 299 Intro to Advanced Co-op: Hotel and Restaurant Management****1 cr. hrs. 1 periods (1 lec.)**

Advanced cooperative education class that supports success in securing and retaining a training job in hotel and restaurant management. Includes communication skills; time, energy, and stress management; career information and its uses; the job market; principles, theories, and practices in the career field; and problems in the work environment.

Corequisite(s): HRM 299WK

Information: A minimum of 12 credit hours of Hotel and Restaurant Management (HRM) prefix courses or one year of related industry work experience is required before enrolling in this course. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

HRM 299WK Advanced Co-op Work: Hotel and Restaurant Management**1-3 cr. hrs. 5-15 periods (5-15 lab)**

A supervised cooperative work program for advanced students in hospitality management. Instructor- coordinators work with students and their supervisors. Variable credit is available by special arrangement.

Corequisite(s): HRM 299

Information: A minimum of 12 credit hours of Hotel and Restaurant Management (HRM) prefix courses or one year of related industry work experience is required before enrolling in this course. May be taken for a maximum of three credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Human Resources Management

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

HRS 101 Introduction to Human Resources Management**3 cr. hrs. 3 periods (3 lec.)**

Practical applications for success in personnel management. Includes human resources management in perspective, meeting requirements, the challenge, function/environment, recruitment, compensation, incentive plans, training and development, and labor relations.

HRS 102 Human Resource Law**3 cr. hrs. 3 periods (3 lec.)**

Legal issues associated with human resources management. Includes hiring, personnel practices, wages and hours, taxes employee benefits, family and medical leave, health and safety, illegal discrimination, workers with disabilities, and termination. May also include issues associated with independent contractors, unions, and lawyers and legal research.

HRS 103 Benefits and Compensation**3 cr. hrs. 3 periods (3 lec.)**

Study of benefits and compensation management. Includes strategic compensation planning, components of the wage mix, job evaluation systems, the compensation structure, governmental regulation of compensation, significant compensation issues, employee benefits programs, employee benefits required by law, discretionary major employee benefits, employee services, reasons and requirements for incentive plans, setting performance measures, administering incentive plans, incentive for non-management employees, incentive for management employees, incentives for executive employees, and gain-sharing incentive plans.

HRS 104 Job Requirements, Recruitment, and Personnel Selection**3 cr. hrs. 3 periods (3 lec.)**

Concepts, techniques, and regulation that apply to job requirements, recruitment, and personnel selection. Includes relationships of job requirements and HRS functions, job analysis, job design, matching people and jobs, sources of information about job candidates, employment tests, the employment interview, and reaching a selection decision.

HRS 105 Training and Development**3 cr. hrs. 3 periods (3 lec.)**

Introduction to training, career development, and appraising and improving performance. Includes the scope of training; conducting, implementing, and evaluating training programs as well as special topics in training and development; elements of career development programs and management succession, career development for a diverse workforce, and personal career development are also explored. Also includes performance appraisal programs, developing an effective appraisal program, performance appraisal methods, and appraisal interview.

HRS 106 Labor Relations**3 cr. hrs. 3 periods (3 lec.)**

Exploration of issues in the area of labor relations. Includes employee rights, disciplinary policies and procedures, appealing disciplinary actions, organizational ethics in employee relations, government regulation of labor relations, the labor relations process, structures, functions, and leadership of labor unions, labor relations in the public sector, contemporary challenges to labor organizations, the bargaining process, trends in collective bargaining, the labor agreement, and administration of the labor agreement.

Humanities

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

HUM 131 Mythology

3 cr. hrs. 3 periods (3 lec.)

Myths, legends, and folktales of the Greeks and Romans. Includes basic concepts of myths, myths of the Greeks and Romans, major Greek divinities and their Roman counterparts, stories about the major divinities, artistic representation of myths, effects of ancient myths on western literary movement, similarities and differences between major mythic systems, and anthropological and psychological approaches to mythic systems. Also includes a humanistic approach to the study of Greek and Roman sacred narratives, stories derived from oral traditions, and cultural events, which invite symbolic analysis.

HUM 196 Independent Studies in Humanities

3 cr. hrs. 3 periods (3 lec.)

Reading and research to be determined between the student and the instructor.

HUM 251 Western Humanities I

3 cr. hrs. 3 periods (3 lec.)

Introduction to major cultures from rise of city-states through the early Roman Christian era. Includes general history of ideas, art, architecture, religion, philosophy, drama, music, and literature from ancient Near Eastern civilizations, and Greek, Roman, and Early Roman Christian civilizations. Also includes readings such as the Epic of Gilgamesh, Homer, Sophocles, Aristophanes, Plato, Aristotle, Virgil's Aeneid, Hebrew and the Christian Scriptures, and St. Augustine.

Prerequisite(s): WRT 101.

HUM 252 Western Humanities II

3 cr. hrs. 3 periods (3 lec.)

Introduction to major western cultures from the early Medieval through AD 1600. Includes general history of ideas, art, architecture, religion, philosophy, drama, music, and literature from early and late Medieval periods, Renaissance-Reformation, and Counter-Reformation. Also includes readings such as heroic and religious works of the Middle Ages, Dante, Chaucer, Machiavelli, Shakespeare, and Cervantes.

Prerequisite(s): WRT 101.

HUM 253 Western Humanities III

3 cr. hrs. 3 periods (3 lec.)

Introduction to the culture of the modern western world from AD 1600 to the present. Includes general history of ideas, art, architecture, religion, philosophy, drama, music and literature from Enlightenment, Baroque, Romantic, Pre-Modern, and Contemporary periods. Also includes readings such as Voltaire, Rousseau, Goethe, Romantic, pre-modern and contemporary literature, poetry, and drama.

Prerequisite(s): WRT 101.

HUM 260 Intercultural Perspectives

3 cr. hrs. 3 periods (3 lec.)

Literary and artistic works of American Indians and Asian, Black, and Hispanic Americans, both men and women. Includes traditional and modern works and contributions to American civilization.

Prerequisite(s): WRT 101.

Industrial and Commercial Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ICT 100 Energy Industry Fundamentals

3 cr. hrs. 3 periods (3 lec.)

Introduction to various types of energy and their conversion to useable energy such as electrical power. Includes how generated electrical power is transmitted and distributed to the point of use.

ICT 101 Introduction to the Natural Gas Industry

3 cr. hrs. 3 periods (3 lec.)

Introduction to the natural gas industry. Includes the history of the gas industry, safety issues, and field operations.

ICT 102 Introduction to Natural Gas Operations**2 cr. hrs. 2 periods (2 lec.)**

Introduction to natural gas operations. Includes natural gas facts, natural gas networks, general security awareness, basic fire training, abnormal and unusual operating conditions, emergency response, and operations of MSA valves. Also includes visual inspection for atmospheric corrosion, meter locations, energy diversion, turn offs, above ground coatings, and leak test at operating pressure.

ICT 103 Natural Gas Pipe Joiner**3 cr. hrs. 3 periods (3 lec.)**

Principles and practices of plastic pipe joining in the natural gas industry. Includes pipe joining techniques such as solvent cements, heat fusions, mechanical saddle fittings, and compression couplings. This course prepares students for Pipe Joiner Qualification in the natural gas industry.

Prerequisite(s): ICT 101.

Information: May be waived with appropriate work experience. See an ICT instructor or an advisor for more prerequisite information.

Industrial Maintenance

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

IMO 121 NCCER Industrial Maintenance Electrical & Instrumentation L1**9.5 cr. hrs. 10.4 periods (6.6 lec., 3.8 lab)**

National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes orientation to the trade, tools of the trade, fasteners and anchors, oxyfuel cutting, gaskets and packing, craft-related mathematics, construction drawings, pumps and drivers, valves, test equipment introduction, material handling and hand rigging, mobile and support equipment, and lubrication.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121A NCCER Industrial Maintenance E&I L1 Trade Orientation**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

Trade orientation to the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes work performed by industrial maintenance craftworkers, career opportunities, apprenticeship program objectives, craftworker responsibilities and desirable characteristics, and craftworker safety.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121B NCCER Industrial Maintenance E&I L1 Tools Orientation**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

Orientation to tools used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes pipe vise, pipe threading machine, cut-off machine, portable power drivers, and the inspection and basic maintenance of tools.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121C NCCER Industrial Maintenance E&I L1 Fasteners/Anchors**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

Fasteners and anchors used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes threaded fasteners, screws, anchors, and toggle bolts.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121D NCCER Industrial Maintenance E&I L1 Oxyfuel Cuttings**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Oxyfuel cutting in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes equipment set up, using the oxyfuel torch, shutting down and disassembling equipment, performing basic oxyfuel cuts and track burner.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121E NCCER Industrial Maintenance E&I L1 Gaskets and Packing**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

Gaskets and packing used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes gasket layout and installation, cut and install packing, and O-ring installation.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121F NCCER Industrial Maintenance E&I L1 Craft Math**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Craft-related mathematics used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes special measuring devices, tables of weights and measures, basic formulas; problems involving area, volume, circumference and right triangles.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121G NCCER Industrial Maintenance E&I L1 Construction Drawings**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Construction drawings used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes special parts of construction drawings and types of drawings.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121H NCCER Industrial Maintenance E&I L1 Pumps and Drivers**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

Pumps and drivers used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes pumps and drivers common to industrial maintenance operations.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121I NCCER Industrial Maintenance E&I L1 Valves**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

Valves used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes valve functions, including start and stop flow, regulate flow, relieve pressure, regulate the direction of flow, and valve locations, positions, storage and handling.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121J NCCER Industrial Maintenance E&I L1 Test Equipment**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

Test equipment used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes types of test equipment and automated diagnostic tools.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121K NCCER Industrial Maintenance E&I L1 Material Handling and Rigging**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Material handling and rigging used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes safety procedures, rigging equipment, knots used in rigging, center of gravity of a load, rigging hardware, hand signals and sling tension calculation.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121L NCCER Industrial Maintenance E&I L1 Mobile Support Equipment**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

Mobile and support equipment used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes safety precautions, motor-driven equipment, preventive maintenance and aerial lift inspection.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 121M NCCER Industrial Maintenance E&I L1 Lubrication**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Lubrication used in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level one. Includes federal guidelines, Material Safety Data Sheet (MSDS), lubricants and greases.

Information: IMO 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, 121K, 121L and 121M comprise IMO 121. These courses are equivalent to the NCCER Level One Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills curriculum.

IMO 122 NCCER Industrial Maintenance Electrical & Instrumentation L2**11.25 cr. hrs. 13.5 periods (9 lec., 4.5 lab)**

National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes industrial safety, the National Electrical Code®, electrical theory, alternating current, test equipment, flow, pressure, level and temperature, process mathematics, hand bending, tubing, instrument drawings and documents, conductors and cables, and conductor terminations and splices.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122A NCCER Industrial Maintenance E&I Industrial Safety**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Industrial safety basics in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes safe work practices, electrical safety, protective equipment, energy control and environmental hazards.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122B NCCER Industrial Maintenance E&I National Electrical Code®**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

Introduction to the National Electrical Code® (NEC®) in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes the purpose and history of the NEC®, layout of the NEC® and other organizations involved with the standards for the manufacture and use of electrical products.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122C NCCER Industrial Maintenance E&I Electrical Theory**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Electrical theory in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes atomic theory, electrical power, schematic representations, resistors and circuits.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122D NCCER Industrial Maintenance E&I Alternating Current**1.25 cr. hrs. 1.5 periods (1 lec., .5 lab)**

Electrical theory in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes sine waves, AC phase relationships, AC circuits, capacitance and transformers.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122E NCCER Industrial Maintenance E&I Test Equipment**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

Test equipment in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes electrical meters and instrumentation test equipment.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122F NCCER Industrial Maintenance E&I Flow/Pressure/Level/Temp**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Flow, pressure, level and temperature in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes flow, pressure, level and temperature in common instrument control systems.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122G NCCER Industrial Maintenance E&I Process Mathematics**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Process mathematics in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes common metric measurements, calculators and instrumentation applications used by industrial maintenance electrical and instrumentation technicians.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122H NCCER Industrial Maintenance E&I Hand Bending**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

Hand bending of conduits in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes equipment for hand bending conduit, and cutting, reaming and threading conduit.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122I NCCER Industrial Maintenance E&I Tubing**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Tubing in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes the sizes and types of tubing common to commercial plants and other facilities, the storage of tubing and the installation of tubing.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122J NCCER Industrial Maintenance E&I Tube & Pipe System Maintenance**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

Tube and pipe systems maintenance in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes cleaning and purging tubing and piping systems, and pressure and leak testing of tube and pipes.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122K NCCER Industrial Maintenance E&I Introduction to Drawings & Documents**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Introduction to instrument drawings and documents in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes instrument symbols and identification, instrument index, instrument specifications, notes and details; installation details, drawings, and control loops.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills, NCCER Industrial Maintenance Electrical, and Instrumentation Level One curriculum.

IMO 122L NCCER Industrial Maintenance E&I Conductors and Cables**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

Conductors and cables in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes conductors and insulation, and installing conductors in conduit systems.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 122M NCCER Industrial Maintenance E&I Conductor Terminations and Splices**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

Conductor terminations and splices in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level two. Includes stripping and cleaning conductors, wire connections, control and signal cable, low voltage connectors and terminals, and connector installation.

Prerequisite(s): IMO 121.

Information: IMO 122A, 122B, 122C, 122D, 122E, 122F, 122G, 122H, 122I, 122J, 122K, 122L and 122M comprise IMO 122. These courses are equivalent to the NCCER Level Two Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Level One curriculum.

IMO 123 NCCER Industrial Maintenance Electrical & Instrumentation L3**12.25 cr. hrs. 14.7 periods (9.8 lec., 4.9 lab)**

National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes hazardous locations, electronic components, electrical and instrumentation drawings, motor controls, distribution equipment, transformer applications, conductors, temporary grounding, layout and installation of tubing and piping systems, machine bending of conduit, hydraulic controls, pneumatic controls and motor-operated valves.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123A NCCER Industrial Maintenance E&I L3 Hazardous Locations**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes hazardous locations, electronic components, electrical and instrumentation drawings, motor controls, distribution equipment, transformer applications, conductors, temporary grounding, layout and installation of tubing and piping systems, machine bending of conduit, hydraulic controls, pneumatic controls and motor-operated valves.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123B NCCER Industrial Maintenance E&I L3 Electronic Components**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

Electronic components in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes semiconductor fundamentals, diodes, rectifiers, light-emitting diodes, photo diodes, opto-isolators, zener diodes, transistors, silicon-controlled rectifiers, diacs and triacs, printed circuit boards, operational amplifiers and basic digital gates.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123C NCCER Industrial Maintenance E&I L3 Electrical Instrumentation Drawings**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

Electrical and instrumentation drawings in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes electrical drawings, instrumentation drawings and standardized design methods.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123D NCCER Industrial Maintenance E&I L3 Motor Controls**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Motor Controls in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes electromagnetic relays, magnetic contactors, overload protection, magnetic and manual motor starters, control transformers and pilot devices, drum switches, enclosures, diagrams, NEC® regulations for installation of motor circuits, and connecting motor controllers for specific applications.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123E NCCER Industrial Maintenance E&I L3 Distribution Equipment**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Distribution Equipment in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes voltage classifications, switchboards, switchgear, testing and maintenance, NEC® requirements for switchboards, ground faults, HVL switches, bolted pressure switches, transformers, instrument transformers, circuit breakers, panelboards, and NEC® requirements for services.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123F NCCER Industrial Maintenance E&I L3 Transformer Applications**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

Transformer applications in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes transformer types, specialty transformers sizing Buck-and-Boost transformers, and harmonics.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123G NCCER Industrial Maintenance E&I L3 Conductor Selection and Calculation**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Conductor selection and calculation in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes conductor applications, conductor properties, and voltage drop.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123H NCCER Industrial Maintenance E&I L3 Temporary Grounding**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Temporary grounding in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes electrical safety analysis, temporary grounding purpose and terms, sources of hazardous energy, temporary grounding preparations, temporary grounding devices, ground cable assemblies, and installing and removing temporary grounding devices.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123I NCCER Industrial Maintenance E&I L3 Layout Tubing and Piping Systems**1.5 cr. hrs. 1.8 periods (1.2 lec., .6 lab)**

Layout and installation of tubing and piping systems in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes tubing and piping system layout, measuring and bending tubing and piping, and support tubing and piping.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123J NCCER Industrial Maintenance E&I L3 Machine Bending Conduit**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Machine bending of conduit in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes NEC® requirements for the machine bending of conduit, types of bends, conduit bending geometry, mechanical benders, mechanical stub-ups, mechanical offsets, electric and hydraulic benders, segment bending techniques, tricks of the trade, PVC conduit installations and bending PVC conduit.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123K NCCER Industrial Maintenance E&I L3 Hydraulic Controls**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Hydraulic controls in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes system safety, principles of hydraulics, fluids, system parts, pumps, motors, inspecting and troubleshooting, and applications.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123L NCCER Industrial Maintenance E&I L3 Pneumatic Controls**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Pneumatic controls in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes system safety, physical characteristics of gases, effects of atmospheric pressure, compressing gases, pneumatic transmission of energy, compressor operation and types, treatment of compressed air, pneumatic system components, pneumatic symbols, and troubleshooting pneumatic systems.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 123M NCCER Industrial Maintenance E&I L3 Motor-Operated Valves**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Motor-operated valves in the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level three. Includes safety, types of motor-operated valves, and set up.

Prerequisite(s): IMO 121 and 122.

Information: IMO 123A, 123B, 123C, 123D, 123E, 123F, 123G, 123H, 123I, 123J, 123K, 123L and 123M comprise IMO 123. These courses are equivalent to the NCCER Level Three Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One and Two curricula.

IMO 124 NCCER Industrial Maintenance Electrical & Instrumentation L4**11 cr. hrs. 13.2 periods (8.8 lec., 4.4 lab)**

National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes standby and emergency systems, basic process control elements, transducers, and transmitters, instrumentation calibration and configuration, pneumatic control valves, actuators, and positioners, performing loop checks, troubleshooting and commissioning a loop, process control loops and tuning, data networks, programmable logic controllers, and distributed control systems.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

IMO 124A NCCER Industrial Maintenance E&I L4 Standby and Emergency Systems**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Standby and emergency systems for the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes system components, storage batteries, static uninterruptible power supply, NEC® requirements for emergency systems and emergency system circuits for lights and power.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

IMO 124B NCCER Industrial Maintenance E&I L4 Process Control Elements**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Process control elements, transducers and transmitters for the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes the fundamentals of process control, detectors, secondary elements, transducers and transmitters.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

IMO 124C NCCER Industrial Maintenance E&I L4 Instrument Calibration**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

Instrument calibration and configuration for the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes defining calibration, pneumatic calibration equipment and calibrating procedures, analog calibration equipment and calibrating procedures, smart transmitters and transducers.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

IMO 124D NCCER Industrial Maintenance E&I L4 Pneumatic Control Valves**2.5 cr. hrs. 3 periods (2 lec., 1 lab)**

Pneumatic control valves, actuators and positioners for the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes pneumatic control valves, valves that regulate flow, pneumatic valve actuators, positioners, valve stems and leak prevention, replacing bonnet gaskets, packing valves, storing and handling valves, installing valves, valve markings and nameplate information and troubleshooting actuators and positioners.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

IMO 124E NCCER Industrial Maintenance E&I L4 Performing Loop Checks**.5 cr. hrs. .6 periods (.4 lec., .2 lab)**

Performing loop checks for the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes verifying mechanical installation, loop continuity tests, providing a loop and calibrating a loop.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

IMO 124F NCCER Industrial Maintenance E&I L4 Troubleshooting Loop**.75 cr. hrs. .9 periods (.6 lec., .3 lab)**

Troubleshooting and commissioning a loop for the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes fundamentals of troubleshooting a loop, troubleshooting an oscillating process, proving a loop and commissioning a loop.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

IMO 124G NCCER Industrial Maintenance E&I L4 Process Control Loops**1.5 cr. hrs. 1.8 periods (1.2 lec., .6 lab)**

Process control loops and tuning for the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes process control theory, process control loop basics, control loops, control modes, types of control applications, loop tuning methods, open-loop methods, visual loop tuning and application of process control.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

IMO 124H NCCER Industrial Maintenance E&I L4 Data Networks**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Data networks for the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes the data highway, transfer medium, OSI reference model, network topologies, access control, common network nomenclature, the internet, industrial networks, microcomputer-based LANs, proprietary control networks, bridge, routers and gateways, network cabling, optical fiber cable and cable testing.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

IMO 124I NCCER Industrial Maintenance E&I L4 Programmable Logic Controllers**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Programmable logic controllers (PLC) for the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes PLC architecture, number systems, PLC hardware, processor modules, software, hardware to program correlation and guidelines for programming and installation.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

IMO 124J NCCER Industrial Maintenance E&I L4 Distributed Control Systems**1 cr. hrs. 1.2 periods (.8 lec., .4 lab)**

Distributed control systems for the National Center for Construction Education and Research (NCCER) industrial maintenance electrical and instrumentation technician skills, level four. Includes system architecture, controllers and their I/O, software server and engineering station, operator workstation, the network, installation and commissioning, maintenance and troubleshooting, and troubleshooting plant equipment with a distributed control system.

Prerequisite(s): IMO 121, 122, and 123.

Information: IMO 124A, 124B, 124C, 124D, 124E, 124F, 124G, 124H, 124I, and 124J comprise IMO 124. These courses are equivalent to the NCCER Level Four Industrial Maintenance Electrical and Instrumentation Technician curriculum. Students desiring to earn this NCCER credential must first complete the NCCER Core Introductory Craft Skills and NCCER Industrial Maintenance Electrical and Instrumentation Levels One, Two, and Three curricula.

Integrated College Skills

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ICS 079 Integrated College Skills (Reading and Writing)**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Knowledge, skills and techniques required to be successful in college. Includes foundational skills in digital literacy, reading and writing. Also includes study techniques, goal setting, time management, note taking systems, and test taking strategies.

Corequisite(s): STU 100

Information: This course can be taken twice for a maximum of 8 credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

ICS 081 Integrated College Skills (Mathematics)**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Knowledge, skills and techniques required to be successful in college. Includes foundational skills in digital literacy and mathematics. Also includes study techniques, goal setting, time management, note taking systems, and test taking strategies.

Corequisite(s): STU 105

Information: This course can be taken twice for a maximum of 6 credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Interpreter Training

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

ITP 201 Ethics and Social Justice of Interpreting**3 cr. hrs. 3 periods (3 lec.)**

Focuses on identifying personal ethics and beliefs as well as ethics as it relates to the field of interpreting and the Code of Professional Conduct. Also includes discussions of social justice theory and how it relates to ASL and English speaking communities.

Prerequisite(s): ASL 201 with a grade of B or better or better, and WRT 102.

ITP 211 Fundamentals of Interpreting I**3 cr. hrs. 3 periods (3 lec.)**

Foundation skills required for effective translation and interpretation. Includes critical analysis and application for systemically analyzing interactions and texts in order to ascertain where meaning lies. Also includes understanding and developing the cognitive skills for translating and interpreting.

Prerequisite(s): ASL 201 with a grade of B or better or better, and WRT 102.

ITP 212 Fundamentals of Interpreting II**3 cr. hrs. 3 periods (3 lec.)**

Continuation of ITP 211. Focuses on the foundation skills required for effective translation and interpretation. Includes intralingual translation and interpretation text analysis techniques through main point abstraction, summarization, paraphrasing and restructuring a message while retaining its meaning. Discussions will address theoretical aspects of translating and interpreting techniques as well as specific issues related to interpreting skills. Also includes introduction to the interpreting field.

Prerequisite(s): ASL 202 with a grade of B or better, ITP 211 with a C or better, and WRT 102.

ITP 296 Independent Study in Interpreting**1-3 cr. hrs. 3-9 periods (3-9 lab)**

Extensive practice in identified areas of expressive/receptive interpreting/transliterating under supervision of an instructor.

Prerequisite(s): ITP 210, ITP 220 or 270.

Information: Consent of instructor required before enrolling. Course content and performance objectives will be determined by conference between student and instructional faculty.

Japanese

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

JPN 101 Elementary Japanese I**5 cr. hrs. 5 periods (5 lec.)**

Introduction to the Japanese language. Includes an overview of the Japanese language, speaking and listening, writing and reading, grammar, personal transactions, and the cultural context within which Japanese conversation takes place. Also includes writing and reading of Hiragana, Katakana, and 23 Kanji characters.

JPN 102 Elementary Japanese II**5 cr. hrs. 5 periods (5 lec.)**

Continuation of JPN 101. Includes oral and written forms, grammatical structures, interpersonal transactions, and the cultural component of communication competency.

Prerequisite(s): JPN 101.

JPN 201 Intermediate Japanese I**5 cr. hrs. 5 periods (5 lec.)**

Continuation of Japanese 102. Includes speaking and listening, grammar, personal transactions, and the cultural context to which Japanese conversations take place. Also includes reading and writing Hiragana, Katakana, and 250 Kanji characters.

Prerequisite(s): JPN 102.

JPN 202 Intermediate Japanese II**5 cr. hrs. 5 periods (5 lec.)**

Continuation of Japanese 201. Includes speaking and listening, grammar, personal transactions, and using more complex sentence structure in a cultural context within which Japanese conversations take place. Also includes Hiragana, Katakana, and 365 Kanji characters.

Prerequisite(s): JPN 201.

Journalism

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

JRN 101 Introduction to Reporting and Media Writing**3 cr. hrs. 3 periods (3 lec.)**

Introduction to news reporting. Includes journalism as a career, the journalist and the organization of the newsroom, defining news, news style, elements of a news story, fundamentals of writing news, and news gathering and reporting. Also includes organizing and writing the story, revision of stories, and ethics, libel and media law.

Prerequisite(s): WRT 090 or required score on the writing assessment test.

JRN 102 Survey of Media Communications**3 cr. hrs. 3 periods (3 lec.)**

Survey of theory, function and impact of mass media. Includes analysis of book and magazine publishing, newspapers, recorded music, radio, television, film, the Internet, public relations, advertising, and media uses and effects. Also includes media law, ethics, and global communication.

JRN 185 Newspaper Publishing**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Print and online publication of the college's biweekly student newspaper. Includes elements of news, research mastery, information gathering, qualities of good writing, copy for publication, qualities of good reporting and copy editing, photographs, video and audio, media law, ethics, content and diversity, and using computers.

Prerequisite(s): JRN 101.

Information: May be taken three times for a maximum of nine credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Offered: Fall, Spring.

JRN 186 Writing for the Web**3 cr. hrs. 3 periods (3 lec.)**

Introduction to techniques for writing on the World Wide Web. Includes Web technology; adding photos, graphics, video, audio, hypertext and hypermedia; and linear and nonlinear writing forms. Also includes media law and journalistic ethics.

Prerequisite(s): JRN 101.

JRN 235 Writing/Reporting for Broadcast Journalism**3 cr. hrs. 3 periods (3 lec.)**

Introduction to news writing and reporting for television and radio. Includes broadcast news, formats, terminology and readability; shifting from print to broadcast writing; broadcast copy, news gathering and reporting; and reporting assignments and coverage. Also includes writing for radio and television newscasts; short and long packages for radio and television; live shots; breaking news coverage; influence of the Web and new distribution sources; basic video and audio editing; and broadcast law and ethics.

Prerequisite(s): JRN 101.

Recommendation: Completion of JRN 102 before enrolling in this course or concurrent enrollment. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

JRN 240 Editing, Layout, and Design**3 cr. hrs. 3 periods (3 lec.)**

Principles of news editing, layout, and design. Includes hands-on copy editing, fact-checking, proofreading, electronic page layout, typography, design, headline and caption writing, as well as, legal and professional responsibilities. Also includes grammar, language, and Associated Press style.

JRN 260 Magazine and Feature Writing**3 cr. hrs. 3 periods (3 lec.)**

Writing newspaper and magazine feature articles for publication. Includes types of features, generating story ideas, guidelines for research, interviewing and writing; composing query letters, and submitting feature stories for publication.

JRN 280 Photojournalism**3 cr. hrs. 3 periods (3 lec.)**

Practical applications of photographic skills to communicate news stories and document life. Includes basic camera operations, multimedia, digital imaging, and editing software, as well as, ethical and legal considerations. Also includes analysis of visual images, composition, technical concepts, cropping and sizing, layout of photo essays, video editing, and writing captions.

Information: Access to a digital camera is required.

JRN 285 Advanced News Publication**3 cr. hrs. 7 periods (1 lec., 6 lab)**

Continuation of JRN 185. Advanced work on print and online publication of the college's biweekly student newspaper. Includes news coverage; qualities of high-level writing, reporting, and copy editing; research and the use of computers, newsroom management, page design, and newspaper legal and ethical considerations.

Prerequisite(s): JRN 185.

Information: May be taken three times for a maximum of nine credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

JRN 290 Journalism Internship**1-5 cr. hrs. 5-25 periods (5-25 lab)**

Volunteer internship work experience at an approved site in the journalism field. Includes hands-on work experience, interpersonal communication, learning objectives and progress, and journalism internship assessment.

Prerequisite(s): JRN 101.

Information: Consent of instructor is required before enrolling in this course. May be taken four times for a maximum of twenty credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Korean

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

KOR 101 Elementary Korean I**4 cr. hrs. 4 periods (4 lec.)**

Introduction to Korean. Includes basic oral and written Korean language forms, basic Korean grammatical structures, reading simple text, and Korean cultures and traditions.

KOR 102 Elementary Korean II**4 cr. hrs. 4 periods (4 lec.)**

Continuation of KOR 101. Includes additional phonetics in the Korean language, additional grammatical structures, reading additional simple text, and additional Korean culture and traditions.

Prerequisite(s): KOR 101.

Landscape Technician

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

LTP 119 Plants for Landscape Design**3 cr. hrs. 3 periods (3 lec.)**

Principles and techniques of plant identification and usage. Includes environmental influences, landscape design basic principles, planting and plant care, plant taxonomy, general and specific applications for plants, and plant selection.

LTP 129 Landscape Design**3 cr. hrs. 3 periods (3 lec.)**

Principles and techniques of landscape design. Includes determination of project requirements, site analysis, measuring, design principles, preliminary design, landscape plan drawing, and development of a practice project and final project.

LTP 140 Landscape Sustainability and Water Harvesting**3 cr. hrs. 3 periods (3 lec.)**

Principles and strategies for sustainability in landscapes. Includes environmental impacts, techniques in water harvesting, environmental pollution, and the protection and maintenance of natural systems.

Law Enforcement Academy

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

LEA 110 Law Enforcement Academy Part I**29 cr. hrs. 33 periods (27 lec., 6 lab)**

Development of basic concepts, techniques, and applications utilized in law enforcement. Includes an introduction to ethics and leadership, law and legal matters, multicultural issues, as well as community and police relations. Also includes academic and proficiency skill standards required of law enforcement personnel as defined by the Arizona Peace Officer Standards and Training Board (AZ POST).

Information: Admission to the Law Enforcement Program is restricted and requires completion of program specific application. Please contact the Public Safety and Emergency Services Institute for enrollment information and assistance.

LEA 210 Law Enforcement Academy Part II**16 cr. hrs. 19 periods (14.5 lec., 4.5 lab)**

Continuation of LEA 110. Includes increased proficiency of concepts, techniques, and applications utilized in law enforcement, academic and proficiency skills, effective police testimony techniques, review of the United States Constitution, Arizona Revised Statutes (ARS) Title 13, and common civil and criminal liability facing law enforcement agencies and officers. Also includes academic and proficiency skill standards required of law enforcement personnel as defined by the Arizona Peace Officer Standards and Training Board (AZ POST).

Prerequisite(s): LEA 110.

Information: Course contains capstone curriculum for degree.

Library and Information Sciences

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

LIS 120 Beyond Google: Information Literacy and Research Methods**3 cr. hrs. 3 periods (3 lec.)**

Development of skills needed to find, evaluate, use and communicate information using a wide variety of resources such as print resources, Library databases, internet resources and other sites to understand how they all fit together when doing academic research. Includes Microsoft Office Word, PowerPoint, and Google Docs; becoming more proficient using these tools for academic coursework. Also includes exercises designed to help students become more efficient in research and class assignments to develop lifelong learning skills.

LIS 150 Social Media and Ourselves**3 cr. hrs. 3 periods (3 lec.)**

Distinguish how social media sites are influenced and impacted by users, as well as the role of social media in interpersonal relationships. Includes a focus on social media sites and the various implications and functions of social media in contemporary times. Also includes the study of new media taking place across disciplinary divides and from multiple theoretical perspectives.

Literature

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

LIT 224 Southwestern Literature**3 cr. hrs. 3 periods (3 lec.)**

Reading of Mexican-American/Chicano, American Indian, and Anglo writers of the Southwest. Includes short stories, novels, poetry, and creative non-fiction. Also includes relevant comparisons of social, political, and environmental themes in different cultures.

Prerequisite(s): WRT 101.

Information: Faculty approval is required to waive prerequisites.

LIT 225 Science Fiction Literature**3 cr. hrs. 3 periods (3 lec.)**

Survey of science fiction work from the nineteenth through the twenty-first centuries in a variety of forms and media. Includes the development and components of the genre, its subgenres, and critical analysis of science fiction literary works. Also includes the role of technology and social issues in science fiction.

Prerequisite(s): WRT 101.

LIT 231 Introduction to Shakespeare**3 cr. hrs. 3 periods (3 lec.)**

Investigation of a number of Shakespeare's major works. Includes sonnets, comedies, histories, and tragedies. Also includes history, social and cultural conditions, literary background, staging, and writing.

Prerequisite(s): WRT 101.

LIT 261 Modern Literature**3 cr. hrs. 3 periods (3 lec.)**

Critical analysis of literature of the modern period and from a variety of nations and cultures. Includes analyzing literary texts for meaning and form, understanding the contexts of literature, and writing about literature. Also includes selections from various literary genres, which may include fiction, drama, and poetry, as well as other literary forms.

Prerequisite(s): WRT 101.

LIT 261HC Modern Literature: Honors**3 cr. hrs. 3 periods (3 lec.)**

Critical analysis of literature of the modern period and from a variety of nations and cultures. Includes analyzing literary texts for meaning and form, understanding the contexts of literature, and writing about literature. Also includes selections from various literary genres, which may include fiction, drama, and poetry, as well as other literary forms. Also includes additional Honors content.

Prerequisite(s): WRT 101.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in format appropriate for the discipline with research presented in class or to a wider audience.

LIT 262 American Poets**3 cr. hrs. 3 periods (3 lec.)**

Study of the voices and visions of American poets. Includes American poetic visions, distinct styles and voices of poets, and writing assignments.

Prerequisite(s): WRT 101.

LIT 265 Major American Writers**3 cr. hrs. 3 periods (3 lec.)**

Survey of selected works by major American authors from the colonial period to the present. Includes extensive writing and reading and emphasizes relating works to their social and historical contexts. Also includes analysis of literary texts of various genres, such as poetry, drama and fiction, for meaning and form.

Prerequisite(s): WRT 101.

LIT 280 Introduction to Literature**3 cr. hrs. 3 periods (3 lec.)**

Critical analysis of literature from a variety of nations and cultures. Includes analyzing literary texts for meaning and form, understanding the contexts of literature, and writing about literature. Also includes selections from various literary genres, which may include fiction, drama, and poetry, as well as other literary forms.

Prerequisite(s): WRT 101.

LIT 289 Literature and Film**3 cr. hrs. 3 periods (3 lec.)**

Criticism of film's dramatic forms, elements and genres. Includes development of film as an art form, comparative approaches to literature and film, performed drama, critical analysis and film production personnel.

Prerequisite(s): WRT 101.

LIT 289HC Literature and Film: Honors**3 cr. hrs. 3 periods (3 lec.)**

Criticism of film's dramatic forms, elements and genres. Includes development of film as an art form, comparative approaches to literature and film, performed drama, critical analysis and film production personnel. Also includes additional Honors content.

Prerequisite(s): WRT 101.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in format appropriate for the discipline with research presented in class or to a wider audience.

Logistics and Supply Chain Management

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

LGM 101 Principles of Logistics and Supply Chain Management

3 cr. hrs. 3 periods (3 lec.)

Introduction to the field of logistics and supply chain management. Includes development of logistics systems, careers in logistics, distribution planning, supply chain security, and customer service. Also includes roles and functions of: purchasing, inventory control, physical distribution, warehousing, transportation methods, packaging, and customs.

LGM 102 Inventory Control

3 cr. hrs. 3 periods (3 lec.)

A study of inventory control concepts and techniques. Includes, cost concepts, determining size and nature of inventory, forecasting, and inventory planning and control. Also includes ordering methods, controlling pilferage, and matching customer demand with supply.

Prerequisite(s): MAT 089A through Module 22 or required score on the Mathematics assessment test.

LGM 103 Contracts and Freight Claims

3 cr. hrs. 3 periods (3 lec.)

A study of the considerations involved in the drafting and negotiation of freight and logistics contracts, and of loss avoidance and mitigation in transit. Includes legal and regulatory requirements applicable to contracts for product transportation, and logistics functions and considerations for drafting and negotiating contracts with freight carriers, warehousemen and other logistics service providers. Also includes customer satisfaction, claim preparation, filing procedures, and claim dispute resolution.

LGM 104 Computerized Logistics

3 cr. hrs. 4 periods (2 lec., 2 lab)

Analysis of the use of computers in the logistics industry and an introduction to available logistics software. Includes the need for computers, the history and future of computers in the logistics industry, and the impact of computers on customer service. Also includes logistics software availability, selection and implementation, and security measures.

LGM 105 Warehouse Management

3 cr. hrs. 3 periods (3 lec.)

Survey of warehouse function, process, organization and operations. Includes analysis of warehouse location, operation, and management. Also includes controls and procedures, financial analysis, security, cargo/materials handling, and productivity.

LGM 106 Transportation and Traffic Management

3 cr. hrs. 3 periods (3 lec.)

A study of the domestic freight transportation system. Includes demand for freight movement, laws, regulations, pricing, and policies. Also includes traffic management, customer service, security, and international transportation issues.

LGM 107 Introduction to Purchasing

3 cr. hrs. 3 periods (3 lec.)

Survey of basic purchasing functions. Includes establishing requirements and quantities, developing policies and procedures for purchasing, making purchasing decisions, receiving acceptable goods, arranging packaging and shipping, and managing inventory levels.

LGM 108 International Logistics

3 cr. hrs. 3 periods (3 lec.)

An introduction to the role of logistics in global business. Includes the economic and service characteristics of international transportation providers, the government's role, documentation and terms of sale used in global business, and the fundamentals of effective export and import management.

LGM 109 Readiness Skills for Logistics Careers

1 cr. hrs. 1 periods (1 lec.)

Development of career and learning goals. Includes learning and the world of work, careers in Logistics, and skill development in context. Also includes a focus on the common requirements of all jobs, the skills basic to employment success, and the formal and informal learning necessary for career advancement.

LGM 290 Logistics and Supply Chain Internship

3 cr. hrs. 9 periods (9 lab)

Culmination of logistics program. Includes guidelines and procedures for workplace learning, application of learned concepts on the job. Also includes initiation, management, and completion of capstone project.

Information: Consent of instructor is required before enrolling in this course. Students must complete 125 hours at a program-approved employer worksite.

LGM 296 Independent Study in Logistics and Supply Chain Management**3 cr. hrs. 3 periods (3 lec.)**

Independent study projects or applied special interest projects in logistics and supply chain management under the supervision of a faculty member.

Prerequisite(s): LGM 101 and LGM 105, 106, or 107

Information: Consent of instructor is required before enrolling in this course.

Machine Tool Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MAC 100 Introduction to Machine Tool**3 cr. hrs. 3 periods (3 lec.)**

Principles and procedures for basic machine tool operations. Includes careers in manufacturing, machine tool history, safety, materials, manufacturing process planning, measurement, layout tools and procedures, principles of metal cutting, bench and hand tools, power saws, drill presses, and abrasive machine.

MAC 110 Manual Machine Shop**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Introduction to basic machine shop practices. Includes safety, lathes, vertical milling machines, and grinding machines.

Prerequisite(s): MAC 100.

Information: MAC 100 and 110 may be taken concurrently.

MAC 120 Machine Shop**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Instruction and applied practices of advanced manual machining procedures. Includes a more in-depth application of safety, lathe usage, vertical milling machines, and outside diameter (OD) grinding machines.

Prerequisite(s): MAC 110 or equivalent with department advisor approval.

MAC 125 Inspection Quality Assurance**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Principles and applications of dimensional measurement. Includes line graduated measuring instruments, fixed gages, gage blocks, comparative measurements, optical comparators and projectors, angle measurement, straightness, flatness, and perpendicularity measurement, and coordinated measuring machines.

Prerequisite(s): GTM 105 and MAC 100.

Information: Prerequisite may be waived with industry experience. See a machine tool instructor for prerequisite information.

MAC 130 Machine Setup and Fixture Making**3 cr. hrs. 5 periods (1 lec., 4 lab)**

Applied setup of manual machining techniques and related skill sets to produce various part fixtures. Includes translating blueprints into machine setup and fixture making.

Prerequisite(s): MAC 110.

Information: Prerequisite(s) may be waived with faculty approved industry experience.

MAC 140 Introduction to Electrical Discharge Machining**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Applications for electrical discharge machining (EDM). Includes EDM machines, processes, spark generation, dielectric fluids, manufacturing of electrodes, and surface finishes.

Prerequisite(s): MAC 110.

Information: Prerequisite(s) may be waived by faculty approved industry experiences.

MAC 150 Computer Numerical Control (CNC) Mill Programming I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Setup operations and programming procedures for automated machining systems. Includes Computer Numerical Control (CNC) machining system, positioning and coordinate systems used in CNC programming, part programming, diagnosis and correction of programming errors, and programming procedures with finished part inspection.

Prerequisite(s): GTM 105.

Recommendation: Completion of CAD 117 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MAC 155 Computer Numerical Control (CNC) Mill Programming II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of MAC 150 programming instruction. Includes a review of Computer Numerical Control (CNC), mill programming, diagnosis and correction of programming errors, advanced programming techniques used in production and prototype machining, introduction to lathe programming, and introduction to sub-programming.

Prerequisite(s): MAC 150.

Information: Prerequisite(s) may be waived with industry experience and faculty approval.

MAC 160 Computer Numerical Control (CNC) Lathe Programming**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Operations and procedures for Computer Numerical Control (CNC) Lathe. Includes review of CNC concepts and programming, diagnosis and correction of programming errors, advanced programming for CNC Lathes, and introduction to Computer Aided Manufacturing (CAM) programs.

Prerequisite(s): GTM 105 and MAC 150.

Information: Prerequisites may be waived with industry experience and faculty approval.

MAC 245 Wire Electrical Discharge Machining and Programming**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Operations and procedures for 5 axis Electrical Discharge Machining (EDM) computer numerical control (CNC) machining. Includes wire EDM, EDM operating processes, EDM machine functions, EDM manual part programming, and EDM machining operations with the usage of computer-aided machining (CAM) software.

Prerequisite(s): MAC 140 and 257.

MAC 257 Computer-Aided Machining CAM I**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Computer-Aided Machining (CAM) I Programming of Computer Numerical Control (CNC) machines using Computer-Aided Manufacturing (Mastercam) software. Includes a review of CNC and Computer-Aided Drafting (CAD), introduction to a CAM environment, creating geometry, operating manager, and code generation.

Prerequisite(s): MAC 155.

Information: Prerequisite(s) may be waived with industry experience with faculty approval.

MAC 258 Computer Aided Machining (CAM) II**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Continuation of MAC 257. Includes profile surface, 3D surfaces, editing surfaces and preparing geometry for wire part.

Prerequisite(s): MAC 257.

MAC 259 Computer Aided Machining (CAM) III: Solid Modeling**4 cr. hrs. 7 periods (1 lec., 6 lab)**

Continuation of MAC 258. Includes profile surfaces of tool path, solid model features in three-dimension (3-D), and editing solid model surfaces.

Prerequisite(s): MAC 258.

MAC 275 Applied Metallurgy**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Application of metallurgical concepts, procedures, and testing. Includes materials, alloy classification systems, industrial and manufacturing concepts, properties and testing, and industrial and manufacturing processes and applications.

Prerequisite(s): GTM 105.

MAC 296 Machine Tool Independent Projects**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Independent machine tool projects. Includes producing prints that become skill set completed projects with setup of machines to part completion.

Prerequisite(s): MAC 110.

Information: May be taken sixteen times for a maximum of sixteen credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Consent of instructor must be obtained before enrolling in this course.

Management

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MGT 110 Human Relations in Business and Industry

3 cr. hrs. 3 periods (3 lec.)

Examination of human relations as it relates to business and industry. Includes the roles of the employees, supervisors, and management. Also includes management concepts and functions, communication, leadership, managing change and stress, human motivation, creativity, diversity and culture, and decision making.

MGT 122 Supervision

3 cr. hrs. 3 periods (3 lec.)

Theories and concepts of supervision. Includes the role of the supervisor, management concepts and functions, communication, managing change and stress, human motivation, building relationships, supervision of groups, leadership and management styles, selection, orientation, training, appraisal, and discipline. Also includes complaints, grievances, working with the union, security, safety, and health at work.

Recommendation: It is recommended that students complete MGT 110 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: This course consists of study and application. The student will first review all of the major concepts in supervision. The student will then utilize all of the major concepts presented to examine and evaluate a series of case studies. At the end of the course, a final and cumulative case study will be evaluated.

MGT 130 Retail Analysis

3 cr. hrs. 3 periods (3 lec.)

Overview of retail analysis that emphasizes the financial performance and standards used within the retailing industry. Includes the fundamentals of business analysis and managing the company's strategic service direction with a focus on the company's business model and its strategic performance. Also includes customer/supplier interactions, quality indicators, cash and profit, fundamentals of business analysis, financial literacy and transparency signs, and service quality benchmarking process.

Recommendation: Completion of ACC 211 and MKT 139 before enrolling in this class. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MGT 200 Small Business Management/Entrepreneurship

3 cr. hrs. 3 periods (3 lec.)

Analysis of the practical problems of organizing, managing and starting a small business. Includes feasibility analysis, forms of ownership, managing the business, business plan, pricing, managing cash flow, creating sales forecast, income statements, breakeven analysis, source of funds, international operations, building an entrepreneurial team, risk management, and international opportunities.

MGT 230 Dynamics of Leadership

3 cr. hrs. 3 periods (3 lec.)

Overview of the theoretical and applied foundations of leadership. The theoretical component includes the historical and contemporary theories and models of leadership, effective followership, multiculturalism, and ethics. The applied component includes the importance and use of vision and mission, inclusive leadership practices, responding to change, developing a personal philosophy of leadership, and creating a personal profile of strengths and assets. Communication and facilitation skills will be practiced with the completion of a leadership project.

Information: Same as STU 230.

MGT 270 Computer Applications for Managers

3 cr. hrs. 3 periods (3 lec.)

Development of management skills in computer applications for business. Includes state of computing technology, electronic commerce and the economy, international issues, work and the virtual workplace, project management, and presentations.

Recommendation: Completion of CIS/CSA 104 Computer Fundamentals or proficiency with Microsoft Office software before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MGT 276 Human Resources**3 cr. hrs. 3 periods (3 lec.)**

Practical aspects of personnel management and support. Includes roles and concepts, acquiring human resources, administering the personnel program, developing employee potential, employee retention, equal employment opportunities, staffing and training, labor relations, and future outlook for personnel management.

Recommendation: Completion of BUS 100 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MGT 280 Business Organization and Management**3 cr. hrs. 3 periods (3 lec.)**

Overview of the functions performed and issues faced by managers in business. Includes managers and management, the managerial environment, planning and decision support systems, project management, managerial control, and leadership. Also includes motivation and performance, control, and creating and sustaining high performance teams.

Prerequisite(s): BUS 100.

Recommendation: Completion of any other MGT course before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Marketing

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MKT 100 Customer Service Skills**3 cr. hrs. 3 periods (3 lec.)**

Overview of the behavior exhibited by successful customer service professionals featuring simulated business settings. Includes conventional behaviors of the workplace, professional communication in the customer service setting, grooming and clothing for a business setting, telephone and email service, effective answers to sales questions, punctuality and the work ethic, professionalism in the workplace, basic qualitative activities, behavior with co-workers, customer service challenges, exceptional customer service, and career advancement strategies in customer service.

MKT 111 Principles of Marketing**3 cr. hrs. 3 periods (3 lec.)**

Introduction to marketing communication, principles, and strategies. Includes global diversity in the marketing environment, product classification, pricing considerations, distribution of products/services, and promotion using traditional and social media strategies.

MKT 113 Salesmanship**3 cr. hrs. 3 periods (3 lec.)**

Basic principles and techniques of selling and their practical application. Includes selling as a profession, preparation for relationship selling, the selling process, and planning and managing a sales territory.

MKT 139 Retailing**3 cr. hrs. 3 periods (3 lec.)**

Business activities of selling goods and services to final customers. Includes overview of the industry of retailing, environmental framework, consumer demographics and behavior, retail outlet characteristics, the retailing mix, retail information and control systems, the changing nature of retailing, and retailing careers.

MKT 140 Fashion Merchandising**3 cr. hrs. 3 periods (3 lec.)**

Overview of enterprises involved in clothing and accessories. Includes design, production, and sourcing of fashion; marketing, distribution, and the fashion consumer; different silhouettes of apparel and textile characteristics, methods of research for retailing, careers in fashion merchandising, and case studies. Also includes a managerial perspective on apparel product quality and profit in a retail setting.

MKT 196 Independent Study in Marketing and Business**.5-3 cr. hrs. 1.5-9 periods (1.5-9 lab)**

Student independently continue their studies in Marketing and Business under the supervision of a faculty member.

Information: Consent of instructor is required before enrolling in this course. May be taken three times for a maximum of nine credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MKT 200 Advertising**3 cr. hrs. 3 periods (3 lec.)**

Advertising principles and concepts as applied in a business setting. Includes advertising perspectives, developing marketing and advertising strategies, creating advertisements and commercials, and advertising media mix.

MKT 240 Fashion Merchandising Planning and Control**4 cr. hrs. 4 periods (4 lec.)**

Survey of analytical skills for the process of merchandising. Includes evaluation of merchandise in clothing sales, merchandise planning, developing the presentation of apparel lines, and finalizing apparel lines through merchandising and budget review. Also includes the application of Web PDM.

Prerequisite(s): MKT 140.

Mathematics

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MAT 082 Basic Mathematics**3 cr. hrs. 3 periods (3 lec.)**

Fundamentals and applications of arithmetic. Includes operations on whole numbers, fractions, decimal numbers, ratio and proportion, percent, and measurement.

MAT 089A Foundational Studies in Mathematics I**3 cr. hrs. 3 periods (3 lec.)**

Fundamentals and applications of basic math, elementary algebra, and intermediate algebra.

Prerequisite(s): Satisfactory score on the Mathematics placement test.

Information: The course content is offered in 35 modules which are divided between MAT 089A and MAT 089B. They are computer delivered in a structured, individualized learning environment with on-demand instruction assistance. Attendance at regularly scheduled classes is required. The course may be taken two times for a maximum of six credit hours. To earn a passing grade, students must successfully complete a minimum of 9 modules. You must complete a minimum of 18 modules in MAT 089A before enrolling in MAT 089B.

MAT 089B Foundational Studies in Mathematics II**3 cr. hrs. 3 periods (3 lec.)**

Continuation of the fundamentals and applications of basic math, elementary algebra, and intermediate algebra.

Prerequisite(s): MAT 089A.

Information: The course content is offered in 35 modules which are divided between MAT 089A and MAT 089B. They are computer delivered in a structured, individualized learning environment with on-demand instruction assistance. Attendance at regularly scheduled classes is required. The course may be taken two times for a maximum of six credit hours. To earn a passing grade, students must successfully complete a minimum of 9 modules. You must complete a minimum of 18 modules in MAT 089A before enrolling in MAT 089B.

MAT 092 Elementary Algebra**3 cr. hrs. 3 periods (3 lec.)**

Includes translating written statements into algebraic expressions, solving linear equations and inequalities, graphing linear equations, and solving systems of equations in two or three variables. Also includes integer exponents, scientific notation, polynomial operations, and factoring of polynomials.

Prerequisite(s): Within the last three years: ICS 081 with a grade of B or better, or MAT 086 with a grade of C or better, or completion of module 15 in MAT 089A or MAT 089B, or satisfactory score on the Mathematics assessment test.

Corequisite(s): MAT 092LB

MAT 092LB Mathematics Success Support**1 cr. hrs. 2 periods (2 lab)**

Provides content and activities to support the conceptual learning of the topics in MAT092. Includes a foundation for success in future math or quantitative literacy courses.

Corequisite(s): MAT 092

MAT 095 Pre-College Algebra**5 cr. hrs. 5 periods (5 lec.)**

Basic and intermediate algebra concepts. Includes translating written statements into algebraic expressions, linear equations, linear inequalities, graphing, integer exponents, and polynomials. Also includes factoring, rational and radical expressions and equations, square roots, quadratic equations, functions, exponential and logarithmic expressions.

Prerequisite(s): Within the last three years: ICS 081 with an A, or MAT 086 with a B or better, or completion of module 22 in MAT 089A or MAT 089B, or required score on the Mathematics assessment test.

Information: Access to a scanner required for Math classes taken online.

MAT 097 Intermediate Algebra**3 cr. hrs. 3 periods (3 lec.)**

Definition of function and function notation, compound inequalities in one variable, graphs of linear inequalities in two variables, and absolute value equations and inequalities. Also includes rational and radical functions and equations, quadratic functions and their graphs, exponential functions and their graphs, and logarithms.

Prerequisite(s): Within the last three years: MAT 092 with a grade of C or better, or completion of module 25 in MAT 089A or MAT 089B, or satisfactory score on the Mathematics assessment test.

Information: The online sections for the course require students to have the ability to share (electronically) handwritten work within the course.

MAT 097S College Algebra Co-requisite**1 cr. hrs. 2 periods (2 lab)**

Preparation for college algebra. Covers the definition of function and function notation, compound inequalities in one variable, graphs of linear inequalities in two variables, and absolute value equations and inequalities. Also includes rational and radical functions and equations, quadratic functions and their graphs, exponential functions and their graphs, and logarithms.

Prerequisite(s): With a grade of B or better in MAT 092 or placement into MAT 097 on the Math placement exam.

Corequisite(s): MAT 151

MAT 106 Elementary Data Analysis with Spreadsheets**3 cr. hrs. 3 periods (3 lec.)**

Introduction to statistics. Includes the collection and presentation of data, statistical measures, algebra topics, Excel topics, and data analysis topics.

MAT 108 Practical Geometry and Trigonometry**2 cr. hrs. 2 periods (2 lec.)**

Fundamentals of geometry and trigonometry with applications. Includes basic geometric properties, properties of triangles, Pythagorean Theorem and special triangles, polygons, circles, volumes, radian measure, trigonometric functions, and oblique triangles.

Prerequisite(s): Within the last three years with a grade of C or better: ICS 081, or MAT 086, or MAT 089A through Module 15, or required score on the Mathematics assessment test.

MAT 141 Topics in College Mathematics**4 cr. hrs. 4 periods (4 lec.)**

Survey of mathematical topics and applications. Includes application of probability, statistics, finance, and growth models.

Prerequisite(s): Within the last three years: MAT 092 with a C or better or completion of module 25 in MAT 089A or 089B or required score on the Mathematics assessment exam.

MAT 142 Topics in College Mathematics**3 cr. hrs. 3 periods (3 lec.)**

Survey of mathematical topics and applications. Includes application of probability, statistics, finance, and growth models.

Prerequisite(s): Within the last three years: MAT 092 with a C or better or completion of module 25 in MAT 089A or 089B or required score on the Mathematics assessment exam. on the Mathematics assessment exam.

MAT 145 Mathematics for Game Design**4 cr. hrs. 4 periods (4 lec.)**

Survey of mathematical topics and applications as applied to game design. Includes 2D and 3D geometry, geometric symmetry, trigonometry, vectors, logic, probability, statistics, and problem solving.

Prerequisite(s): Within the last three years: MAT 095 or 097 or 122 or 122Z or 123 with a C or better, or satisfactory score on the Mathematics assessment exam.

MAT 146 Mathematics for Elementary Teachers I**3 cr. hrs. 3 periods (3 lec.)**

An overview of mathematical concepts, principles and applications specifically for elementary teachers. Includes real number properties and patterns, arithmetic operations and algorithms in subsets of real numbers, alternative numbers systems, set theory, and algebraic reasoning and problem solving. Also includes the technology to teach mathematics.

Prerequisite(s): Within the last three years: MAT 141, 142, 151 or higher with a grade of C or better, or mathematics assessment test into MAT 167 or higher.

Information: It is not recommended that students enroll concurrently in MAT 146 and 147. Access to a scanner required for math classes taken online.

MAT 147 Mathematics for Elementary Teachers II**3 cr. hrs. 3 periods (3 lec.)**

An overview of mathematical concepts, principles and applications specifically for elementary teachers. Includes measurement, basic geometry, probability, and statistics. Also includes the technology to teach mathematics.

Prerequisite(s): Within the last three years: MAT 141, 142, 151 or higher with a grade of C or better, or mathematics assessment test into MAT 167 or higher.

Information: It is not recommended that students enroll concurrently in MAT 146 and 147. Access to a scanner required for math classes taken online.

MAT 151 College Algebra**4 cr. hrs. 4 periods (4 lec.)**

Introduction to college-level algebra. Includes functions, exponential and logarithmic functions, linear 2x2 and higher systems, graphing, and calculator use. A graphing calculator is required.

Prerequisite(s): Within the last three years: MAT 095 or 097 or 122 or 122Z or 123 with a C or better, or or required score on the Mathematics assessment test.

Information: Credit for only one course will be awarded to students completing MAT 151 and MAT 188. See course description or advisor to choose your best option. No more than 7 credits may be applied toward graduation from the following list of courses: MAT 151, 182, 187, 188, and 189. A graphing calculator is required. See your instructor for details. Access to a scanner required for math classes taken online.

MAT 167 Introductory Statistics**3 cr. hrs. 3 periods (3 lec.)**

Introduction to statistics. Includes the nature of statistics, quantitative data, probability, probability distributions and the central limit theorem. Also includes estimates for population parameters, hypothesis testing, correlation with regression, and additional topics with choices from chi square distribution, ANOVA and/or nonparametric methods.

Prerequisite(s): Within the last three years: MAT 151 with a C or better, or required score on the Mathematics assessment test.

Information: Use of a graphing calculator and/or computer programs may be required at the discretion of the instructor. Access to a scanner required for math classes taken online.

MAT 172 Finite Mathematics**3 cr. hrs. 3 periods (3 lec.)**

Sampling of finite mathematics which includes mathematics of finance, linear business functions, systems of equations, matrices, geometric and simplex methods of solving linear programming problems, logic, sets, combinatorics, basic probability, probability distributions, and Markov chains.

Prerequisite(s): Within the last three years: C or better in MAT 151 or satisfactory score on the mathematics assessment exam.

MAT 188 Precalculus I**4 cr. hrs. 4 periods (4 lec.)**

College-level algebra. Includes equations, systems of equations, algebraic and transcendental functions, inequalities, sequences and series, and calculator use.

Prerequisite(s): Within the last three years: MAT 095 or MAT 097 with a grade of C or better, or required score on the Mathematics assessment test.

Recommendation: This course is intended as an intensive preparation for students who plan to continue to Calculus.

Information: Credit for only one course will be awarded to students completing MAT 151 and MAT 188. See course description or advisor to choose your best option. No more than 7 credits may be applied toward graduation from the following list of courses: MAT 151, 182, 187, 188, and 189. A graphing calculator is required for this course and will be used extensively.

MAT 189 Precalculus II**3 cr. hrs. 3 periods (3 lec.)**

Continuation of MAT 188. College-level trigonometry. Includes trigonometric functions, angle measure, graphs, identities, equations, polar coordinates, conic sections, and calculator use. May also include parametric equations, vectors, and complex numbers.

Prerequisite(s): Within the last three years: MAT 188 with a grade of C or better, or required score on the mathematics assessment test.

Recommendation: This course is intended as an intensive preparation for students who plan to continue with Calculus.

Information: No more than 7 credits may be applied toward graduation from the following list of courses: MAT 151, 188, and 189. A graphing calculator is required for this course and will be used extensively.

MAT 197 Precalculus Supplemental Seminar**1 cr. hrs. 1 periods (1 lec.)**

Precalculus inquiry-based problem-solving and applications. Includes mathematical modeling, problem-solving techniques and the Rule of Four: algebraic, contextual, graphical, and numerical representations.

Prerequisite(s): Within the last three years: MAT 188 with a C or better, or required score on the Mathematics assessment test.

Corequisite(s): MAT 189

Information: This course is designed to mirror MATH 196L taught at the University of Arizona.

MAT 212 Topics in Calculus**3 cr. hrs. 3 periods (3 lec.)**

Introductory topics in differential and integral calculus to include limits, continuity, differentiation, and integration of functions with particular emphasis on business applications. Microsoft Excel and/or graphing calculators will be used as tools for further understanding of these concepts.

Prerequisite(s): Within the last three years: C or better in MAT 151 or 188, or satisfactory score on the mathematics assessment exam.

Information: A graphing calculator (technology) is required. See your instructor for details.

MAT 220 Calculus I**5 cr. hrs. 5 periods (5 lec.)**

Introduction to analytical geometry and calculus. Includes limits and continuity, derivatives, applications of the derivative, and integration.

Prerequisite(s): Within the last three years: MAT 188, and 189 with a C or better; or required score on the Mathematics assessment exam.

MAT 220HC Calculus I: Honors**5 cr. hrs. 5 periods (5 lec.)**

Introduction to analytical geometry and calculus. Includes limits and continuity, derivatives, applications of the derivative, and integration. Also includes additional Honors content.

Prerequisite(s): Within the last three years: MAT 188, and 189 with a C or better; or required score on the Mathematics assessment exam.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive theoretical-based and/or application-based projects using highest standards and best practices for the discipline. Also may include team problem solving projects in formats appropriate for the discipline with results presented in class or to a wider audience.

MAT 227 Discrete Mathematics in Computer Science**4 cr. hrs. 4 periods (4 lec.)**

Mathematical concepts applicable to computer science. Includes logic, set theory, counting techniques, proof techniques, relations and functions, binary relations, big-oh notation, mathematical induction, and recursion.

Prerequisite(s): Within the last three years: MAT 220 or higher with a C or better.

Recommendation: Completion of CIS 129 or programming experience is recommended prior to enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MAT 231 Calculus II**4 cr. hrs. 4 periods (4 lec.)**

Continuation of MAT 220. Includes techniques and applications of integration, numerical integration, improper integrals, sequences, infinite series, polar coordinates, parametric equations, and other related topics.

Prerequisite(s): Within the last three years: MAT 220 with a C or better.

MAT 231HC Calculus II: Honors**4 cr. hrs. 4 periods (4 lec.)**

Continuation of MAT 220. Includes techniques and applications of integration, numerical integration, improper integrals, sequences, infinite series, polar coordinates, parametric equations, and other related topics. Also includes additional Honors content.

Prerequisite(s): Within the last three years: MAT 220 with a C or better.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive theoretical-based and/or application-based projects using highest standards and best practices for the discipline. Also may include team problem solving projects in formats appropriate for the discipline with results presented in class or to a wider audience.

MAT 241 Calculus III**4 cr. hrs. 4 periods (4 lec.)**

Continuation of MAT 231. Includes vectors in two and three dimensions, vector-valued functions, differentiation and integration of multivariable functions, and calculus of vector fields.

Prerequisite(s): Within the last three years: MAT 231 with a grade of C or better.

MAT 252 Introduction to Linear Algebra**3 cr. hrs. 3 periods (3 lec.)**

Introduction to vector spaces and linear transformations. Includes systems of linear equations, vector spaces, inner product spaces, matrices, and linear transformations.

Prerequisite(s): Within the last three years: MAT 231 with a C or better.

MAT 262 Differential Equations**3 cr. hrs. 3 periods (3 lec.)**

Introduction to differential equations. Includes first order differential equations, higher order differential equations, systems of linear differential equations, Laplace transforms, and approximating methods. Also includes applications.

Prerequisite(s): Within the last three years: MAT 231 with a C or better.

MAT 296 Independent Studies in Mathematics**1-4 cr. hrs. 1-4 periods (1-4 lec.)**

Independent studies and projects in mathematics. Content to be determined by conference between student and instructor.

Information: Consent of a sponsoring instructor must be obtained before registering in this class.

Mechatronics

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MCT 101 Introduction to Manufacturing and Automation**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Overview of mechatronics, manufacturing, and automation. Includes manufacturing related principles such as safety, employability skills, manufacturing processes, quality control, print reading and CAD modeling, lean manufacturing, control and data collection systems, manufacturing economics. Also includes an introduction to industrial control system.

MCT 102 Electrical and Electronic Systems**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Fundamental electronics and electrical principles. Includes electronic components, AC and DC circuits, Ohm's and Kirchhoff's Laws, voltage current, resistance, power, circuit protection, inductance, capacitance, reactance, load, capacitor charge and discharge time, transformers, power distribution systems and troubleshooting.

MCT 105 Electronics Assembly**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to electronic assembly safety practices and procedures, hand tools, and measuring devices. Includes basic and special assembly tools, fastener installation and removal tools, precision measuring tools, fabrication tools; torque measuring instruments, and troubleshooting.

MCT 110 Manufacturing Mechanics**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Examination of mechanical drive systems. Includes fundamentals of direct drives, belt and pulley drives, chain drives and gear drives. Explores calculating and measuring quantities such as power, speed, torque, speed and torque reduction/amplification, and backlash. Also includes hands-on experience assembling and aligning components, testing and troubleshooting systems.

MCT 115 Fluid Power**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Principles and concepts of pneumatics and hydraulics. Includes fundamentals of pneumatic and hydraulic safety, pressures, flow, forces, properties of liquids and gases, mechanical advantage, air compressors, hydraulic pumps, control valves, actuators, schematics, control systems, testing and troubleshooting.

MCT 205 Electric Motor Controls**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Examination of electrical motor control, power, and protection systems. Includes fundamentals of single and three-phase power, power, control and protection circuits. Also includes variable frequency drives (VFD's), silicon controlled rectifier (SCR) control, and programmable logic controllers (PLC's).

Prerequisite(s): MCT 102.

MCT 210 Process Control**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to instrumentation and control systems for wet type (continuous product) and dry type (discrete product) production systems. Includes process control concepts, instrumentation tag information, piping and instrumentation diagrams, level and flow sensing devices, Proportional-Integral-Derivative (PID) controllers, Programmable Logic Controllers (PLC), and final control elements.

Prerequisite(s): MCT 101 and 102.

Medical Assistant

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MDA 120 Medical Assistant Profession**2 cr. hrs. 2 periods (2 lec.)**

Overview of the medical assistant profession including the role of patient navigator and effective communication. Includes legal implications for the medical assistant, scope of practice, standard of care, and legal terminology. Also includes an overview of ethics, morals, and the effect of personal ethics on professional behaviors.

MDA 121 Medical Assistant Skills for Success**2 cr. hrs. 2 periods (2 lec.)**

Professional and personal success tools and strategies to assure a seamless transition to a professional medical assistant career. Includes communication techniques, licensure, scope of practice, reporting and balancing personal health, emotional well-being, and financial stability. Also includes insights into completion of an externship followed by approaches to identifying employment opportunities, developing a personal profile, résumé, and follow up correspondence.

MDA 122 Medical Assistant Clinical Care**2 cr. hrs. 4 periods (1 lec., 3 lab)**

A student-centered, interactive learning approach to the role of the medical assistant related to interactions within a medical practice to provide safe patient care. Includes performing and documenting appropriate diagnostic measures, identifying pathology, and initiating treatment prescribed by a licensed provider. Also includes Exposure Control Plan, Blood Borne Pathogens Standard, Personal Protective Equipment (PPE), Environmental Protection and disposal of Chemical and Biological Waste based on Occupational Health and Safety Administration (OSHA) guidelines and Center for Disease Control (CDC) regulations to assure safety in the medical practice.

Corequisite(s): MDA 123

MDA 123 Medical Assistant Clinical Procedures**3 cr. hrs. 5 periods (2 lec., 3 lab)**

An integrative approach to learning and developing the clinical procedural skills required to work in an ambulatory care setting. Includes the collection and documentation of vital signs, patient history, patient assessment, and partnering with patients to provide them with resources to achieve and maintain health. Also includes Clinical Laboratory Improvement Amendment (CLIA) waived testing, safety in medication administration, principles of nutrition, and legal and ethical considerations.

Corequisite(s): MDA 122**MDA 124 Medical Terminology for Health Care Workers****2 cr. hrs. 2 periods (2 lec.)**

Medical terminology used in health care, including descriptions of special care populations, specialty services, and communication. Encompasses a body systems approach to terms as they relate to structures, functions, diseases, procedures, and diagnostic tests. Also includes medical abbreviations, symbols, spelling, building, and analyzing medical terms.

MDA 125 Orientation to ICD-10-CM and CPT Coding**3 cr. hrs. 3 periods (3 lec.)**

Orientation to the International Classification of Diseases -10th Edition (ICD-10) coding classification system. Includes terminology, principles and components of the ICD-10 system, codes for diseases and conditions, coding from health records, and coding for the highest specificity.

Recommendation: Completion of MDA 121 and 124 before enrolling in this course. Also a minimum of 25 words per minute word processing skills. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MDA 126 Medical Billing and Insurance for Medical Assistants**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the role of the Medical Assistant to the processes and procedures related to health insurance plans in an ambulatory care environment. Includes the principles of bookkeeping, billing, accounting, and banking. Also includes the requirements for completing and submitting claims forms.

Recommendation: Minimum of 25 words per minute word processing skills.

MDA 127 Administrative Procedures for Medical Assistants**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Principles, guidelines, and procedures for professional front office administration performed by the Medical Assistant. Includes the use of electronic technology for appointment scheduling, documenting, filing, and medical records data collection and management. Also includes a broad range of verbal and nonverbal communication techniques to assist Medical Assistants in addressing the needs of a diverse patient population.

MDA 128 Medical Billing and Insurance for Medical Assistants**2 cr. hrs. 2 periods (2 lec.)**

Introduction to the role of the Medical Assistant to the processes and procedures related to health insurance plans in an ambulatory care environment. Includes the principles of bookkeeping, billing, accounting, and banking. Also includes the requirements for completing and submitting claims forms.

Recommendation: Minimum of 25 words per minute word processing skills.

MDA 190A Medical Assistant Front Office Externship**1 cr. hrs. 5 periods (5 lab)**

Practicum in administrative medical assisting. Application of administrative duties, procedures, and knowledge derived from medical assisting courses.

Prerequisite(s): HCA 119, MDA 120, 121, 124, 125, 126 and 127.

Information: Permission of the program director is required to enroll in this course.

MDA 190B Medical Assistant Back Office Externship**1 cr. hrs. 5 periods (5 lab)**

Practicum in clinical medical assisting. Application of clinical skills, procedures, and knowledge derived from medical assisting courses.

Prerequisite(s): HCA 103, 119, MDA 120, 121, 122, 123 and 124.

Information: Permission of the program director is required to enroll in this course.

Medical Laboratory Technician

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MLT 100 Phlebotomy for Medical Laboratory Technology

3 cr. hrs. 3 periods (3 lec.)

Theory of basic phlebotomy techniques and procedures. Includes instruction for blood collection, patient care, quality assurance standards, medical terminology, anatomy, blood collection procedures, variables, computers and specimen processing, and point of care (POC) testing. Also includes the skills for being a successful, confident college student; including: study strategies, college resources, time management, and life choices.

Prerequisite(s): BIO 156IN or 160IN or 201IH or 201IN or 202IN.

Corequisite(s): MLT 100LB

Information: Students must be admitted to the Medical Laboratory Technician program or obtain consent of instructor before enrolling in this course.

MLT 100IN Phlebotomy for Medical Laboratory Technology

4 cr. hrs. 6 periods (3 lec., 3 lab)

Theory and practice of basic phlebotomy techniques and procedures. Includes blood collection for patient care, quality assurance standards, medical terminology, anatomy, blood collection procedures, variables, computers and specimen processing, and point of care (POC) testing. Also includes the skills for being a successful, confident college student; including: study strategies, college resources, time management, and life choices.

Prerequisite(s): BIO 156IN or 160IN or 201IH or 201IN or 202IN.

Information: Students must be admitted to the Medical Laboratory Technician program or obtain consent of instructor before enrolling in this course. IN is the integrated version of the course with the lecture and lab taught simultaneously.

MLT 100LB Phlebotomy for Medical Laboratory Technology Lab

1 cr. hrs. 3 periods

Practice of basic phlebotomy techniques and procedures. Includes blood collection for patient care, quality assurance standards, medical terminology, anatomy, blood collection procedures, variables, computers and specimen processing, and point of care (POC) testing.

Prerequisite(s): BIO 156IN or 160IN or 201IH or 201IN or 202IN.

Corequisite(s): MLT 100

Information: Students must be admitted to the Medical Laboratory Technician program or obtain consent of instructor before enrolling in this course.

MLT 199 Introductory Co-op: Phlebotomy Lab Assisting

1.5 cr. hrs. 1.5 periods (1.5 lec.)

Principles of job success in a medical lab setting. Includes laboratory workplace skills, communication skills, time and energy management, managing stress, career information, and preparing for employment. Also includes principles, theories, and practices in the career field; and problems in the work situation.

Prerequisite(s): MLT 100IN (or 100 and 100LB).

Corequisite(s): MLT 199WK

Information: Consent of instructor is required before enrolling in this course.

MLT 199WK Introductory Co-op Work: Phlebotomy Lab Assisting

1.5 cr. hrs. 4.5 periods (4.5 lab)

A supervised cooperative work program for students in an occupation related area. Clinical coordinators work with students and their preceptors in a hospital, clinic laboratory, or outpatient collection station. The student develops competency and improved self-confidence when collecting and processing blood, urine or other body fluid samples in the laboratory workplace.

Prerequisite(s): MLT 100IN (or 100 and 100LB).

Corequisite(s): MLT 199

Information: Consent of instructor is required before enrolling in this course. Students complete 68 clock hours of supervised placement at approved work site.

MLT 200 Urinalysis/Body Fluids**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to the fundamental clinical lab techniques of urine and body fluids. Includes collection, physical and chemical examination, microscopic examination, body fluids, and individual fluids.

Prerequisite(s): With a grade of B or better: BIO 205IN, and MAT 151 or assessment into MAT 189.

Information: Students must be admitted to the Medical Laboratory Technician program or obtain consent of instructor before enrolling in this course.

MLT 211 Hematology**5 cr. hrs. 7 periods (4 lec., 3 lab)**

The study of red cells, white cells, and platelets looking at structure, formation, and the diseases associated with these cells. Includes types of blood cells, tests, normal and abnormal blood cells, maturation, disease states, hemoglobins, hemoglobinopathies, hemostasis, coagulation, fibrinolytic system, instrumentation, and quality controls and assurance.

Prerequisite(s): With a grade of B or better: BIO 205IN, and MAT 151 or assessment in MAT 189.

Information: Students must be admitted to the Medical Laboratory Technician program or obtain consent of instructor before enrolling in this course.

MLT 221 Clinical Chemistry**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Fundamentals of chemistry in a clinical setting. Includes chemical substances, instruments, laboratory procedures, blood and urine chemistry abnormalities, and laboratory instrument computers and information systems.

Prerequisite(s): With a grade of B or better: BIO 205IN, and MAT 151 or assessment into MAT 189.

Information: Students must be admitted to the Medical Laboratory Technician program and obtain consent of instructor before enrolling in this course.

MLT 231 Immunohematology/Immunology**5 cr. hrs. 7 periods (4 lec., 3 lab)**

Introduction to basic immunology related to methods utilized in the clinical laboratory. Includes blood collection, blood components, immunology and complement, principles of serological testing, genetics, blood group systems, antiglobulin testing, gel and solid phase testing, and identification of unexpected antibodies. Also includes neonatal and obstetrical transfusion practice, pre-transfusion compatibility testing, International Society of Blood Transfusion (ISBT) product labeling, adverse effects of blood transfusions, positive direct antiglobulin test (DAT), immune hemolysis, quality assurance, transplantation, and molecular testing.

Prerequisite(s): With a grade of B or better: BIO 205IN, and MAT 151 or assessment into MAT 189.

Information: Students must be admitted to the Medical Laboratory Technician program or obtain consent of instructor before enrolling in this course.

MLT 251 Clinical Microbiology**5 cr. hrs. 9 periods (3 lec., 6 lab)**

Introduction to the structure, identification, and control of bacteria. Includes categories and classification of bacteria, ecology and spread of bacteria, pathogenesis of bacterial infections, clinical bacteriology methodology, various organisms, clinically significant anaerobic bacteria, methods in antimicrobial testing, mycobacteria, viruses and other microorganisms, and local disease processes.

Prerequisite(s): With a grade of B or better: BIO 205IN, and MAT 151 or assessment into MAT 189.

Information: Students must be admitted to the Medical Laboratory Technician program or obtain consent of instructor before enrolling in this course.

MLT 260 Parasitology and Immunology/Serology**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to the basics of mycology and parasitology host relationships and their effects. Includes fungi, medical parasitology, specimen collection, techniques for examination, special techniques, other specimens, detecting and diagnosis of parasitic infections, clinically important parasites, and immunology and serological testing.

Prerequisite(s): With a grade of B or better: BIO 205IN and MAT 151 or assessment into MAT 189.

Information: Students must be admitted to the Medical Laboratory Technician program or obtain consent of instructor before enrolling in this course.

MLT 299 Advanced Co-op: Medical Laboratory Technician**6.5 cr. hrs. 6.5 periods (6.5 lec.)**

Comprehensive review of course work to prepare the student for national certifying examinations, provide a forum for discussion of current issues and technologies in clinical laboratory science, and augment the concurrent clinical experience. Students share their experience in the clinical area through discussion of topics of interest and presentation of case studies.

Prerequisite(s): MLT 100IN (or 100 and 100LB), 200, 211, 221, 231, 251 and 260.

Information: Consent of instructor is required before enrolling in this course. This is the capstone course for the MLT program.

Corequisite(s): MLT 299WK

MLT 299WK Advanced Co-op Work: Medical Laboratory Technician**7.5 cr. hrs. 22.5 periods (22.5 lab)**

A supervised cooperative work program for students in an occupation related area. Teacher-coordinators work with students and their supervisors in a hospital or clinic laboratory. The student develops competency and improved self confidence in the laboratory workplace.

Prerequisite(s): MLT 100IN (or 100 and 100LB), 200, 211, 221, 231, 251 and 260.

Corequisite(s): MLT 299

Information: Consent of instructor is required before enrolling in this course. Students complete a minimum of 338 clock hours of supervised placement at approved work site.

Mexican-American Studies

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MAS 105 Introduction to Chicano Studies**3 cr. hrs. 3 periods (3 lec.)**

Chicano(a) life in historical context since 1848. Includes defining Chicano(a) ideologies and realities from an interdisciplinary perspective. Also includes Chicano(a) history and culture within the world systems of Native Americans, New Spain, Mexico and the United States.

Information: Same as HIS 105.

MAS 127 History and Culture of the Mexican-American in the Southwest**3 cr. hrs. 3 periods (3 lec.)**

Historical survey of Mexicano(a)/Chicano(a) people from their indigenous origins in Meso-America and the Gran Chichimeca to the present in the United States. Includes historical writings, movements north under Spain and Mexico, repression and resistance. Also covers the political, economic, religious and social movements of the 19th, 20th and early 21st centuries.

Prerequisite(s): WRT 101.

Information: Same as ANT 127 and HIS 127.

MAS 201 La Chicana**3 cr. hrs. 3 periods (3 lec.)**

Interdisciplinary analysis of Chicanas/Mexicanas' status in the United States. Includes Chicana/Mexicana scholarship and Social Justice Movements, and Chicana/Mexicana feminism in the Southwest, Chicana/Mexicana community empowerment, Chicanas/Mexicanas on the U.S.-Mexico border.

Information: Same as GWS 201.

Music

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MUS 100 Guitar I**2 cr. hrs. 2 periods (2 lec.)**

Development of the principles of guitar playing with emphasis on a variety of styles and guitar repertoire. Includes parts of the guitar, music symbols, tuning, playing position, right and left hand techniques, notes on the first through third strings, notes on the fourth string, thumb technique, chord strumming, and right-hand arpeggio patterns. Also includes notes on the fifth and sixth strings, sharps and flats, twelve (12) bar blues, right hand chord technique, and open position chords.

MUS 101 Guitar II**2 cr. hrs. 2 periods (2 lec.)**

Continuation of MUS 100. Includes more detailed development of guitar skills, musicianship, sight-reading, repertoire development, ensemble playing, and improvisation.

Prerequisite(s): MUS 100.

Information: Prerequisites may be waived with consent of instructor.

MUS 102 Music Fundamentals**3 cr. hrs. 3 periods (3 lec.)**

Introduction to fundamentals of music designed to develop basic literacy in music. Includes definitions and notation, rhythm and meter, intervals, scales and transposition, key signatures, triads, chords and harmony, and simple forms.

Recommendation: Students considering music as a major are encouraged to concurrently enroll in MUS 102 and 106. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 103 Music Theory Review**1 cr. hrs. 1 periods (1 lec.)**

Intensive review of music fundamentals. Includes clefs and basic pitch notation, scales, key signatures, intervals, and triads.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 105 Introduction to Piano (Non Major)**2 cr. hrs. 2 periods (2 lec.)**

Basic principles and techniques of piano playing in a group situation. Includes study of major/minor scales and key signatures, chords, repertoire pieces, and learning and practice methods. Also includes transposition of simple compositions, sight reading, and harmonizations of melodies.

Information: Designed for non-music majors.

MUS 106 Introduction to Ear Training**2 cr. hrs. 2 periods (2 lec.)**

Ear training for individuals with little or no musical background. Includes identification of keys on a piano keyboard and notes on the musical staff, visual and aural recognition of intervals, dictation and performance of rhythmic patterns, and sight singing of melodies. Also includes major and minor key signatures and scales, singing of major and minor scales, intervals, aural identification of individual pitches, and listening to short melodic figures.

Recommendation: Students considering music as a major are encouraged to take MUS 102 and 106 concurrently.

MUS 108 Pima Jazz Band I**1 cr. hrs. 3 periods (3 lab)**

Rehearsal and performance of many styles of music in the jazz idiom. Includes interpretation of jazz literature and its notation, development of mind and body control, interpretation of jazz rhythms through listening, scales, and ensemble techniques.

Information: Students chosen by audition. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 109 Pima Jazz Band II**1 cr. hrs. 3 periods (3 lab)**

Continuation of MUS 108. Includes interpretation of jazz literature and its notation, development of mind and body control, interpretation of jazz rhythms, scales, and ensemble techniques.

Prerequisite(s): MUS 108.

Information: Students chosen by audition. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 111 Exploring Music through Piano**3 cr. hrs. 3 periods (3 lec.)**

Keyboard application skills and music fundamentals. Includes keyboard orientation, tonality, piano proficiency, musical structure, musical texture, musical style, and global topics.

MUS 116 Pima Community College Orchestra I**1 cr. hrs. 3 periods (3 lab)**

Progressive development of musical skills through interpretation of orchestra literature. Includes orchestral literature and its interpretation, mind and body control, rhythms, and ensemble performance.

Information: Students chosen by audition. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 117 Pima Community College Orchestra II**1 cr. hrs. 3 periods (3 lab)**

Continuation of MUS 116. Includes orchestral literature and its interpretation, mind and body control, rhythms, and scales and intervals in ensemble performance.

Prerequisite(s): MUS 116.

Information: Students chosen by audition. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 120 Concert Band I**1 cr. hrs. 4 periods (4 lab)**

Progressive development of musical skills through interpretation of literature. Includes mind and body control, scales, and ensemble performance.

Information: Students chosen by audition. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 121 Concert Band II**1 cr. hrs. 4 periods (4 lab)**

Continuation of MUS 120. Includes interpretation of literature, mind and body control, scales, and ensemble performance.

Prerequisite(s): MUS 120.

Information: Students chosen by audition. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 125 Structure of Music I**3 cr. hrs. 3 periods (3 lec.)**

Review of music fundamentals. Includes form and analysis, non-harmonic tones and harmonic analysis, simple keyboard-style harmony, figured bass, chord functions, voicing chords, voice leading, part-writing, and seventh chords. Also includes cadences, chords in second inversion, harmonic progression, secondary dominants, and chorale harmonizations.

Corequisite(s): MUS 127

Information: Required for all other music structure courses. Students who are music majors take MUS 125 and 127 concurrently. Music majors must also concurrently enroll in the appropriate level of studio instruction course. Consult a full time music faculty member for additional information.

MUS 126 Structure of Music II**3 cr. hrs. 3 periods (3 lec.)**

Continuation of MUS 125. Includes chromatic harmony and melody, secondary dominants and modulation, seventh and ninth chords, neapolitan and augmented sixth chords, and enharmonic relations. Also includes chromatic mediants and modulation, harmonic sequence, borrowed chords, and technical vocabulary.

Corequisite(s): MUS 129

Prerequisite(s): MUS 125

MUS 127 Aural Perception I**1 cr. hrs. 2 periods (2 lab)**

Development of aural skills. Includes rhythmic dictation, intervallic recognition, sight singing, and clapping and counting of rhythms.

Corequisite(s): MUS 125

MUS 129 Aural Perception II**1 cr. hrs. 2 periods (2 lab)**

Continuation of MUS 127. Includes aural approaches to diatonic harmony, melody, advanced rhythmic structures, advanced applications for rhythmic dictation, intervallic recognition, and general listening techniques.

Prerequisite(s): MUS 127.

Corequisite(s): MUS 126

MUS 130 Chorale (SATB)**1 cr. hrs. 4 periods (4 lab)**

Selected group of mixed voices for interpretation of a wide variety of styles of music in concerts throughout the academic year. Includes progressive development of musical skills through interpretation of literature.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 131 College Singers (SATB)**1 cr. hrs. 4 periods (4 lab)**

Small chorale ensemble. Includes repertory and performance throughout the academic year with the best literature from all styles and periods. Also includes progressive development of musical skills through interpretation of literature.

Information: Students chosen by audition. May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 136 Voice Class I**2 cr. hrs. 2 periods (2 lec.)**

Practical training in basic skills and singing without specialization. Includes techniques, group singing, individual practice, and individual performance.

MUS 141 Piano Class I (Majors)**1 cr. hrs. 2 periods (2 lab)**

Beginning instruction utilizing group and individual practice with electronic pianos. Includes scales, chords, repertoire, technique, practice habits, transposition of single-line melodies, and sight reading.

MUS 142 Piano Class II (Majors)**1 cr. hrs. 2 periods (2 lab)**

Continuation of MUS 141. Incorporates intermediate piano instruction utilizing group and individual practice with electronic pianos. Includes scales, chords, harmonization of major and minor melodies with different accompaniment patterns, and transposition of short major and minor pieces. Also includes repertoire, continued technique and practice habits, and sight reading.

Prerequisite(s): MUS 141.

MUS 143 Piano Class III (Majors)**1 cr. hrs. 2 periods (2 lab)**

Continuation of MUS 142. Incorporates intermediate piano instruction utilizing group and individual practice with electronic pianos. Includes scales, chords, arpeggios, harmonization of melodies, transpositions, repertoire pieces, technique and practice habits, sight reading, and score reading.

Prerequisite(s): MUS 142.

MUS 144 Piano Class IV (Majors)**1 cr. hrs. 2 periods (2 lab)**

Continuation of MUS 143. Incorporates advanced piano instruction utilizing group and individual practice with electronic pianos. Includes scales, arpeggios, learning methods, technique building exercises, memory method, and advanced methods of practicing.

Prerequisite(s): MUS 143.

MUS 148 Musical Theater Workshop**1 cr. hrs. 3 periods (3 lab)**

Movement and singing to enhance projection and communication capabilities in musical theater. Includes exercise in stage movement, staging and memorization of scenes, performance and musical theater, and reevaluation and practice.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 149 Opera Workshop**1 cr. hrs. 3 periods (3 lab)**

Introduction to the techniques of opera. Includes exercise in stage movement, musical preparation, staging and memorization of scenes, performance of opera, and reevaluation and practice.

Information: May be taken two times for a maximum of two credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUS 151 Exploring Music**3 cr. hrs. 3 periods (3 lec.)**

Introduction to various historical musical styles. Includes elements of music, musical instruments, the Middle Ages, the Renaissance, the Baroque era, classics, and the Nineteenth and Twentieth centuries.

MUS 152 Introduction to Music Notation Software**1 cr. hrs. 3 periods (3 lab)**

Introduction to producing music using music notation software. Includes use of hardware and software, music notation software, and documentation of projects.

MUS 153 Introduction to Electronic Music: Sequencing and Video**2 cr. hrs. 6 periods (6 lab)**

Introduction to producing music with WAV and MP3 sounds through computer software. Includes introduction to electronic music, concepts in acoustics and music synthesis, use of hardware and software, music sequencing software, documentation of projects, song data entry from computer synthesizer keyboards, editor/library, percussion writing, and timing to video.

Information: MUS 153A and 153B together constitute MUS 153.

MUS 153A Introduction to Electronic Music: Sequencing**1 cr. hrs. 3 periods (3 lab)**

Introduction to producing music with WAV and MP3 sounds through computer software. Includes introduction to electronic music, concepts in acoustics and music synthesis, use of hardware and software, music sequencing software, and documentation of projects.

Information: MUS 153A and 153B together constitute MUS 153.

MUS 153B Introduction to Electronic Music: Video**1 cr. hrs. 3 periods (3 lab)**

Introduction to producing music with WAV and MP3 sounds through computer software. Includes song data entry from computer synthesizer keyboards, editor/library, percussion writing, and timing to video.

Prerequisite(s): MUS 153A.

Information: Prerequisite(s) may be waived with consent of instructor. MUS 153A and 153B together constitute MUS 153.

MUS 157 Music Industry I: Marketing, Merchandising and the Law**3 cr. hrs. 3 periods (3 lec.)**

Operation, scope, and career opportunities in the music business. Includes music in the marketplace, professional songwriting and music composition, music copyright and publishing, business affairs in the music industry, and application of information.

MUS 158 Music Industry II: Music in Recording and Mass Media**3 cr. hrs. 3 periods (3 lec.)**

Operation, scope, and career opportunities in the music business. Includes focus on the record industry, environmental music, uses of music in radio, telecommunications and film, and career options.

MUS 160 Popular Music in America**3 cr. hrs. 3 periods (3 lec.)**

Study of the history of popular music culture in America through current trends in today's society. Includes background of music, sources of music, birth of music, syncopated song and dance, jazz, crooners and jazz singers, musical theater, country music, Latin music traditions, and roots of rock and roll. Also includes impact of technology, motown and soul, rock in the seventies, and modern trends.

MUS 201 History and Literature of Music I**3 cr. hrs. 3 periods (3 lec.)**

Music history and literature from the ancient Greeks through the Baroque. Includes emphasis on specific works and composers as representative of the evolution of Western music.

Prerequisite(s): MUS 125 or concurrent enrollment.

MUS 202 History and Literature of Music II**3 cr. hrs. 3 periods (3 lec.)**

Music history and literature from Bach to the present. Includes emphasis on specific works and composers as representative of the evolution of Western music.

Prerequisite(s): MUS 125 or concurrent enrollment.

MUS 223 Structure of Music III**3 cr. hrs. 3 periods (3 lec.)**

Continuation of MUS 126. Includes the nature of polyphony, writing simple melodic lines, basic contrapuntal technique, first species, fugue, theme and variations, binary form, rounded binary form, rondo, sonata forms, and concerto form.

Prerequisite(s): MUS 126.

Corequisite(s): MUS 224

MUS 224 Aural Perception III**1 cr. hrs. 2 periods (2 lab)**

Continuation of MUS 129. Includes scales, intervallic recognition, melodic dictation of melodies, chord type identification, rhythmic dictation and performing notated rhythms, syncopated rhythms, and sight singing melodies. Also includes motives and motivic development, themes and thematic development, and conducting while performing various rhythms and melodies.

Prerequisite(s): MUS 129.*Corequisite(s):* MUS 223**MUS 226 Structure of Music IV****3 cr. hrs. 3 periods (3 lec.)**

Continuation of MUS 223. Includes extended chromaticism; aspects of form; influence of musical nationalism; compositional techniques and technical vocabulary; and late romantic and early 20th century tonal music.

Corequisite(s): MUS 228**MUS 228 Aural Perception IV****1 cr. hrs. 2 periods (2 lab)**

Continuation of MUS 224. Includes scales and modes, intervallic recognition, melodic dictation, chord type identification, chord progressions, modulation types rhythmic dictation, and syncopated rhythms, cross-rhythms, hemiola, and asymmetrical meter. Also includes sight singing melodies, motives and motivic development, themes and thematic development, and conducting while performing various rhythms and melodies.

Prerequisite(s): MUS 224.*Corequisite(s):* MUS 226**MUS 230 Musical Rhythms for Dance****2 cr. hrs. 2 periods (2 lec.)**

Exploration of the elements of music and music structure and their relationship to dance. Includes musical compositional forms, rhythmic dance accompaniment, musical instruments, musical scores, and creation of dance accompaniment.

Prerequisite(s): DNC 150 or 166 or 219.**MUS 257 Music Recording and Production****3 cr. hrs. 3 periods (3 lec.)**

Introduction to the recording and production of music. Includes the elements of sound, the mixing board, hard drive recorder, microphone types and applications, recording strategies and room use, lab software for editing, mixing and re-recording, and creating a final project.

MUS 296 Independent Studies in Music**1-3 cr. hrs. 2-6 periods (2-6 lab)**

In-depth study in an area of the student's choice with approval by the supervising instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of six credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Music Studio Instruction

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MUP 061 Studio Instruction: Brass (Pre Major)**2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Course of study jointly determined by the instructor and student. Development of performance skills is stressed.

Information: Audition as a music major and faculty signature required before enrolling in this course. Contact the music department for audition and placement information. May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUP 062 Studio Instruction: Guitar (Pre Major)**2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Course of study jointly determined by the instructor and student. Development of performance skills is stressed.

Information: Audition as a music major and faculty signature required before enrolling in this course. Contact the music department for audition and placement information. May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUP 063 Studio Instruction: Percussion (Pre Major)**2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Course of study jointly determined by the instructor and student. Development of performance skills is stressed.

Information: Audition as a music major and faculty signature required before enrolling in this course. Contact the music department for audition and placement information. May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUP 064 Studio Instruction: Piano (Pre Major)**2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Course of study jointly determined by the instructor and student. Development of performance skills is stressed.

Information: Audition as a music major and faculty signature required before enrolling in this course. Contact the music department for audition and placement information. May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUP 065 Studio Instruction: Strings (Pre Major)**2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Course of study jointly determined by the instructor and student. Development of performance skills is stressed.

Information: Audition as a music major and faculty signature required before enrolling in this course. Contact the music department for audition and placement information. May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUP 066 Studio Instruction: Voice (Pre Major)**2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Course of study jointly determined by the instructor and student. Development of performance skills is stressed.

Information: Audition as a music major and faculty signature required before enrolling in this course. Contact the music department for audition and placement information. May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUP 067 Studio Instruction: Woodwinds (Pre Major)**2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Course of study jointly determined by the instructor and student. Development of performance skills is stressed.

Information: Audition as a music major and faculty signature required before enrolling in this course. Contact the music department for audition and placement information. May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

MUP 161 Studio Instruction: Brass I (Major)**2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Includes participation in student recitals and jury exams.

Corequisite(s): MUS 125, MUS 127

Information: Students chosen by audition.

MUP 162 Studio Instruction: Guitar I (Major)**2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Includes participation in student recitals and jury exams.

Corequisite(s): MUS 125, MUS 127

Information: Students chosen by audition.

MUP 163 Studio Instruction: Percussion I (Major)**2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Includes participation in student recitals and jury exams.

Corequisite(s): MUS 125, MUS 127*Information:* Students chosen by audition.**MUP 164 Studio Instruction: Piano I (Major)****2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Includes participation in student recitals and jury exams.

Corequisite(s): MUS 125, MUS 127*Information:* Students chosen by audition.**MUP 165 Studio Instruction: Strings I (Major)****2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Includes participation in student recitals and jury exams.

Corequisite(s): MUS 125, MUS 127*Information:* Students chosen by audition.**MUP 166 Studio Instruction: Voice I (Major)****2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Includes participation in student recitals and jury exams.

Corequisite(s): MUS 125, MUS 127*Information:* Students chosen by audition.**MUP 167 Studio Instruction: Woodwinds I (Major)****2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Includes participation in student recitals and jury exams.

Corequisite(s): MUS 125, MUS 127*Information:* Students chosen by audition.**MUP 168 Studio Instruction I: (Major)****2 cr. hrs. .5 periods (.5 lab)**

Weekly studio instruction. Includes participation in student recitals and jury exams.

Corequisite(s): MUS 125, MUS 127*Information:* Students chosen by audition.**MUP 171 Studio Instruction: Brass II (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 161. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 161.*Corequisite(s):* MUS 126, MUS 129**MUP 172 Studio Instruction: Guitar II (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 162. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 162.*Corequisite(s):* MUS 126, MUS 129**MUP 173 Studio Instruction: Percussion II (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 163. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 163.*Corequisite(s):* MUS 126, MUS 129

MUP 174 Studio Instruction: Piano II (Major)**2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 164. Private weekly instrumental lessons. Includes further development of performance skills and participation in recitals and jury exams.

Prerequisite(s): MUP 164.*Corequisite(s):* MUS 126, MUS 129**MUP 175 Studio Instruction: Strings II (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 165. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 165.*Corequisite(s):* MUS 126, MUS 129**MUP 176 Studio Instruction: Voice II (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 166. Private weekly voice lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 166.*Corequisite(s):* MUS 126, MUS 129**MUP 177 Studio Instruction: Woodwinds II (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 167. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 167.*Corequisite(s):* MUS 126, MUS 129**MUP 178 Studio Instruction II: (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 168. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 168.*Corequisite(s):* MUS 126, MUS 129**MUP 261 Studio Instruction: Brass III (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 171. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 171.*Corequisite(s):* MUS 223, MUS 224**MUP 262 Studio Instruction: Guitar III (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 172. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 172.*Corequisite(s):* MUS 223, MUS 224**MUP 263 Studio Instruction: Percussion III (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 173. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 173.*Corequisite(s):* MUS 223, MUS 224

MUP 264 Studio Instruction: Piano III (Major)**2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 174. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 174.*Corequisite(s):* MUS 223, MUS 224**MUP 265 Studio Instruction: Strings III (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 175. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 175.*Corequisite(s):* MUS 223, MUS 224**MUP 266 Studio Instruction: Voice III (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 176. Private weekly voice lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 176.*Corequisite(s):* MUS 223, MUS 224**MUP 267 Studio Instruction: Woodwinds III (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 177. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 177.*Corequisite(s):* MUS 223, MUS 224**MUP 268 Studio Instruction III: (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 178. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 178.*Corequisite(s):* MUS 223, MUS 224**MUP 271 Studio Instruction: Brass IV (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 261. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 261.*Corequisite(s):* MUS 226, MUS 228**MUP 272 Studio Instruction: Guitar IV (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 262. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 262.*Corequisite(s):* MUS 226, MUS 228**MUP 273 Studio Instruction: Percussion IV (Major)****2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 263. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 263.*Corequisite(s):* MUS 226, MUS 228

MUP 274 Studio Instruction: Piano IV (Major)**2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 264. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 264.

Corequisite(s): MUS 226, MUS 228

MUP 275 Studio Instruction: Strings IV (Major)**2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 265. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 265.

Corequisite(s): MUS 226, MUS 228

MUP 276 Studio Instruction: Voice IV (Major)**2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 266. Private weekly voice lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 266.

Corequisite(s): MUS 226, MUS 228

MUP 277 Studio Instruction: Woodwinds IV (Major)**2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 267. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 267.

Corequisite(s): MUS 226, MUS 228

MUP 278 Studio Instruction IV: (Major)**2 cr. hrs. .5 periods (.5 lab)**

Continuation of MUP 268. Private weekly instrumental lessons. Includes further development of performance skills and participation in student recitals and jury exams.

Prerequisite(s): MUP 268.

Corequisite(s): MUS 226, MUS 228

Nursing

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

NRS 104 Nursing Process I**4 cr. hrs. 4 periods (4 lec.)**

Nursing 104 introduces the student to the application of the nursing process and to the concepts of client, health, environment and nurse with emphasis on caring for the adult and older adult client. This course introduces the student to behaviors that serve as the basis of effective nursing practice: (1) a safe practitioner, (2) an effective communicator, (3) a manager/teacher, (4) a culturally competent/caring healthcare provider, and (5) professional and ethical issues of being a nurse. The student applies nursing theory in the college laboratory and the clinical setting while caring for adults and older adults in acute care, long term care and community environments.

Prerequisite(s): WRT 101 or concurrent enrollment.

Corequisite(s): NRS 104LC, NRS 104LS, NRS 108, NRS 155

Information: Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.

NRS 104LC Nursing Process I Clinical Lab**3 cr. hrs. 9 periods (9 lab)**

This is the Clinical Lab portion of NRS 104.

Prerequisite(s): WRT 101 or concurrent enrollment.

Corequisite(s): NRS 104, NRS 104LS, NRS 108, NRS 155

Information: Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.

NRS 104LS Nursing Process I Skills Lab**1 cr. hrs. 3 periods (3 lab)**

This is the Skills Lab portion of NRS 104.

Prerequisite(s): WRT 101 or concurrent enrollment.*Corequisite(s):* NRS 104, NRS 104LC, NRS 108, NRS 155*Information:* Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.**NRS 105 Nursing Process II****4 cr. hrs. 4 periods (4 lec.)**

Continuation of NRS 104. Application of the nursing process and expansion on the concepts of client, health, environment and nurse, with emphasis on caring for adult clients with common health alterations. Expansion of behaviors that are the basis of effective nursing practice: (1) safe practitioner, (2) effective communicator, (3) manager/teacher, (4) a culturally competent/caring healthcare provider, and (5) professional and ethical issues of being a nurse. Includes additional application of theory in the college laboratory and the clinical setting in acute care environments.

Prerequisite(s): NRS 104, 104LC, 104LS, 108, 155, WRT 101 and BIO 205IN, ECE 107 or PSY 240 or concurrent enrollment.*Corequisite(s):* NRS 105LC, NRS 105LS*Information:* Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.**NRS 105LC Nursing Process II Clinical Lab****4 cr. hrs. 12 periods (12 lab)**

This is the clinical lab portion of NRS 105.

Prerequisite(s): NRS 104, 104LC, 104LS, 108, 155, WRT 101 and BIO 205IN, ECE 107 or PSY 240 or concurrent enrollment.*Corequisite(s):* NRS 105, NRS 105LS*Information:* Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.**NRS 105LS Nursing Process II Skills Lab****1 cr. hrs. 3 periods (3 lab)**

This is the Skills Lab portion of NRS 105.

Prerequisite(s): NRS 104, 104LC, 104LS, 108, 155, WRT 101 and BIO 205IN, ECE 107 or PSY 240 or concurrent enrollment.*Corequisite(s):* NRS 105, NRS 105LC*Information:* Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.**NRS 108 Drug Calculations****1 cr. hrs. 1 periods (1 lec.)**

Computation of medication dosage. Includes basic mathematics review, calculation of medications, interpretation of labels, alternate methods of administration, methods of medication calculations, and calculations related to route of administration and in specialty areas.

Prerequisite(s): WRT 101 or concurrent enrollment.*Corequisite(s):* NRS 104, NRS 104LC, NRS 104LS, NRS 155*Information:* Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.**NRS 155 Introduction to Pharmacology****3 cr. hrs. 3 periods (3 lec.)**

Application of the nursing process to actions, uses, and effects of medications. Designed for nursing students and includes classifications, actions, uses, contraindications, doses, routes of administration, side effects, interactions, and incompatibilities. Also includes the application of the nursing process to the safe administration of medications and appropriate client/family education.

Prerequisite(s): WRT 101 or concurrent enrollment.*Corequisite(s):* NRS 104, NRS 104LC, NRS 104LS, NRS 108*Information:* Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.

NRS 188 Transition to Associate Degree Nursing**4 cr. hrs. 4 periods (4 lec.)**

Course facilitating transition of the Licensed Practical Nurse (LPN) into the Pima Community College Associate Degree Nursing (ADN) program. Includes role transition through the application of the nursing process and orients the student to the philosophy, major concepts, and program outcomes of the ADN program, and focuses on adult clients experiencing selected health alterations. The course includes lecture (theory), skills lab, and a clinical experience.

Corequisite(s): NRS 188LC, NRS 188LS, PSY 101, WRT 101

Information: In order to enroll in this course, the student must hold a current valid Licensed Practical Nurse (LPN) license in Arizona and have completed 576 hours in direct patient care in the role of a Licensed Practical Nurse (LPN). The student must also meet all selective admission criteria for the LPN to Associate Degree Nursing (AAS) pathway before enrolling in this course. See website for details.

NRS 188LC LPN Transition to Associate Degree Nursing Clinical Lab**4 cr. hrs. 12 periods (12 lab)**

This is the Clinical Lab portion of NRS 188. Course facilitating transition of the Licensed Practical Nurse (LPN) into the Pima Community College Associate Degree Nursing (ADN) program. Includes role transition through the application of the nursing process and orients the student to the philosophy, major concepts, and program outcomes of the ADN program, and focuses on adult clients experiencing selected health alterations. The course includes lecture (theory), skills lab, and a clinical experience.

Corequisite(s): NRS 188, NRS 188LS, PSY 101, WRT 101

Information: In order to enroll in this course, the student must hold a current valid Licensed Practical Nurse (LPN) license in Arizona and have completed 576 hours in direct patient care in the role of a Licensed Practical Nurse (LPN). The student must also meet all selective admission criteria for the LPN to Associate Degree Nursing (AAS) pathway before enrolling in this course. See website for details.

NRS 188LS Transition to Associate Degree Nursing Skills Lab**1 cr. hrs. 3 periods (3 lab)**

This is the Skills Lab portion of NRS 188. Course facilitating transition of the Licensed Practical Nurse (LPN) into the Pima Community College Associate Degree Nursing (ADN) program. Includes role transition through the application of the nursing process and orients the student to the philosophy, major concepts, and program outcomes of the ADN program, and focuses on adult clients experiencing selected health alterations. The course includes lecture (theory), skills lab, and a clinical experience.

Corequisite(s): NRS 188, NRS 188LC, PSY 101, WRT 101

Information: In order to enroll in this course, the student must hold a current valid Licensed Practical Nurse (LPN) license in Arizona and completed 576 hours in direct patient care in the role of a Licensed Practical Nurse (LPN). The student must also meet all selective admission criteria for the LPN to Associate Degree Nursing (AAS) pathway before enrolling in this course. See website for details.

NRS 196 Independent Study in Nursing**1-9 cr. hrs. 1-9 periods (1-9 lec.)**

Content to be determined by conference between student and instructor.

Information: Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.

NRS 201 Nursing Process III**5 cr. hrs. 5 periods (5 lec.)**

Continuation of NRS 105 or NRS 188. Application of the nursing process and expansion of the concepts of nurse, health, client, and environment, with an emphasis on the family and child and clients with mental health disorders. Includes content related to the roles of safe practitioner, effective communicator, manager/teacher and culturally competent/caring healthcare provider. Also includes professional and ethical issues related to provision of nursing care. Also includes additional clinical application of selected nursing skills and knowledge of the developing family and child and clients with mental health disorders.

Prerequisite(s): BIO 205IN, ECE 107 or PSY 240, NRS 105, 105LC, and 105LS; BIO 127IN or FSN 127IN and WRT 102 or concurrent enrollment.

Corequisite(s): NRS 201LC, NRS 203

Information: Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.

NRS 201LC Nursing Process III Clinical Lab**4 cr. hrs. 12 periods (12 lab)**

This is the clinical lab portion of NRS 201.

Prerequisite(s): BIO 205IN, ECE 107 or PSY 240, NRS 105, 105LC, and 105LS; BIO 127IN or FSN 127IN and WRT 102 or concurrent enrollment.**Corequisite(s):** NRS 201, NRS 203**Information:** Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.**NRS 202 Nursing Process IV****3 cr. hrs. 3 periods (3 lec.)**

Continuation of NRS 201. Application and synthesis of the nursing process with expansion of the concepts of client, health, environment and nurse. Includes further development of performance behaviors that will serve as the basis of effective nursing practice: (1) safe practitioner, (2) effective communicator, (3) manager/teacher, (4) culturally competent/caring health care provider, (5) professional and ethical practitioner. Also includes the application of nursing theory in the clinical setting while caring for adults with complex health alterations.

Prerequisite(s): BIO 127IN or FSN 127IN, NRS 201, NRS 201LC, NRS 203 and WRT 102.**Corequisite(s):** NRS 202CA, NRS 202CB**Information:** Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course. Involves student completion of a five-week preceptorship in an assigned healthcare setting.**NRS 202CA Nursing Process IV Clinical Lab - A****3.5 cr. hrs. 10.5 periods (10.5 lab)**

This is the Clinical Lab Part A portion of NRS 202.

Prerequisite(s): BIO 127IN or FSN 127IN, NRS 201, 201LC, NRS 203, and WRT 102.**Corequisite(s):** NRS 202, NRS 202CB**Information:** Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course. Involves student completion of a five-week preceptorship in an assigned healthcare setting.**NRS 202CB Nursing Process IV Clinical Lab - B****2.5 cr. hrs. 7.5 periods (7.5 lab)**

This is the Clinical Lab Part B portion of NRS 202.

Prerequisite(s): BIO 127IN or FSN 127IN, NRS 201, 201LC, NRS 203, and WRT 102.**Corequisite(s):** NRS 202, NRS 202CA**Information:** Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course. Involves student completion of a five-week preceptorship in an assigned healthcare setting.**NRS 203 Trends and Issues in Nursing****1 cr. hrs. 1 periods (1 lec.)**

Exploration of the role of the nurse as a safe practitioner with legal and ethical responsibilities. Includes current issues and trends in nursing and health care delivery and the role of the nurse as a member of the profession.

Prerequisite(s): BIO 205IN, ECE 107 or PSY 240, NRS 105, 105LC, and 105LS; BIO 127IN or FSN 127IN and WRT 102 or concurrent enrollment.**Corequisite(s):** NRS 201, NRS 201LC**Information:** Students must be admitted to the PCC Nursing program and obtain consent of the Nursing Department before enrolling in this course.

Nursing Assistant

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

NRA 101 Nursing Assistant

2 cr. hrs. 2 periods (2 lec.)

Introduction to nursing assisting. Includes body systems and common diseases, basic nursing assisting skills, providing client care, providing restorative care, providing long-term care, home health care, and certification requirements.

Prerequisite(s): Within the last two years: REA 091 with a C or better or an appropriate score on the College Reading Assessment test.

Corequisite(s): NRA 101LC, NRA 101LS

Information: Students must obtain consent from the Nursing Department before enrolling in this course.

NRA 101LC Nursing Assistant Clinical

1 cr. hrs. 3 periods (3 lab)

Clinical Lab for NRA 101.

Prerequisite(s): Within the last two years: REA 091 with a C or better or an appropriate score on the College Reading Assessment test.

Corequisite(s): NRA 101, NRA 101LS

NRA 101LS Nursing Assistant Skills

1 cr. hrs. 3 periods (3 lab)

Skills Lab for NRA 101.

Prerequisite(s): Within the last two years: REA 091 with a C or better or an appropriate score on the College Reading Assessment test.

Corequisite(s): NRA 101, NRA 101LC

NRA 102 Patient Care Technician

1 cr. hrs. 1 periods (1 lec.)

Introduction to the role of the patient care technician. Includes legal and ethical considerations, infection control, principles of asepsis during dressing changes and catheterizations, recording an electrocardiogram, proper procedure of a venipuncture, enteral feedings, and communication and interpersonal skills.

Prerequisite(s): Within the last two years: REA 091 with a C or better or an appropriate score on the College Reading Assessment test.

Corequisite(s): NRA 102LC, NRA 102LS

Information: Students must obtain consent from the Nursing Department before enrolling in this course. You must be a Certified Nursing Assistant or have successfully completed NRA 101 within the last two years to enroll in this course.

NRA 102LC Patient Care Tech Clinical

.67 cr. hrs. 2 periods (2 lab)

Clinical Lab for NRA 102.

Prerequisite(s): Within the last two years: REA 091 with a C or better or an appropriate score on the College Reading Assessment test.

Corequisite(s): NRA 102, NRA 102LS

Information: Students must obtain consent from the Nursing Department before enrolling in this course. You must be a Certified Nursing Assistant or have successfully completed NRA 101/101LC/101LS within the last two years to enroll in this course.

NRA 102LS Patient Care Tech Skills

.33 cr. hrs. 1 periods (1 lab)

Skills lab for NRA 102.

Prerequisite(s): Within the last two years: REA 091 with a C or better or an appropriate score on the College Reading Assessment test.

Corequisite(s): NRA 102, NRA 102LC

Information: Students must obtain consent from the Nursing Department before enrolling in this course. You must be a Certified Nursing Assistant or have successfully completed NRA 101/101LC/101LS within the last two years to enroll in this course.

Paralegal

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

PAR 101 Introduction to Paralegal Careers

3 cr. hrs. 3 periods (3 lec.)

Role, responsibilities and ethical standards of the paralegal. Includes paralegal employment and regulation, ethical rules of the legal profession, law office administration and systems, communication, introduction to legal research and legal analysis, state and federal judicial systems, and overview of litigation and specialty areas of law.

PAR 102 Civil Litigation Procedures I

3 cr. hrs. 3 periods (3 lec.)

Principles and procedures for commencement of civil litigation. Includes rules of civil procedure, subject matter jurisdiction, venue, statutes of limitations, parties, pleading format, preparation of complaint and answer, counterclaims, crossclaims, and third party practice. Also includes the causes of action, remedies, and potential defenses in contract and tort law.

Prerequisite(s): PAR 101 and WRT 101 or concurrent enrollment.

PAR 103 Legal Research

3 cr. hrs. 3 periods (3 lec.)

Principles and techniques of legal research. Includes categories of research materials, citing legal material, finding and using secondary authority, finding tools. Shepards Citators, case law, constitutions, statutes and administrative law, analyzing research problems, and preparing research reports.

Prerequisite(s): PAR 101 and WRT 102.

Information: Prerequisites may be waived if employed in a legal-related field, or if pursuing a post-degree certificate; see a PAR advisor or course instructor.

PAR 104 Paralegal Ethics

3 cr. hrs. 3 periods (3 lec.)

Rules and principles of professional responsibility in the legal field. Includes sources of the rules of legal ethics, ethical guidelines and attorney supervision of paralegals, unauthorized practice of law, confidentiality, conflicts of interest, advertising and solicitation, attorney's fees and fiduciary duties, competence, malpractice, ethical conduct issues in litigation, and professional integrity issues.

Prerequisite(s): PAR 103 or concurrent enrollment.

Information: Prerequisite may be waived if employed in a legal-related field, or if pursuing a post-degree certificate; see a PAR advisor or course instructor.

PAR 106 Civil and Criminal Evidence

3 cr. hrs. 3 periods (3 lec.)

Paralegal's role in the analysis and application of the rules of evidence. Includes relevancy and its limits, privileges, use, impeachment, and exclusion of witness, opinion and expert testimony, hearsay, authentication, and contents of writings, recordings, and photographs.

Prerequisite(s): PAR 103 or concurrent enrollment.

Information: Prerequisite may be waived if employed in a legal-related field, or if pursuing a post-degree certificate; see a PAR advisor or course instructor.

PAR 202 Civil Litigation Procedures II

3 cr. hrs. 3 periods (3 lec.)

Continuation of PAR 102. Includes discovery/disclosure procedures in Federal Court and in Arizona Superior Court, file organization and document control, pre-trial motions, gathering and organizing evidence, preparation of witnesses, alternative dispute resolutions, trial, post-trial and appellate procedures.

Prerequisite(s): PAR 102.

PAR 203 Tort Law Procedures

3 cr. hrs. 3 periods (3 lec.)

Concepts and procedures used in tort law cases. Includes tort litigation procedures and tort case law in the areas of negligence, professional negligence, strict liability, product liability, liability issues, and insurance coverage. Also includes interviewing and investigation techniques for the paralegal in tort cases.

Prerequisite(s): PAR 101 and 102.

Information: Prerequisites may be waived if employed in a legal-related field; see a PAR advisor or course instructor.

PAR 204 Wills, Trusts, and Estates**3 cr. hrs. 3 periods (3 lec.)**

Concepts and procedures of wills, trusts and estate planning for paralegals. Includes Arizona statutes and rules, probate and non-probate property, testate or intestate succession, will drafting and execution, will-related documents and advance directives, trusts, estate administration and related legal actions.

Prerequisite(s): PAR 101.*Information:* Prerequisite(s) may be waived if employed in a legal-related field; see a PAR advisor or course instructor.**PAR 206 Criminal Law and Procedures I****3 cr. hrs. 3 periods (3 lec.)**

Criminal law and trial processes from arrest through pre-trial procedures. Includes rules of criminal procedure, initial criminal law process, pretrial investigation and discovery, criminal and constitutional law cases, criminal statutes, and pretrial motion practice.

Prerequisite(s): PAR 101.*Information:* Prerequisite may be waived if employed in a legal-related field; see a PAR advisor or course instructor.**PAR 207 Criminal Law and Procedures II****3 cr. hrs. 3 periods (3 lec.)**

Continuation of PAR 206. Includes rules of criminal procedure, trial rights of defendants, trial procedure, case preparation for trial, direct and cross examination, evidentiary objections, and motions for the close of evidence.

Prerequisite(s): PAR 106 or concurrent enrollment, and PAR 206.**PAR 208 Domestic Relations and Family Law****3 cr. hrs. 3 periods (3 lec.)**

Law and procedures related to family relationships and domestic matters. Includes basic principles of family law, marital contracts, legal issues in family law affecting children, initiating a divorce proceeding, contested proceedings, and assisting at a dissolution trial.

Prerequisite(s): PAR 101.*Information:* Prerequisite may be waived if employed in a legal-related field; see a PAR advisor or course instructor.**PAR 209 Bankruptcy Procedures****3 cr. hrs. 3 periods (3 lec.)**

Application of legal procedures in bankruptcy. Includes jurisdiction, cast of characters and their roles in bankruptcy, client interview, evaluation of options, advising client, and drafting Chapter 7 liquidation, Chapter 13 adjustment of debts of individuals, Chapter 12 adjustment of debts of family farmer, Chapter 11 reorganization, and the paralegal's role.

Prerequisite(s): PAR 101.*Information:* Prerequisite may be waived if employed in a legal-related field; see a PAR advisor or course instructor.**PAR 211 Legal Writing****3 cr. hrs. 3 periods (3 lec.)**

Principles and techniques of legal writing. Includes writing style, editing and proofreading, legal analysis, legal brief types, and applications of legal writing for memoranda, litigation documents, and correspondence.

Prerequisite(s): PAR 103, 202 and WRT 102.**PAR 212 Law Office Computerization****3 cr. hrs. 3 periods (3 lec.)**

Application of computer software in a legal field. Includes computer hardware and software, word processing applications, database management systems, spreadsheet software, law office management, automated litigation support, telecommunications, and specialized legal software for the preparation of legal documents and document organization.

Prerequisite(s): PAR 101.*Information:* Prerequisites may be waived if employed in a legal-related field; see a PAR advisor or course instructor.**PAR 213 Computer-Assisted Legal Research****3 cr. hrs. 3 periods (3 lec.)**

Computer assisted research systems. Includes historical development, full-text system; Westlaw, search techniques, and display elements, databases, special services, and Internet searching.

Prerequisite(s): PAR 103.*Information:* Prerequisite may be waived with equivalent research experience; see a PAR advisor or course instructor.

PAR 215 Corporate Law Procedures**3 cr. hrs. 3 periods (3 lec.)**

Procedures and document drafting for the formation of business entities. Includes introduction to agency law, non-corporate entities, business corporations, corporation changes, forms of corporations, financing a public or private corporation, changes in corporate structure, and the role of the paralegal in corporate law.

Prerequisite(s): PAR 101.

Information: Prerequisite(s) may be waived if employed in a legal-related field, or if pursuing a post-degree certificate; see a PAR advisor or course instructor.

PAR 217 Real Estate Legal Procedures**3 cr. hrs. 3 periods (3 lec.)**

Legal procedures and requirements in real estate transactions and litigation. Includes real estate principles and legal concepts, recording and constructive notice, and real property taxes. Also includes an analysis of real estate contracts and purchase agreements, escrows and closings, deeds, co-ownership, legal descriptions, leases, encumbrances, liens, and foreclosures.

Prerequisite(s): PAR 101.

Information: Employment in a legal-related field or an Arizona Real Estate license may be substituted for PAR 101. See a PAR Advisor or course instructor for prerequisite information.

PAR 218 Administrative Law: Employment**1 cr. hrs. 1 periods (1 lec.)**

Concepts and procedures of employment law for paralegals. Includes an overview of employment law and regulations, and practical applications in employment law.

Prerequisite(s): PAR 101 and 103.

Information: Prerequisites may be waived if employed in a legal-related field, or if pursuing a post-degree certificate; see a PAR advisor or course instructor.

PAR 219 Administrative Law: Immigration**1 cr. hrs. 1 periods (1 lec.)**

Concepts and procedures of immigration law for paralegals. Includes an overview of immigration law and regulations, and practical applications in immigration law.

Prerequisite(s): PAR 101 and 103.

Information: Prerequisites may be waived if employed in a legal-related field, or if pursuing a post-degree certificate; see a PAR advisor or course instructor.

PAR 220 Administrative Law: Social Security**1 cr. hrs. 1 periods (1 lec.)**

Concepts and procedures of social security law for paralegals. Includes an overview of social security law and regulations, and practical applications in social security law.

Prerequisite(s): PAR 101 and 103.

Information: Prerequisites may be waived if employed in a legal-related field, or if pursuing a post-degree certificate; see a PAR advisor or course instructor.

PAR 290 Paralegal Internship**4 cr. hrs. 16 periods (1 lec., 15 lab)**

Volunteer paralegal field experience at an approved work site. Includes communications, positive work attitudes, ethics, progress review, law office systems, professional development, employment strategies, and final evaluation within a classroom seminar setting.

Prerequisite(s): PAR 104, 202 and WRT 102.

Information: Enrollment and placement contingent upon earned grade point average in PAR courses. Designed for students in their final semester of course work in the Paralegal Program. Six credit hours of PAR specialty electives from the following list must be taken - PAR 203, 204, 206, 207, 208, 209, 212, 215, 217, 218, 219, or 220. A minimum of 45 credit hours if completing the AAS Degree, or 27 credit hours in completing the certificate are required. Application and acceptance required.

Pharmacy Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

PHT 170 Introduction to Pharmacy Technology

2 cr. hrs. 2 periods (2 lec.)

An overview of the history, structure, operation, and function of the pharmacy, and the roles of the pharmacist and pharmacy support personnel. Includes: medical terminology, emphasizing common medical roots, prefixes, and suffixes; pharmaceutical abbreviations; and dosage forms and routes of administration. Also includes: information and reference resources; an introduction to third-party payment systems, HMO's, Medicare, and Medicaid; and contemporary issues, including legal and ethical aspects and future concepts in pharmacy.

Prerequisite(s): With a C or better: REA 091 or assessment into REA 112 and WRT 090 or assessment into WRT 101.

PHT 171IN Pharmaceutical Calculations

4 cr. hrs. 6 periods (3 lec., 3 lab)

Mathematical computations needed in the practice of pharmacy technology. Includes fundamentals of mathematical calculations, units and measures for the calculation of drug dosages, and interpretation of the prescription or medication order. Also includes calculation of drug dosages, reducing and enlarging formulas, percentage preparations, dilution and concentration, isotonic solutions and electrolyte solutions.

Prerequisite(s): PHT 170 or concurrent enrollment and MAT 092.

PHT 172 Drug Therapy I

4 cr. hrs. 4 periods (4 lec.)

Overview of the relationship between the central nervous system (CNS), the autonomic nervous system (ANS) and pharmaceutical therapy. Includes anatomy and physiology of the CNS, neurotransmission and disorders of the CNS, therapeutic applications of drugs affecting the CNS, and characteristics of drugs of the CNS. Also includes anatomy and physiology of the ANS, drug action on ANS neurotransmission, disorders treated with autonomic drugs, and types and characteristics of autonomic drugs.

Prerequisite(s): With a C or better: REA 091 or assessment into REA 112 and WRT 090 or assessment into WRT 101, and PHT 170 or concurrent enrollment.

PHT 175IN Pharmacy Operations

5 cr. hrs. 11 periods (2 lec., 9 lab)

An integrated course combining lecture and laboratory exercise in practical, technical, and legal aspects of drug management; distribution (dispensing); and storage in outpatient (retail), inpatient (hospital), and nursing home settings. Includes pharmacy equipment and devices, concepts related to computer operations, materials, non-sterile dosage forms, and inventory control. Also includes small or large scale compounding, packaging and quality control; practical aspects of recordkeeping, and insurance issues relevant to the daily pharmacy.

Prerequisite(s): PHT 170, PHT 171IN or concurrent enrollment.

PHT 179IN Sterile Products

5 cr. hrs. 9 periods (3 lec., 6 lab)

Application of aseptic techniques and use of the laminar flow hood in the preparation of sterile products. Includes history of sterile products and parenteral therapy, characteristics of sterile products, principles of fluid and electrolyte therapy, basics of microbiology, antiseptics and sterilization, and sterile products calculations. Also includes introduction to IV labels and profile systems, aseptic techniques, total parenteral nutrition, incompatibilities, quality control and related pharmacy software; and specialized sterile products.

Prerequisite(s): PHT 170 and PHT 171IN

PHT 181 Interprofessional Relations in Pharmacy

3 cr. hrs. 3 periods (3 lec.)

Overview of effective communications skills needed by the pharmacy technician to use interpersonally and between the pharmacist, the patient, and other health care professionals. Includes human relations development, personality inventory, and elements in communication in areas of non-verbal, interpersonal, barriers, listening, empathy and interviewing. Also includes building better patient understanding in special situations such as death and dying, ethnicity, conflict resolution, and ethical patient care.

Prerequisite(s): PHT 170 or concurrent enrollment.

PHT 182 Drug Therapy II**4 cr. hrs. 4 periods (4 lec.)**

Continuation of PHT 172. Relationship between anatomy and physiology, disease states, and pharmaceutical therapy. Includes origins, dosage forms, indications, actions, routes of administration and side effects of both prescription and non-prescription drugs used in diseases of the cardiovascular, circulatory, renal, endocrine, respiratory, digestive, reproductive, and integumentary systems.

Prerequisite(s): PHT 172.

PHT 187 Pharmacy Law and Ethics**3 cr. hrs. 3 periods (3 lec.)**

Practical guide to pharmacy law and ethics for the pharmacy technician. Includes state and federal law, roles of the pharmacist and the pharmacy technician, and ethical practices for patients.

Prerequisite(s): PHT 170 or concurrent enrollment.

PHT 190LB Pharmacy Technician Internship**4 cr. hrs. 16 periods (16 lab)**

On-site training in outpatient and inpatient pharmacy services under direct supervision of designated pharmacist.

Prerequisite(s): PHT 170, 171IN, 172, 175IN, 179IN, 181, 182, and 187. PHT 174IN, 178IN, and 180IN can replace 175IN and 179IN.

Information: Consent of program coordinator is required before enrolling in this course.

PHT 197 Clinical Seminar**2 cr. hrs. 2 periods (2 lec.)**

Topics and discussions of importance to the pharmacy technician. Includes employment search preparation, research reports, and technical papers. Also includes a review of the Arizona Pharmacy Association Pharmacy Technician Certification Exam.

Prerequisite(s): PHT 170, 171IN, 172, 175IN, 179IN, 181, 182, and 187. PHT 174IN, 178IN, 180IN can replace PHT 175IN and 179IN.

Corequisite(s)

Information: Consent of program coordinator is required before enrolling in this course.

Philosophy

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

PHI 101 Introduction to Philosophy**3 cr. hrs. 3 periods (3 lec.)**

Survey of Western Philosophy. Includes primary source readings in western philosophic areas: logic, epistemology, ethics, social/political philosophy, philosophy of religion, metaphysics, philosophy of science, and aesthetics.

PHI 120 Introduction to Logic**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the main types of logical reasoning. Includes the nature of language, deductive logic, and inductive logic.

PHI 122 God, Mind, and Matter**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the metaphysics and epistemology of the cognitive and material domains of Western philosophy. Includes philosophic method, distinctions, God, mind, and matter in ancient philosophy, medieval philosophy, modern philosophy, and contemporary philosophy and physics.

PHI 123 Philosophical Foundations of Science**3 cr. hrs. 3 periods (3 lec.)**

Introduction to Western philosophical foundations of science. Includes philosophical and scientific methods, classical, medieval, modern and contemporary science and mathematics, and philosophical problems raised by discovery and change.

PHI 130 Introductory Studies in Ethics and Social Philosophy**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the study of the principles of morality and standards of conduct from a western philosophical perspective. Includes philosophical method, foundations of moral philosophy, ethical-value judgments and human nature, theories of social morality and justice, and emotions and faith.

PHI 140 Philosophy of Religion**3 cr. hrs. 3 periods (3 lec.)**

Introduction to Western philosophical methods as applied to religion. Includes philosophical method, nature and meaning of religion and God, classical arguments, faith and reason, theodicy, mysticism, and the impact of religion on ethics, psychology, and law.

Information: Same as REL 140.

Phlebotomy

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

PHB 160 Foundations of Phlebotomy**3 cr. hrs. 3 periods (3 lec.)**

Overview of the role of phlebotomy in the healthcare profession. Includes the role of the phlebotomist within the culture of healthcare, conventions of laboratory organization and structure, the organization and purposes of laboratory departments, and the services a laboratory provides as an essential key to diagnosis. Also includes medical vocabulary, laboratory terminology, and basic anatomy and physiology with a focus on the circulatory system.

PHB 162 Safety Standards in Phlebotomy**3 cr. hrs. 3 periods (3 lec.)**

A study of phlebotomy safety practices and infection control in a laboratory setting. Includes quality controls, procedural controls, processing requirements, and transportation procedures. Also includes patient education, related legal guidelines, Occupational Safety and Health Administration (OSHA) standards, and proper equipment operation.

Corequisite(s): PHB 164, PHB 166LB

PHB 164 Professional Practices in Phlebotomy**3 cr. hrs. 3 periods (3 lec.)**

A survey of professional practices in phlebotomy, including values, ethical behavior in the workplace, and workers' rights and responsibilities. Includes stress management, development of positive personal communication skills, and concepts of teamwork. Also includes Occupational Safety and Health Administration (OSHA) and other regulatory requirements.

Corequisite(s): PHB 162, PHB 166LB

PHB 166LB Phlebotomy Laboratory Practice**2 cr. hrs. 6 periods (6 lab)**

Laboratory practice performing phlebotomy and capillary collections, including proper order of draw, labeling, and specimen handling. Includes study of basic storage, transportation, and processing. Also includes proper laboratory conduct and safety.

Corequisite(s): PHB 162, PHB 164

PHB 190LC Clinical Internship in Phlebotomy**1-3 cr. hrs. 5-15 periods (5-15 lab)**

Capstone experience for phlebotomy students. Includes an externship in the field where students practice the skills and knowledge they gain during training, such as single and multi-draw venipuncture, capillary draws, storage and transportation of specimens, testing and processing specimens, legal and ethical behaviors and documentation, and professional conduct.

Prerequisite(s): PHB 160, 162, 164 and 166LB.

Information: Credit hours will vary depending on length of time needed for student to obtain required experience for certification. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Physics

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

PHY 107IN Everyday Physics: How the World Works

4 cr. hrs. 6 periods (3 lec., 3 lab)

Introduction to physics that explains everyday life, including Newton's Laws; why things move; energy and its conservation; momentum in everyday life; waves and energy of oscillation; light and optics; electricity and magnetism; and modern physics, including atomic and nuclear processes.

PHY 121IN Introductory Physics I

4 cr. hrs. 6 periods (3 lec., 3 lab)

Introduction to general physics for programs requiring a one-year, non-calculus based physics course. Includes the nature of physics; linear motion and kinematics; dynamics; work and energy; and linear momentum. Also includes rotational motion; heat; states of matter; and waves and sound.

Prerequisite(s): With a grade of B or higher: completion of MAT 189 or higher; or required score on Mathematics assessment test. Students receiving a grade of C in MAT 187 or 189 or higher will be required to register for the PHY 121RC course concurrently; for students receiving a grade of B or higher in MAT 187 or 189, PHY 121RC course is optional but highly recommended.

PHY 121RC Introductory Physics I Recitation

1 cr. hrs. 1 periods (1 lec.)

Taken concurrently with PHY 121IN. Facilitated discussions, discrete study groups, and collaborative problem solving provide more thorough discourse on classroom concepts and theory. Introduction to general physics for programs requiring a one-year, non-calculus based physics course. Includes the nature of physics; linear motion and kinematics; dynamics; work and energy; and linear momentum. Also includes rotational motion; heat; states of matter; and waves and sound.

Prerequisite(s): With a C or better: completion of MAT 187 or 189, or required score on the Mathematic assessment test.

Corequisite(s): PHY 121IN

Information: Pass-Fail only. Students receiving a grade of C in MAT 187 or 189 will be required to enroll in PHY 121RC course concurrently; for students with a grade of B or higher in MAT 187 or 189, the PHY 121RC course is optional, but highly recommended. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

PHY 122IN Introductory Physics II

4 cr. hrs. 6 periods (3 lec., 3 lab)

Continuation of PHY 121IN. Includes light, electricity, magnetism and electromagnetism, relativity, atomic physics, quantum physics, wave mechanics, and nuclear physics.

Prerequisite(s): PHY 121IN with a grade of B or better. Students receiving a grade of C in PHY 121IN will be required to register for the PHY 122RC course concurrently; for students receiving a grade of B or higher in PHY 121IN, PHY 122RC course is optional but highly recommended.

PHY 122RC Introductory Physics II Recitation

1 cr. hrs. 1 periods (1 lec.)

Taken concurrently with PHY 122IN. Facilitated discussions, discrete study groups, and collaborative problem solving provide more thorough discourse on classroom concepts and theory. Continuation of PHY 121IN. Includes light, electricity, magnetism and electromagnetism, relativity, atomic physics, quantum physics, wave mechanics, and nuclear physics.

Prerequisite(s): PHY 121IN.

Corequisite(s): PHY 122IN

Information: Pass-Fail only. Students receiving a grade of C in PHY121IN will be required to enroll in PHY 122RC course concurrently; for students receiving a B grade or higher in PHY 121IN, the PHY 121RC course is optional, but highly recommended. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

PHY 196 Independent Studies in Physics

1-4 cr. hrs. 3-12 periods (3-12 lab)

Independent studies and projects in physics and allied science fields. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

PHY 210IN Introductory Mechanics**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Calculus-based introduction to mechanics for physics, engineering, and mathematics majors. Includes nature of physics; linear motion and kinematics; dynamics; work and energy; linear momentum; and rotational motion.

Prerequisite(s): With a grade of B or higher: MAT 220 Students receiving a grade of C in MAT 220 will be required to register for the the PHY 210RC course concurrently; for students receiving a grade of B or higher in MAT 220, PHY 210RC course is optional but highly recommended.

Information: High school physics is strongly recommended before enrolling in this course.

PHY 210RC Introductory Mechanics Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with PHY 210IN. Facilitated discussions, discrete study groups, and collaborative problem solving provide more thorough discourse on classroom concepts and theory. Calculus-based introduction to mechanics for physics, engineering, and mathematics majors. Includes nature of physics; linear motion and kinematics; dynamics; work and energy; linear momentum; and rotational motion.

Prerequisite(s): With a grade of C or higher: MAT 220.

Corequisite(s): PHY 210IN

Information: Pass-Fail only. Students receiving a grade of C in MAT 220 will be required to enroll in PHY 210RC course concurrently; for students receiving a B grade or higher in MAT 220, the PHY 210RC course is optional, but highly recommended. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

PHY 216IN Introductory Electricity and Magnetism**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Calculus-based introduction to electricity and magnetism for physics, mathematics, and engineering majors. Includes electric charge and Coulomb's law, the electric field, Gauss's law, electric potential, capacitors and dielectrics, current and resistance, the magnetic field, Ampere's law and Biot-Savart law, and Faraday's law of induction. Also includes magnetic properties of matter, inductance, alternating current, Maxwell's equations, and electromagnetic waves.

Prerequisite(s): With a grade of C or higher: MAT 231 and PHY 210IN. Students receiving a grade of C in PHY 210IN will be required to register for the PHY 216RC course concurrently; for students receiving a B grade or higher in PHY 210IN, PHY 216RC is optional but highly recommended.

PHY 216RC Introductory Electricity and Magnetism Recitation**1 cr. hrs. 1 periods (1 lec.)**

Taken concurrently with PHY 216IN. Facilitated discussions, discrete study groups, and collaborative problem solving provide more thorough discourse on classroom concepts and theory. Calculus-based introduction to electricity and magnetism for physics, mathematics, and engineering majors. Includes electric charge and Coulomb's law, the electric field, Gauss's law, electric potential, capacitors and dielectrics, current and resistance, the magnetic field, Ampere's law and Biot-Savart law, and Faraday's law of induction. Also includes magnetic properties of matter, inductance, alternating current, Maxwell's equations, and electromagnetic waves.

Prerequisite(s): With a grade of C or higher: MAT 231 and PHY 210IN.

Corequisite(s): PHY 216IN

Information: Pass-Fail only. Students receiving a grade of C in PHY 210IN will be required to register for the PHY 216RC course concurrently; for students receiving a B grade or higher in PHY 210IN, the PHY 216RC course is optional, but highly recommended. Please be aware that if this course is not applicable toward your program of study, it is not eligible for the calculation of Federal Student Aid.

PHY 221IN Introduction to Waves and Heat**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Calculus-based introduction to waves and heat for physics, mathematics and engineering majors. Includes fluid statics and dynamics, temperature, heat and thermodynamics, kinetic theory, thermodynamics and entropy, oscillations and simple harmonic motion, and wave motion. Also includes electromagnetic waves and the propagation of light, diffraction and interference, reflection and refraction at plane surfaces, and spherical mirrors and lenses.

Prerequisite(s): With a grade of C or higher: MAT 231 and PHY 210IN.

PHY 295LB Independent Research in Physics**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Experience in scientific laboratory research. Specific content to be determined by student and instructor.

Information: One semester of physics and consent of instructor is required before enrolling in this course. May be taken three times for a maximum of twelve credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Political Science

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

POS 100 Introduction to Politics

3 cr. hrs. 3 periods (3 lec.)

Issues, principles, and trends in political science. Includes politics and political science, political philosophy and ideology, comparative politics, American national government, and international relations.

POS 196 Independent Study in Political Science

2-4 cr. hrs. 2-4 periods (2-4 lec.)

Independent readings or special projects in political science. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

POS 201 American National Government and Politics

3 cr. hrs. 3 periods (3 lec.)

Origins, development, and current operation of the institutions and processes of American government and politics in the federal system. Includes approaches to political analysis, cultural environment of American politics, impact of race/ethnicity, class, gender, and immigration, Constitution, civil liberties and civil rights, and public opinion. Also includes linkage institutions such as political parties, interest groups, the media, and elections, and exploration of various policy areas including social welfare policymaking.

Information: The combination of both POS 201 and POS 231 satisfies the requirement for teacher certification, as does POS 210.

POS 202 Introduction to International Relations

3 cr. hrs. 3 periods (3 lec.)

Examination of contemporary international relations. Includes approaches to the study of international relations, international systems, actors in international systems, globalization, and major forms of interactions.

POS 203 Introduction to Political Ideas

3 cr. hrs. 3 periods (3 lec.)

Introductory survey of western political philosophy. Includes political philosophy as a discipline, and introduction to the ideas of key political thinkers from ancient through medieval, early modern, late modern, and contemporary periods.

Prerequisite(s): WRT 101.

POS 204 Introduction to Comparative Politics

3 cr. hrs. 3 periods (3 lec.)

Basic concepts and substance of comparing political systems. Includes methods of comparative political analysis, nations and states, democratic and nondemocratic systems, constitutions and political ideologies, governmental and linkage institutions and electoral systems. Also includes case studies from diverse countries are used to illustrate and explain the above concepts.

POS 210 National and State Constitutions

3 cr. hrs. 3 periods (3 lec.)

Principles and procedures of national and state constitutions. Includes major principles of American and Arizona Constitutionalism, historical and legal environments of the United States and Arizona constitutions, structures, powers, and responsibilities of United States government, structures of Arizona government, civil liberties and civil rights in the United States, and constitutional change.

Information: POS 210 satisfies the requirement for teacher certification as does the combination of both POS 201 and 231.

POS 231 American State and Local Governments and Politics

3 cr. hrs. 3 periods (3 lec.)

Basic concepts, structures, and substance of American state and local politics and government. Includes methods of political analysis, federalism and intergovernmental relations, cultural and demographic diversity in state and local politics, democracy and constitutionalism, civil rights policy, patterns and forms of political participation, electoral systems and the impact of nonpartisanship, institutions and processes of state and local governments. Also includes status features of tribal governments, and state and local policymaking.

Information: The combination of both POS 231 and POS 201 satisfies the requirement for teacher certification, as does POS 210.

POS 240 Understanding Terrorism**3 cr. hrs. 3 periods (3 lec.)**

Analysis of terrorism as an international phenomenon. Includes terrorism definitions and perspectives, classifications of terrorism, cultural and geographical issues, responses by governments to terrorism, terrorism's future impact on the international and domestic scene, and current government reports on terrorism.

POS 290 Political Science Internship**3 cr. hrs. 9 periods (9 lab)**

Supervised internship in a governmental or other political office. Includes placement with elected officials or candidates for public office, city, county, state, or federal governmental agencies, and advocacy groups. Also includes substantive assignments involving development and application of analytical, research and writing skills.

Prerequisite(s): WRT 101.

Information: Completion of 6 credit hours of Political Science courses are required before enrolling in this course. May take course a maximum of three times for a total of nine credit hours. If the course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Psychology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

PSY 101 Introduction to Psychology**3 cr. hrs. 3 periods (3 lec.)**

Survey of psychology including history, perspectives, and methods; structure and functions of the nervous and endocrine systems; development; perception; learning; memory; intelligence, thinking and language; motivation and emotion; personality; psychopathology; psychotherapy; stress and health; and social cognition and behavior.

PSY 101HC Introduction to Psychology: Honors**3 cr. hrs. 3 periods (3 lec.)**

Survey of psychology including history, perspectives, and methods; structure and functions of the nervous and endocrine systems; development; perception; learning; memory; intelligence, thinking and language; motivation and emotion; personality; psychopathology; psychotherapy; stress and health; and social cognition and behavior. Also may include the following Honors Content: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources; "publishable quality", peer reviewed paper or project in format appropriate for this discipline: presentation of research, in class or to a wider audience.

PSY 132 Psychology and Culture**3 cr. hrs. 3 periods (3 lec.)**

Current knowledge about human diversity in behavior and culture using examples from a variety of contexts within western and global societies. Includes cross-cultural psychology, such as intergroup relations, diverse cognitive styles, ethnocentrism, gender, personality, emotion, language, communication, work and health. Also includes enculturation throughout the lifespan and increasing awareness of how behavioral and cognitive principles affect interactions in a multicultural world.

Recommendation: Completion of PSY 101 before enrolling in this class. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

PSY 214 Abnormal Psychology**3 cr. hrs. 3 periods (3 lec.)**

Overview of the theoretical models, diagnosis, disorders, and treatment approaches in the field of abnormal psychology. Includes history; models; anxiety and mood disorders; mind and body disorders; psychosis and cognitive functioning disorders; and life span disorders.

Prerequisite(s): PSY 101.

Information: Prerequisite(s) may be waived with consent of instructor before enrolling in this class.

PSY 215 Human Sexuality**3 cr. hrs. 3 periods (3 lec.)**

Examination of human sexual experience throughout the life cycle, viewed from sociological and psychological perspectives. Includes psychological, sociological, and cultural legacy of sexuality, biological foundations of sexuality, varieties of sexual behaviors, sexuality and the life cycle, sexual problems, and social issues.

Recommendation: Completion of one of the following before enrolling in this course: PSY 101, or SOC 101. REA 091 with a C or better (or assessment into REA 112). If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Same as SOC 215.

PSY 216 Psychology of Gender**3 cr. hrs. 3 periods (3 lec.)**

Biological and social explanations of gender development and behaviors. Includes research methods used to study gender, biological sexual differentiation, differential socialization and gender stereotyping, gender differences, limitations of traditional gender roles, cross-cultural gender issues, and changing gender roles.

Recommendation: Completion of PSY 101 before enrolling in this course. REA 091 with a C or better (or assessment into REA 112). If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

PSY 218 Health Psychology**3 cr. hrs. 3 periods (3 lec.)**

Overview of health psychology in relationship to cultural diversity in the United States, and awareness of the universal aspect of humanity. Includes mind-body relationships, behavior risk factors, and psychosocial aspects of specific disorders. Also includes health psychology, social, economic, and political dimensions of relationships between and among ethnic and gender groups.

Recommendation: Completion of PSY 101 before enrolling in this course. REA 091 with a C or better (or assessment into REA 112). If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

PSY 220 The Psychology of Death and Loss**3 cr. hrs. 3 periods (3 lec.)**

Adjustment to death and loss. Includes thinking about death, meaning of death, death system, dying, hospice, and end-of-life issues. Also includes suicide, violent death, euthanasia, bereavement, funeral process, near death experiences, and death education and counseling.

Recommendation: Completion of PSY 101 before enrolling in this course. REA 091 with a C or better (or assessment into REA 112). If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

PSY 224 Investigating Paranormal Psychology**3 cr. hrs. 3 periods (3 lec.)**

Survey of experiments and case studies in paranormal phenomena. Includes extrasensory perception, psychokinesis, and reports of near-death experiences. Also includes research methodologies and potential applications.

Recommendation: Completion of PSY 101 before enrolling in this class. REA 091 with a C or better (or assessment into REA 112). If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

PSY 230 Psychological Measurements and Statistics**3 cr. hrs. 3 periods (3 lec.)**

Measurement, quantitative description and statistical inference as applied to psychological variables. Includes scientific research and statistics, descriptive statistics, inferential statistics, correlation and linear regression, and non-parametric tests.

Prerequisite(s): PSY 101, and completion of MAT 097 or equivalent with a C or better.

Information: Prerequisite(s) may be waived with consent of instructor before enrolling in the class.

PSY 240 Developmental Psychology**3 cr. hrs. 3 periods (3 lec.)**

Human development from conception through adulthood. Includes physical, cognitive, emotional, and social development milestones at various periods in the lifespan. Also includes research methods used in developmental psychology, and the exploration of empirical literature in psychology as it relates to developmental issues.

Prerequisite(s): PSY 101.

Information: Prerequisite(s) may be waived with consent of instructor before enrolling in the class.

PSY 254 Psychology of Love and Compassion**3 cr. hrs. 3 periods (3 lec.)**

Introduction to theory and research on the psychology of love and caring. Includes applications to mental, physical and spiritual health. Also includes gender behaviors and expectations in loving relationships.

Recommendation: Completion of PSY 101. REA 091 with a C or better (or assessment into REA 112). If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

PSY 262 Positive Psychology**3 cr. hrs. 3 periods (3 lec.)**

An introduction to research, theory and intellectual history of positive psychology. Overview and application of psychological principles relevant to the nature of happiness and psychological well-being as opposed to dysfunction and symptoms of mental disorders. Includes research methods, authenticity, happiness, mindfulness, positive interventions, emotional intelligence, character strengths, creativity, and core values and virtues.

Recommendation: PSY 101 with a C or better. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

PSY 289 Psychology Research Methods**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to scientific methodologies used in psychological research. Includes experience in using a range of psychological research methods for students.

Prerequisite(s): PSY 101, PSY 230, and WRT 101 with a grade of C or better.

Recommendation: Designed for students planning to major or minor in psychology.

Information: Prerequisite(s) may be waived with consent of instructor before enrolling in this class.

ROTC — Air Force

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MLA 100 Foundations of Air Force I**2 cr. hrs. 2 periods (2 lec.)**

Foundations of the United States Air Force I is the first half of a survey course designed to introduce students to the United States Air Force and provides an overview of the basic characteristics, missions, and organization of the Air Force.

Information: United States Air Force Reserve Officers' Training Corps (AFROTC). Cadets must attend a Leadership seminar on Tuesday and Thursday from 6:45 A.M. to 7:45 A.M. Course offered in cooperation with the University of Arizona.

MLA 101 Foundation of the Air Force II**2 cr. hrs. 2 periods (2 lec.)**

Foundations of the United States Air Force II is the second half of a survey course designed to introduce students to the United States Air Force and provides an overview of the basic characteristics, missions, and organization of the Air Force.

Information: United States Air Force Reserve Officers' Training Corps (AFROTC). Cadets must attend a Leadership seminar on Tuesday and Thursday from 6:45 A.M. to 7:45 A.M. Course offered in cooperation with the University of Arizona.

MLA 110 Military Aerospace Physical Training Program**1 cr. hrs. 2 periods (2 lab)**

Introduction to the Air Force physical training program. Includes attention to the group's physical ability, emphasis on individual physical abilities, and gradual increase to a higher level of physical fitness. Also includes establishment of goals and standards for conduct in physical training, and prepares the student to pass the Air Force Physical Fitness Assessment (AF PFA).

Information: Initial dates for the AF PFA will be determined the first week of class and identified in the cadet wing calendar.

MLA 200 Evolution of USAF Air and Space Power I**2 cr. hrs. 2 periods (2 lec.)**

Evolution of USAF Air and Space Power I is the first half of a survey course that features topics on Air Force heritage and leaders. Includes introduction to air power through examination of the Air Force Core Functions; and application of communication skills. Course purpose is to instill an appreciation of the development and employment of air power and to motivate second year students to transition from Air Force Reserve Officers' Training Corps (AFROTC) Cadet to Air Force ROTC Officer Candidate.

Information: United States Air Force Reserve Officers' Training Corps (AFROTC) Cadets must attend a Leadership seminar on Tuesday and Thursday from 6:45 A.M. to 7:45 A.M. Course offered in cooperation with the University of Arizona.

MLA 201 Evolution USAF Air and Space Power II

2 cr. hrs. 2 periods (2 lec.)

Evolution of USAF Air and Space Power II is the second half of a survey course that features topics on Air Force heritage and leaders. Includes introduction to air power through examination of the Air Force Core Functions; and application of communication skills. Course purpose is to instill an appreciation of the development and employment of air power and to motivate second year students to transition from Air Force Reserve Officers' Training Corps (AFROTC) Cadet to Air Force ROTC Officer Candidate.

Information: United States Air Force Reserve Officers' Training Corps (AFROTC) Cadets must attend a Leadership seminar on Tuesday and Thursday from 6:45 A.M. to 7:45 A.M. Course offered in cooperation with the University of Arizona.

ROTC — Army

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

MLS 100 Introduction to Military Skills I

3 cr. hrs. 3 periods (3 lec.)

Introduction to Army leadership and the Reserve Officers' Training Corps (ROTC) program. Includes role of the U.S. Army, principles and techniques of applied leadership, customs, traditions and military courtesy, basic marksmanship, first aid, land navigation, and small-unit tactics.

Information: Course offered in cooperation with the University of Arizona. Field trip may be required to Ft. Huachuca, AZ.

MLS 101 Introduction to Military Skills II

3 cr. hrs. 3 periods (3 lec.)

Continuation of MLS 100. Introduction to Army leadership and the Reserve Officers' Training Corps (ROTC) program. Includes U.S. Army tactical concepts such as map reading, land navigation, and general operations. Also includes Adaptive Leader Methodology (ALM) and development of leader character presence, intellect, and intelligence.

Prerequisite(s): MLS 100 with a C or better.

Information: Course offered in cooperation with the University of Arizona. Field trip may be required to Ft. Huachuca, AZ. Prerequisites may be waived with consent of instructor.

MLS 102 Army Physical Training

1 cr. hrs. 1.5 periods (.5 lec., 1 lab)

Introduction to the importance of physical fitness and its life long benefits. Includes physical conditioning, establishing goals and setting standards for physical training.

Information: Course offered in cooperation with the University of Arizona. Student must also be enrolled in MLS 100,101, 200, or 201.

MLS 200 Army Leadership Dynamics I

3 cr. hrs. 3 periods (3 lec.)

Foundations of tactical leadership strategies and styles. Includes development of attributes and core leadership competencies of Army rank, structure, and duty. Also includes personal motivation and team building through planning, executing, assessing team exercises, and leadership sessions.

Prerequisite(s): MLS 100 and 101 with a C or better.

Information: Course offered in cooperation with the University of Arizona. Field trip may be required to Ft. Huachuca, AZ. Prerequisites may be waived with consent of instructor.

MLS 201 Army Leadership Dynamics II

3 cr. hrs. 3 periods (3 lec.)

Continuation of MLS 200. Foundations of tactical leadership strategies and styles. Includes challenges of leading tactical teams in the operational environment; dynamics of adaptive leadership in military operations; and development of individual leadership styles. Also includes self-awareness, communications, and team building skills.

Prerequisite(s): MLS 200 with a C or better.

Information: Course offered in cooperation with the University of Arizona. Field trip may be required to Ft. Huachuca, AZ. Prerequisites may be waived with consent of instructor.

MLS 296 Independent Study in Military Science

3 cr. hrs. 3 periods (2 lec., 1 lab)

Advanced level study in leadership, values and ethics, personal development, officership, tactics and techniques, and effective writing. Includes topics that contribute to the development of professional and proficient cadets and officers.

Information: Course offered in cooperation with the University of Arizona. See an instructor before enrolling in this course.

ROTC — Navy

For courses numbered 098, 198, 298, see “Topic Courses” on page 233

NSP 100 Naval Laboratory I

1 cr. hrs. 2 periods (2 lab)

Overview of the Naval service. Includes drill and ceremonies, physical fitness, cruise preparation, sail training, safety awareness, and personal finances. Also includes applied exercises in naval ship systems, navigation, naval operations, naval administration, and military justice.

Information: Acceptance into the Navy Reserve Officers’ Training Corps (ROTC) program at the University of Arizona is required before enrolling in this course. Course offered in cooperation with the University of Arizona. May be taken four times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran’s Affairs advisor to determine funding eligibility as appropriate.

NSP 101 Introduction to Naval Science

3 cr. hrs. 3 periods (3 lec.)

Provides the general military information required of a junior officer in the naval service by introducing structure, mission, and long held customs and traditions. Includes a brief description of each community within the Navy, an outline of Military Law as it applies to the junior officer, sea power and its implications, and shipboard damage control and safety.

Information: Acceptance into the Navy Reserve Officers’ Training Corps (ROTC) program at the University of Arizona is required before enrolling in this course. Course offered in cooperation with the University of Arizona.

NSP 102 Naval Ship Systems I

3 cr. hrs. 3 periods (3 lec.)

Overview of naval ship systems engineering. Includes the fundamentals of ship construction, stability, damage control and repair, basic thermodynamics, and steam and nuclear propulsion systems.

Information: Acceptance into the Navy Reserve Officers’ Training Corps (ROTC) program at the University of Arizona is required before enrolling in this course. This course is offered in cooperation with the University of Arizona.

NSP 103 Naval Laboratory I (Marine Option)

2 cr. hrs. 4 periods (4 lab)

Overview of drill and physical readiness requirements for Marines. Includes topics, such as drill and ceremonies, physical fitness, Officer Candidate School (OCS) preparation, Land Navigation training, safety awareness, general military subjects, and applied field exercises in Marine Corps small unit.

Information: Acceptance into the Navy Reserve Officers’ Training Corps (ROTC) program (Marine Option) at the University of Arizona is required before enrolling in this course. Course offered in cooperation with the University of Arizona.

NSP 110 Navy/Marine Physical Training

1 cr. hrs. 2 periods (2 lab)

Introduction to Navy and Marine Corps physical training. Includes physical fitness and physical leadership through running, swimming, calisthenics, circuit training, obstacle course, and team-effort events. Also includes establishment of goals and standards for conduct in physical training, and prepares the student to pass the Navy Personal Fitness Assessment (PFA) or the Marine Corps Physical Fitness Test (PFT) and Combat Fitness Test (CFT).

Information: Acceptance into the Navy Reserve Officers’ Training Corps (ROTC) program (Marine Option) at the University of Arizona is required before enrolling in this course. Course offered in cooperation with the University of Arizona. A final physical fitness test will be run during the last month of the course.

NSP 201 Naval Ship Systems II

3 cr. hrs. 3 periods (3 lec.)

Introduction to the basic concepts in detection, tracking, and destruction of enemy forces. Emphasis will be placed on the fundamentals of weapon systems theory, principles, and application. Discussion of past, present, and future weapons will be included to understand the evolution of weapons systems components and their applications.

Information: Acceptance into the Navy Reserve Officers’ Training Corps (ROTC) program (Marine Option) at the University of Arizona is required before enrolling in this course. Course offered in cooperation with the University of Arizona.

NSP 202 Sea Power and Maritime Affairs

3 cr. hrs. 3 periods (3 lec.)

United States (U.S.) Naval history from the American Revolution to the present. Includes the general concept of sea power, the role of various warfare components of the Navy in supporting its mission, the implementation of sea power as an instrument of national policy, and a comparative study of U.S. and Soviet naval strategies.

Information: Acceptance into the Navy Reserve Officers’ Training Corps (ROTC) program (Marine Option) at the University of Arizona is required before enrolling in this course. Course offered in cooperation with the University of Arizona.

Radiologic Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

RAD 170 Medical Imaging Fundamentals

2 cr. hrs. 2 periods (2 lec.)

Principles of radiographic imaging. Includes program orientation, production of diagnostic radiation, image formation, ethics and professionalism, patient care and assessment, age specific care considerations, and radiographic positioning of the abdomen and chest.

Corequisite(s): RAD 170LB

Information: Consent of program director is required before enrolling in this course.

RAD 170LB Medical Imaging Fundamentals Lab

1 cr. hrs. 3 periods (3 lab)

This is the lab portion of RAD 170. Principles of radiographic imaging. Includes program orientation, production of diagnostic radiation, image formation, ethics and professionalism, patient care and assessment, age specific care considerations, and radiographic positioning of the abdomen and chest.

Corequisite(s): RAD 170

Information: Consent of program director is required before enrolling in this course.

RAD 171 Radiographic Positioning I

3 cr. hrs. 3 periods (3 lec.)

Overview of radiographic procedures. Includes standard terms, general considerations, positioning considerations for routine and special radiographic procedures, and radiographic positions of the upper extremities, shoulder girdle, and lower extremities.

Prerequisite(s): BIO 201IN, RAD 170, and 170LB.

Corequisite(s): RAD 171LB, RAD 172, RAD 172LB, RAD 173LC

Information: Consent of program director is required before enrolling in this course.

RAD 171LB Radiographic Positioning I Lab

1.5 cr. hrs. 4.5 periods (4.5 lab)

This is the lab portion of RAD 171. Review of radiographic procedures. Includes standard terms, general considerations, positioning considerations for routine and special radiographic procedures, and radiographic positions of the upper extremities, shoulder girdle, and lower extremities.

Prerequisite(s): BIO 201IN, RAD 170, and 170LB.

Corequisite(s): RAD 171, RAD 172, RAD 172LB, RAD 173LC

Information: Consent of program director is required before enrolling in this course.

RAD 172 Medical Imaging Technology I

3 cr. hrs. 3 periods (3 lec.)

Introduction to the principles of x-ray production. Includes matter and the atom, mass and energy; electricity, magnetism, and electromagnetism; x-ray tubes, x-ray generators, diagnostic x-ray systems, ALARA guidelines and practices, and the prime factors.

Prerequisite(s): BIO 201IN, RAD 170, and 170LB.

Corequisite(s): RAD 171, RAD 171LB, RAD 172LB, RAD 173LC

Information: Consent of program director is required before enrolling in this course.

RAD 172LB Medical Imaging Technology I Lab

.5 cr. hrs. 1.5 periods (1.5 lab)

This is the lab portion of RAD 172. Introduction to the principles of x-ray production. Includes matter and the atom, mass and energy; electricity, magnetism, and electromagnetism; x-ray tubes, x-ray generators, diagnostic x-ray systems, ALARA guidelines and practices, and the prime factors.

Prerequisite(s): BIO 201IN, RAD 170, and 170LB.

Corequisite(s): RAD 171, RAD 171LB, RAD 172, RAD 173LC

Information: Consent of program director is required before enrolling in this course.

RAD 173LC Clinical Education I**6 cr. hrs. 24 periods (24 lab)**

Introduction to the first clinical practicum. Includes clinical site orientation, radiographic equipment and supplies, exam protocols, and routine and special radiographic examinations.

Prerequisite(s): BIO 201IN, RAD 170, and 170LB.

Corequisite(s): RAD 171, RAD 171LB, RAD 172, RAD 172LB

Information: Clinical Education Centers may require additional fees and a tuberculosis skin test. Students must be admitted to RAD program before enrolling in this course. Competency-based assignments, concepts of patient-centered clinical practice and professional development shall be discussed, examined, performed and evaluated under the supervision of a certified Radiologic Technologist. The clinical practicum incorporates critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiographic procedures.

RAD 174 Radiographic Positioning II**3 cr. hrs. 3 periods (3 lec.)**

Continuation of RAD 171. Includes routine and special positioning of the pelvis, hips, SI joints, boney thorax, and vertebral column. Also includes pediatric radiography, trauma/surgical mobile radiography, and related osseous system pathology.

Prerequisite(s): Rad 171, 171LB, 172, 172LB, and 173LC.

Corequisite(s): RAD 174LB, RAD 175, RAD 175LB, RAD 176LC

Information: Consent of program director is required before enrolling in this course.

RAD 174LB Radiographic Positioning II Lab**1.75 cr. hrs. 2.25 periods (2.25 lab)**

This is the lab portion of RAD 174. Continuation of RAD 171. Includes routine and special positioning of the pelvis, hips, SI joints, boney thorax, and vertebral column. Also includes pediatric radiography, trauma/surgical mobile radiography, and related osseous system pathology.

Prerequisite(s): RAD 171, 171LB, 172, 172LB, and 173LC.

Corequisite(s): RAD 174, RAD 175, RAD 175LB, RAD 176LC

Information: Consent of program director is required before enrolling in this course.

RAD 175 Medical Imaging Technology II**3 cr. hrs. 3 periods (3 lec.)**

Continuation of RAD 172/172LB. Includes concepts of radiographic image quality, x-ray interactions with matter, formulation of x-ray techniques, automatic exposure control, and x-ray detection devices.

Prerequisite(s): RAD 171, 171LB, 172, 172LB, and 173LC.

Corequisite(s): RAD 174, RAD 174LB, RAD 175LB, RAD 176LC

Information: Consent of program director is required before enrolling in this course.

RAD 175LB Medical Imaging Technology II Lab**.5 cr. hrs. 1.5 periods (1.5 lab)**

This is the lab portion of RAD 175. Continuation of RAD 172/172LB. Includes concepts of radiographic image quality, x-ray interactions with matter, formulation of x-ray techniques, automatic exposure control, and x-ray detection devices.

Prerequisite(s): RAD 171, 171LB, 172, 172LB, and 173LC.

Corequisite(s): RAD 174, RAD 174LB, RAD 175, RAD 176LC

Information: Consent of program director is required before enrolling in this course.

RAD 176LC Clinical Education II**6 cr. hrs. 24 periods (24 lab)**

Continuation of RAD 173LC. Includes routine and special radiographic procedures, trauma and mobile radiography, osseous pathology, and pediatric radiography.

Prerequisite(s): RAD 171, 171LB, 172, 172LB, and 173LC.

Corequisite(s): RAD 174, RAD 174LB, RAD 175, RAD 175LB

Information: Clinical Education Centers may require additional fees and a tuberculosis skin test. Student must be admitted to the RAD program before enrolling in this course. Competency-based assignments, concepts of patient-centered clinical practice and professional development shall be discussed, examined, performed and evaluated under the supervision of a certified Radiologic Technologist. The clinical practicum incorporates critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiographic procedures.

RAD 177LC Clinical Education III**4.5 cr. hrs. 18 periods (18 lab)**

Continuation of RAD 176LC. Includes routine and special radiographic procedures, mobile radiography, emergency department procedures, and observation and assisting in fluoroscopic procedures.

Prerequisite(s): RAD 174, 174LB, 175, 175LB, and 176LC.

Information: Clinical Education Centers may require additional fees and a tuberculosis skin test. Student must be admitted to the RAD program before enrolling in this course. Competency-based assignments, concepts of patient-centered clinical practice and professional development shall be discussed, examined, performed and evaluated under the supervision of a certified Radiologic Technologist. The clinical practicum incorporates critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiographic procedures.

RAD 180 Introduction to Radiation Biology**1 cr. hrs. 1 periods (1 lec.)**

An introduction to radiobiological concepts and principles. Includes history of radiobiology, fundamental radiation units, biologic and physical factors of cell and tissue radiosensitivity, and radiation induced malignancies.

Prerequisite(s): RAD 177LC.

Corequisite(s): RAD 181, RAD 182, RAD 183LC

Information: Consent of program director is required before enrolling in this course.

RAD 181 Radiographic Positioning III**3 cr. hrs. 3 periods (3 lec.)**

Continuation of RAD 174. Includes radiographic positioning and fluoroscopic procedures of the urinary system, pharmacodynamics of radiopaque contrast media, intravenous drug administration technique (venipuncture), the digestive system, the biliary system, and pathology.

Prerequisite(s): RAD 174, 174LB, and 177LC.

Corequisite(s): RAD 180, RAD 181LB, RAD 182, RAD 183LC

Information: Consent of program director is required before enrolling in this course.

RAD 182 Medical Imaging Technology III**3 cr. hrs. 3 periods (3 lec.)**

Continuation of RAD 175. Includes image intensification, digital fluoroscopy, special imaging procedures, quality control, other imaging modalities, and professional roles and behaviors.

Prerequisite(s): RAD 175, 175LB, and 177LC.

Corequisite(s): RAD 180, RAD 181, RAD 181LB, RAD 183LC

Information: Consent of program director is required before enrolling in this course.

RAD 183LC Clinical Education IV**5 cr. hrs. 20 periods (20 lab)**

Continuation of RAD 177LC. Includes diagnostic and fluoroscopic equipment and procedures, contrast media policies and protocols, intravenous administration, and routine and special examinations.

Prerequisite(s): RAD 177LC.

Corequisite(s): RAD 180, RAD 181, RAD 181LB, RAD 182

Information: Clinical Education Centers may require additional fees and a tuberculosis skin test. Student must be admitted to RAD program before enrolling in this course. Competency-based assignments, concepts of patient-centered clinical practice and professional development shall be discussed, examined, performed and evaluated under the supervision of a certified Radiologic Technologist. The clinical practicum incorporates critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiographic procedures.

RAD 184 Radiographic Positioning IV**3 cr. hrs. 3 periods (3 lec.)**

Continuation of RAD 181. Includes positioning and anatomy of the skull and facial bones, acute medical emergencies, infection control and preventing transmissible diseases, review of vital signs, and the second part of radiation biology.

Prerequisite(s): RAD 180, 181, 182, and 183LC.

Corequisite(s): RAD 184LB, RAD 185, RAD 186LC

Information: Consent of program director is required before enrolling in this course.

RAD 184LB Radiographic Positioning IV Lab**.5 cr. hrs. 1.5 periods (1.5 lab)**

This is the lab portion of RAD 184. Continuation of RAD 181. Includes positioning and anatomy of the skull and facial bones, acute medical emergencies, infection control and preventing transmissible diseases, review of vital signs, and the second part of radiation biology.

Prerequisite(s): RAD 180, 181, 182, and 183LC.

Corequisite(s): RAD 184, RAD 185, RAD 186LC

Information: Consent of program director is required before enrolling in this course.

RAD 185 Clinical Seminar**2 cr. hrs. 2 periods (2 lec.)**

This is a capstone course. Includes review of radiographic procedures and exams, image acquisition and evaluation, patient care, equipment operation/maintenance/quality control, radiation protection and safety, and completion of registry mock exams.

Prerequisite(s): RAD 180, 181, 182, and 183LC.

Corequisite(s): RAD 184, RAD 184LB, RAD 186LC

Information: Consent of program director is required before enrolling in this course. This is a capstone course which includes review of program curriculum and instruction in applying to the American Registry of Radiologic Technology (AART) and the Medical Radiologic Technology Board of Examiners (MRTBE). The course includes review sessions, written mock registry and multiple computerized exams.

RAD 186LC Clinical Education V**6.5 cr. hrs. 26 periods (26 lab)**

Continuation of RAD 183LC. Includes skull and facial bones radiographic procedures, advanced modality rotations, and image critique and evaluation.

Prerequisite(s): RAD 180, 181, 182, and 183LC.

Corequisite(s): RAD 184, RAD 184LB, RAD 185

Information: Clinical Education Centers may require additional fees and a tuberculosis skin test. Student must be admitted to the RAD program before enrolling in this course. Competency-based assignments, concepts of patient-centered clinical practice and professional development shall be discussed, examined, performed and evaluated under the supervision of a certified Radiologic Technologist. The clinical practicum incorporated critical analysis, integration, synthesis and evaluation of concepts and theories in the performance of radiographic procedures

Reading

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

REA 071 Reading Fundamentals**4 cr. hrs. 4 periods (4 lec.)**

Development of fundamental reading strategies. Includes extensive development of word analysis, vocabulary, information literacy, and reading strategies necessary to assure successful comprehension at the literal and interpretive levels.

Information: Designed for persons who need an intensive review of the basic reading strategies.

REA 081 Reading Improvement I**4 cr. hrs. 4 periods (4 lec.)**

Improvement of basic reading strategies. Includes development of word analysis, vocabulary, information literacy, and reading strategies necessary to assure successful comprehension at the literal level and interpretive levels.

Prerequisite(s): REA 071 with a C or better or required score on the Reading Assessment test.

Information: Designed for persons who need to improve strategies in order to increase their success in college. May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

REA 091 Reading Improvement II**4 cr. hrs. 4 periods (4 lec.)**

Development of reading strategies. Includes vocabulary comprehension, study strategies, metacognition, information literacy, and community of readers.

Prerequisite(s): With a C or better: ESL 088RV or REA 081 or required score on the Reading assessment test.

Information: May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

REA 112 Critical Reading**4 cr. hrs. 4 periods (4 lec.)**

Development of college reading strategies. Includes comprehension strategies at the college level, critical reading and thinking, information literacy, vocabulary development, and advanced study strategies.

Prerequisite(s): Requires both Reading and Writing prerequisites. Reading: ESL 088RV with a B or better, or REA 091 with a C or better, or required score on the Reading assessment. Writing: ESL 088WG with a B or better, or WRT 070 with a C or better, or required score on the Writing assessment.

Information: Student may be admitted with instructor recommendation.

REA 112HP Critical Reading for Health Professions**4 cr. hrs. 4 periods (4 lec.)**

Development of college reading strategies. Includes comprehension strategies at the college level, critical reading and thinking, information literacy, vocabulary development, and advanced study strategies.

Prerequisite(s): Requires both Reading and Writing prerequisites. Reading: ESL 088RV with a B or better, or REA 091 with a C or better, or required score on the Reading assessment. Writing: ESL 088WG with a B or better, or WRT 070 with a C or better, or required score on the Writing assessment.

Recommendation: Recommended for students pursuing an associate's degree in Nursing, Radiologic Technology, Respiratory Therapy or Dental Hygiene Education.

Information: Students must obtain consent of an advisor, counselor, or reading instructor before enrolling in this course. Equivalent to REA 112.

Religion

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

REL 119 Judaism, Christianity, and Islam**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the three major western religions. Includes nature of religious belief, development of Judaism, teachings of Judaism, festivals and rituals of Judaism, development of Christianity, teachings of Christianity, Christian festivals and rituals, development of Islam, teachings of Islam, Islamic festivals and rituals, and common heritage, emphasis, and variations of Judaism, Christianity, and Islam.

REL 130 Asian Religions**3 cr. hrs. 3 periods (3 lec.)**

Religions of India and the Far East. Includes Hinduism, Buddhism, and East Asian religions.

REL 140 Philosophy of Religion**3 cr. hrs. 3 periods (3 lec.)**

Introduction to Western philosophical methods as applied to religion. Includes philosophical method, nature and meaning of religion and God, classical arguments, faith and reason, theodicy, mysticism, and the impact of religion on ethics, psychology, and law.

Information: Same as PHI 140.

REL 200 Religion in Popular Culture**3 cr. hrs. 3 periods (3 lec.)**

Exploration of the relationship between religion and contemporary society. Includes representation of religion in popular culture, function of religion as popular culture, and conflicts between religion and popular culture. Also includes a focus on popular media, such as movies, television, music, news, advertising, and recreation.

REL 220 Old Testament**3 cr. hrs. 3 periods (3 lec.)**

Major books of the Old Testament. Includes literary forms, historical context, moral implications of the literature, and religious significance.

REL 221 New Testament**3 cr. hrs. 3 periods (3 lec.)**

Major books of the New Testament. Includes literary forms, historical context, moral implications of the literature, and religious significance.

Respiratory Therapy

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

RTH 110 Introduction to Respiratory Care

2 cr. hrs. 2 periods (2 lec.)

Introduction to the field of respiratory care and to the skills for being a successful, confident college student; including study strategies, college resources, time management, and life choices.

Corequisite(s): RTH 156

Information: Students must meet all pre-admission requirements for the PCC Respiratory Therapy Program and receive final approval to register for this course. Please see a program advisor.

RTH 112 Respiratory Physiology

4 cr. hrs. 4 periods (4 lec.)

Study of the cardiopulmonary system and associated structures. Includes the anatomy of the respiratory system, ventilation and diffusion of pulmonary gases, the circulatory system, oxygen and carbon dioxide transport, control of ventilation, and renal failure and its effects on the cardiopulmonary system.

Corequisite(s): RTH 110, RTH 121, RTH 121LB, RTH 156

Information: Students must be admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course. See a faculty advisor prior to enrollment.

RTH 121 Basic Therapeutics

3 cr. hrs. 3 periods (3 lec.)

Basic respiratory care therapeutics, equipment function, clinical indications and contraindications. Includes medical gas therapy, oxygen delivery devices, humidity and aerosol therapy, hyperinflation therapy, chest physical therapy, and basic airway management.

Corequisite(s): RTH 110, RTH 112, RTH 121LB, RTH 156

Information: Students must be admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course. See a program advisor prior to enrollment.

RTH 121LB Basic Therapeutics Lab

1 cr. hrs. 3 periods (3 lab)

This is the lab portion of RTH 121. Basic respiratory care therapeutics, equipment function, clinical indications and contraindications. Includes medical gas therapy, oxygen delivery devices, humidity and aerosol therapy, hyperinflation therapy, chest physical therapy, and basic airway management.

Corequisite(s): RTH 110, RTH 112, RTH 121, RTH 156

Information: Students must be admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course. See a program advisor prior to enrollment.

RTH 123 Basic Assessment and Monitoring

3 cr. hrs. 3 periods (3 lec.)

Study of patient assessment and monitoring of the cardiopulmonary impaired patient. Includes bedside respiratory assessment, clinical laboratory studies assessment, oxygenation and ventilation, pulmonary function measurements, clinical application of chest radiography, and basic interpretation of electrocardiogram tracing.

Prerequisite(s): RTH 110, 112, 121, 121LB, and 156.

Corequisite(s): RTH 123LB, RTH 124, RTH 162

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 123LB Basic Assessment and Monitoring Lab

1 cr. hrs. 3 periods (3 lab)

This is the lab portion of RTH 123. Study of basic assessment and monitoring of the cardiopulmonary impaired patient. Includes bedside respiratory assessment, clinical laboratory studies assessment, oxygenation and ventilation, pulmonary function measurements, clinical application of chest radiography, and basic interpretation of electrocardiogram tracing.

Prerequisite(s): RTH 110, 112, 121, 121LB, and 156.

Corequisite(s): RTH 123, RTH 124, RTH 162

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 124 Pharmacology for Respiratory Care**3 cr. hrs. 3 periods (3 lec.)**

Principles of pharmacology and drug receptor theory as it relates to patients with cardiopulmonary disease. Includes general principles of pharmacology, drug dose calculations, central and peripheral nervous system, bronchodilators, drugs used to control airway mucus and edema, and drugs used in the management of ventilator patients and patients with cardiorespiratory disorders.

Prerequisite(s): RTH 110, 112, 121, 121LB, and 156.

Corequisite(s): RTH 123, RTH 123LB, RTH 125LC, RTH 162

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 125LC Clinical Procedures I**1 cr. hrs. 4 periods (4 lab)**

Clinical application of all prerequisite and concurrent respiratory care course work. Includes hospital/clinical site orientations, review of hospital respiratory department administration, departmental policies, procedures, reporting system, and medical record data entry, utilization of the medical record to retrieve information, therapist observation, medical gas therapy, and patient assessment and monitoring. Also includes aerosol therapy administration, hyperinflation therapy, evaluation of the effectiveness of therapy, and patient care plans.

Prerequisite(s): RTH 110, 112, 121, and 121LB.

Corequisite(s): RTH 123, RTH 123LB, RTH 124, RTH 162, RTH 246

Information: Students must be admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course. See a faculty advisor prior to enrollment.

RTH 135LC Clinical Procedures II**3 cr. hrs. 12 periods (12 lab)**

Continuation of RTH 125LC. Includes infection control procedures, medical asepsis, equipment disinfection, and processing, aerosol and humidity therapy, medical gas therapy, IPPB therapy, incentive spirometry, and chest physiotherapy. Also includes airway management and care, basic cardiopulmonary resuscitation, arterial blood gases, and case study presentation.

Prerequisite(s): RTH 123, 123LB, 124, 125LC, 162, and 246.

Corequisite(s): RTH 123, RTH 123LB, RTH 124, RTH 162, RTH 246

Information: Students must be admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course. See a faculty advisor prior to enrollment.

RTH 156 Cardiopulmonary Diseases I**3 cr. hrs. 3 periods (3 lec.)**

Study of commonly encountered cardiopulmonary diseases in the adult patient. Includes infectious pulmonary diseases, obstructive pulmonary disease, traumatic injuries of the lungs and chest, pulmonary vascular diseases, disorders of the pleura and chest wall, and other pulmonary topics.

Corequisite(s): RTH 110, RTH 112, RTH 121, RTH 121LB, RTH 123, RTH 123LB, RTH 124, RTH 125LC, RTH 162

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 162 Principles of Mechanical Ventilation**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the concepts of mechanical ventilation for the adult patient. Includes establishing the need for mechanical ventilation, non-invasive versus invasive mechanical ventilation, the physiologic basis of ventilatory support, physical principles of positive pressure ventilation, physical assessment of the critically ill patient, interpreting basic waveform graphics, and respiratory monitoring in the intensive care unit.

Prerequisite(s): RTH 110, 112, 121, 121LB, and 156.

Corequisite(s): RTH 123, RTH 123LB, RTH 124

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 241 Critical Care Therapeutics**3 cr. hrs. 3 periods (3 lec.)**

Continuation of RTH 162. Study of the management of mechanical ventilation in the adult patient. Includes airway management, mechanical ventilation waveform graphics, selected adult mechanical ventilators and troubleshooting, care of the mechanically ventilated patient, alternative modes of mechanical ventilation, and home mechanical ventilation.

Prerequisite(s): HCA 152 and RTH 135LC.

Corequisite(s): RTH 241LB, RTH 243, RTH 243LB, RTH 245LC

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 241LB Application of Mechanical Ventilation Lab**1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of RTH 241. Study of the management of mechanical ventilation in the adult patient. Includes airway management, mechanical ventilation waveform graphics, selected adult mechanical ventilators and troubleshooting, care of the mechanically ventilated patient, alternative modes of mechanical ventilation, and home mechanical ventilation.

Prerequisite(s): HCA 152 and RTH 125LC.

Corequisite(s): RTH 241, RTH 243, RTH 243LB, RTH 245LC

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain content of the Respiratory Care department before enrolling in this course.

RTH 243 Advanced Assessment and Monitoring**3 cr. hrs. 3 periods (3 lec.)**

Study of the assessment of the critical respiratory patient. Includes cardiac output assessment, invasive hemodynamic monitoring, assessment of sleep-related breathing disorders, nutritional assessment and the respiratory system, advanced cardiac arrhythmia interpretation, cardiac stress testing, and bronchoscopy.

Prerequisite(s): HCA 152 and RTH 135LC.

Corequisite(s): RTH 241, RTH 241LB, RTH 243LB, RTH 245LC

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 243LB Advanced Assessment and Monitoring Lab**1 cr. hrs. 3 periods (3 lab)**

This is the lab portion of RTH 243. Study of the assessment of the critical respiratory patient. Includes cardiac output assessment, invasive hemodynamic monitoring, assessment of sleep-related breathing disorders, nutritional assessment and the respiratory system, advanced cardiac arrhythmia interpretation, cardiac stress testing, and bronchoscopy.

Prerequisite(s): HCA 152 and RTH 135LC.

Corequisite(s): RTH 241, RTH 241LB, RTH 243, RTH 245LC

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 245LC Clinical Procedures III**4 cr. hrs. 16 periods (16 lab)**

This is the clinical portion of RTH 245 and continuation of RTH 135LC. Includes clinical assessment of the critical care patient, advanced airway management, advanced respiratory assessment monitoring, adult mechanical ventilation, transport of the critically ill patient, and care decisions in mechanically ventilated adult patients. Also includes hemodynamic assessment of the critically ill patient, observation in various respiratory care delivery environments, interaction with medical director, and case study presentation.

Prerequisite(s): HCA 152 and RTH 135LC.

Corequisite(s): RTH 241, RTH 241LB, RTH 243, RTH 243LB

Information: Students must be currently admitted to the Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 251 Neonatal and Pediatric Specialty Therapeutics**4 cr. hrs. 4 periods (4 lec.)**

Study of respiratory therapies used in specialized environments. Includes American Heart Association Pediatric Advanced Life Support (PALS) Training, care of the neonatal and pediatric patient, management of ventilation and oxygenation in the neonatal and pediatric patient, home care, and pulmonary rehabilitation.

Prerequisite(s): RTH 241, 241LB, 243, 243LB and 245LC.

Corequisite(s): RTH 251LB, RTH 255LC, RTH 256, RTH 257LB

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course. Students must have a current American Heart Association Basic Life Support (BLS) certification prior to enrollment in this class.

RTH 251LB Neonatal and Pediatric Specialty Therapeutics Lab**1 cr. hrs. 3 periods (3 lab)**

This is the lab portion of RTH 251. Study of respiratory therapies used in specialized environments. Includes American Heart Association Pediatric Advanced Life Support (PALS) Training, care of the neonatal and pediatric patient, management of ventilation and oxygenation in the neonatal and pediatric patient, home care, and pulmonary rehabilitation.

Prerequisite(s): RTH 241, 241LB, 243, 243LB, and 245LC.

Corequisite(s): RTH 251, RTH 255LC, RTH 256, RTH 257LB

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course. Students must have a current American Heart Association Basic Life Support (BLS) certification prior to enrollment in this class.

RTH 255LC Clinical Procedures III**4 cr. hrs. 16 periods (16 lab)**

This is the clinical portion and continuation of RTH 245. Includes clinical assessment, advanced airway management and advanced respiratory assessment monitoring of the neonatal/pediatric patient, mechanical ventilation and care decisions for the adult and neonatal/pediatric patient, observation and participation in various respiratory care delivery environments, and case study presentation preparation.

Prerequisite(s): RTH 241, 241LB, 243, 243LB, and 245LC.

Corequisite(s): RTH 251, RTH 251LB, RTH 256, RTH 257LB

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 256 Cardiopulmonary Diseases II**2 cr. hrs. 2 periods (2 lec.)**

Continuation of RTH 156. Includes assessment of the developing fetus and the neonate, cardiovascular disorders and congenital anomalies of the newborn, cardiopulmonary disorders of the newborn, and pediatric cardiopulmonary disorders.

Prerequisite(s): RTH 241, 241LB, 243, 243LB, and 245LC.

Corequisite(s): RTH 251, RTH 251LB, RTH 255LC, RTH 257LB

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent of the Respiratory Care department before enrolling in this course.

RTH 257LB Clinical Applications and Professional Development**1 cr. hrs. 4 periods (4 lab)**

Completion of clinical application projects and 50 hours of Service Learning. Includes preparation of resumes, review for and completion of computerized self-assessment exams for credentialing, and interaction with licensure and national credentialing organizations.

Prerequisites(s): RTH 241, 241LB, 243, 243LB, and 245LC.

Corequisite(s): RTH 251, RTH 251LB, RTH 255LC, RTH 256

Information: Students must be currently admitted to the PCC Respiratory Care program and obtain consent from the Respiratory Care department before enrolling in this course.

RTH 295 Independent Research in Respiratory Therapy**.5-4 cr. hrs. 1.5-12 periods (1.5-12 lab)**

Experience in scientific laboratory or field research in respiratory therapy.

Information: This course is open only to those students who have been admitted to the RTH program. Consent of instructor is required before enrolling in this course. May be taken three times for a maximum of twelve credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Science for Teachers

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

SCT 280 Process of Science for Elementary Educators I

3 cr. hrs. 3 periods (3 lec.)

Interdisciplinary, hands-on, inquiry-based science for elementary educators. Includes the nature of science, integrating science in the elementary school classroom, technology and society, matter and energy, the universe, structure of life and organism in their environment.

Prerequisite(s): BIO 105, MAT 141 or MAT 142, and one of the following: AST 101IN, AST 102IN; CHM 121IN, CHM 130IN, CHM 151IN; GEO 101, GEO 102; GLG 102IN; or PHY 121IN.

Information: Designed for elementary education majors. Prerequisite(s) may be waived with Elementary or Secondary Teacher Certification. Does not meet AGEC requirements for science.

SCT 281 Process of Science for Elementary Educators II

3 cr. hrs. 3 periods (3 lec.)

Continuation of SCT 280. Includes integrating additional science in the elementary school classroom, human health, human society, applying science and technology, patterns and relationships, historical perspectives, and critical thinking processes.

Prerequisite(s): SCT 280.

Information: Designed for elementary education majors. Prerequisite(s) may be waived with Elementary or Secondary Teacher Certification. Does not meet AGEC requirements for science.

Social Services

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

SSE 110 Introduction to Social Welfare

3 cr. hrs. 3 periods (3 lec.)

Introduction to the social welfare system. Includes social welfare as an institution, development of the social work profession, generalist social work practices, poverty and public welfare, social and economic injustice, social problems and special populations, and community resources and directories.

SSE 111 Group Work

3 cr. hrs. 3 periods (3 lec.)

Examination of group dynamics using experiential learning. Includes goals, communication patterns, leadership, power and influence, decision-making, conflict resolution, controversy, creativity, problem solving, diversity, and personal growth within groups. Also includes application of concepts through observation, group exercises, and case studies.

SSE 121 Study of Substance Use Disorders

3 cr. hrs. 3 periods (3 lec.)

Introduction to the study of substance use disorders in the United States. Includes history of substance use and historical development of prohibitions, classification and effects of substances, diagnosis and assessment of substance use disorders, theories of addiction and treatment strategies, and funding sources for treatment programs. Also includes cross-cultural perspectives; co-occurring disorders and integrated treatment modalities; treatment interventions; special populations; ethical issues; and education, resources, and prevention.

SSE 123 Prevention of Substance Use Disorders

3 cr. hrs. 3 periods (3 lec.)

Comprehensive review of approaches to prevention of substance use disorders. Includes principles of prevention; risk factors, protective factors, resilience; and systems-oriented and client-oriented prevention strategies. Also includes controversial prevention issues, client-oriented prevention programs and funding, the role of media and social marketing, law enforcement and regulatory agencies, special populations, prevention in the workplace, and program evaluation.

SSE 128 Introduction to Behavioral Health

3 cr. hrs. 3 periods (3 lec.)

Introduction to the behavioral health care system in southern Arizona. Includes providing excellent service, ethics and boundaries, engagement and clinical documentation, introduction to service planning and covered services, management of complex needs, and strength-based behavioral health general assessment training. Also includes demographic data set, court-ordered treatment, covered services, behavioral health enhanced assessment training, and clinical training standardized self-study modules.

SSE 160 Youth Services and Child Abuse**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the field of youth services as offered through voluntary youth organizations, social service and child welfare agencies, juvenile detention and correctional agencies and community health care agencies. Includes services for abused and neglected children, dependent and emancipated children, delinquent children, special needs youth, and practice issues and prevention in youth services. Covers a variety of topics including historical and cultural perspectives on child rearing; child development; family composition and dynamics; assessing and identifying important childhood risk factors and behaviors; short-term and long-term effects of adverse childhood experiences; and intervention and prevention techniques.

SSE 170 Community Health Advisor**3 cr. hrs. 3 periods (3 lec.)**

Preparation of community health advisors for outreach, disease prevention, advocacy, education, and referral services within prescribed communities. Includes health and wellness, national and local history of community health work programs, communication and relationship building skills; self-care, problem solving, and decision making; presentation skills, case management and home visits, dealing with challenging situations, professional issues, and community organization and mobilizing for action.

SSE 204 Counseling in a Multicultural Setting**3 cr. hrs. 3 periods (3 lec.)**

Concepts, techniques, and skills in values, perceptions, attitudes, and behaviors emphasizing intercultural communication patterns within a counseling setting. Includes culture and counseling, profiles of Americans, profiles of special populations, differences, cultural elements in counseling, dynamic factors, common terminology, disparities in treatment, counseling, and counseling theories.

Recommendation: Completion of SSE 110 before enrolling in this course. Those students pursuing the Behavioral Health Certificate are highly recommended to complete BHS 132 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

SSE 205 Case Report Writing and Documentation**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the principles, concepts, techniques and necessary skills to create and maintain case report records. Includes case report writing elements, report writing considerations, report content, ethical and legal issues, current trends in behavioral health case report writing, and cultural competence.

SSE 210 Community Organization and Development**3 cr. hrs. 3 periods (3 lec.)**

An examination, principles, and techniques of community organizing to effect change in America. Includes current conditions, theoretical frameworks for action, community change and professional practice, knowing your community, people as a valuable resource, planning for action, resource development, targeted outreach, community development and coalition building, strategies for institutional change, and government structure and legislative lobbying.

Prerequisite(s): SSE 110.

SSE 211 Group Facilitation Techniques**3 cr. hrs. 3 periods (3 lec.)**

Application of advanced concepts in group dynamics. Includes skill development and preparation for group facilitation in the community through in-class experiential learning. Also includes community-group case studies, ethical standards, and multicultural issues.

Prerequisite(s): SSE 111.

SSE 220 Treatment of the Substance Use Disorders**3 cr. hrs. 3 periods (3 lec.)**

Principles and techniques of treating substance use disorders. Includes definition and dynamics of substance use disorders, treatment continuum, treatment models or modalities, treatment plans, case studies, withdrawal, value clarification, and integration of treatment and case management skills.

SSE 222 Political, Legal and Ethical Aspects of Substance Use**3 cr. hrs. 3 periods (3 lec.)**

Overview of substance use and the law. Includes historical and legal overview; ethics, standards, and ethical decision making; major drug legislation and court decisions, substances, major psychoactive drugs, the government and the criminal justice system, international drug trafficking, and U.S. law enforcement.

SSE 224 Substance Use Disorders Among Diverse and Special Needs Populations**3 cr. hrs. 3 periods (3 lec.)**

Examination of and focus on understanding racial and ethnic differences in the prevalence of substance use disorders. Includes culture and substance use disorders, ethnic and racial groups, profiles of special populations, differences, cultural elements and relationships, dynamic factors, common terminology, counseling, and counseling theories.

SSE 242 Crisis Intervention: Relationship & Family Violence**3 cr. hrs. 3 periods (3 lec.)**

Principles and practice of crisis intervention with a particular focus on relationship and family violence, including intimate partner abuse, sexual violence, child abuse and neglect, and elder abuse. Includes crisis intervention theory, skills of crisis intervention, handling specific types of crises, crises worker issues and challenges, legal considerations and law enforcement response, societal attitudes, beliefs and perceptions; cultural considerations and community response to crises.

SSE 281 Social Service Delivery Systems**3 cr. hrs. 3 periods (3 lec.)**

Study of the social service delivery system. Includes the profession of social work, social work roles, service delivery systems, special and diverse populations, and diversity issues related to service delivery.

Prerequisite(s): SSE 110 or concurrent enrollment.

Information: Requires 40 hours of classroom-mediated community agency contact.

SSE 285 Foundations of Social Work Practice**3 cr. hrs. 3 periods (3 lec.)**

Theoretical foundation and skill base for effective culturally competent communication and interviewing with individuals, families, small groups, and larger systems. Includes framework for multicultural understanding and social work practice, interpersonal communication in professional helping relationships, major helping and developmental theories, and personal and professional development.

Prerequisite(s): SSE 110

Recommendation: Completion of SSE 281 before enrolling in this course, or concurrent enrollment. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

SSE 290 Youth Services Field Experience**4 cr. hrs. 10 periods (1 lec., 9 lab)**

Supervised placement in a community youth-serving agency. Includes regular supervisory service with agency supervisors, orientation to agencies and organizations in the community, evaluation of student performance, site visits, assistance with resume writing, classroom seminars, and completion of written assignments and documentation.

Prerequisite(s): SSE 160 and 285 (or concurrent enrollment in SSE 285).

Information: This course requires 135 hours of supervised placement in a community youth-serving agency. May be taken two times for a maximum of eight credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Consent of instructor is required before enrolling in this course.

SSE 292 Social Services Field Experience**4 cr. hrs. 10 periods (1 lec., 9 lab)**

Supervised placement in a community social service agency. Includes regular supervisory service with agency supervisors, orientation to agencies and organizations in the community, evaluation of student performance, site visits, assistance with resume writing, classroom seminars, and completion of written assignments and documentation.

Prerequisite(s): SSE 281 and 285 (or concurrent enrollment in SSE 285).

Information: This course requires 135 hours of supervised placement in a social service agency. Students pursuing the AAS Substance Use Disorders Specialty must complete the supervised placement in an agency addressing substance use disorders. May be taken two times for a maximum of eight credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Consent of instructor is required before enrolling in this course.

SSE 293 Community Health and Development Field Experience**4 cr. hrs. 10 periods (1 lec., 9 lab)**

Supervised placement in a community-based social service agency offering services focused on wellness programs or community health and development. Includes regular supervisory service with agency supervisors, orientation to agencies and organizations in the community, evaluation of student performance, site visits, assistance with resume writing, classroom seminars, and completion of written assignments and documentation.

Prerequisite(s): SSE 170.

Information: Consent of instructor is required before enrolling in this course. This course requires 135 hours of supervised placement in an agency focused on wellness programs or community health and development.

SSE 296 Independent Study in Social Services**1-3 cr. hrs. 3-9 periods (3-9 lab)**

Advanced projects, research and learning in the social services. Content to be determined by conference between student and instructor.

Information: Consent of instructor is required before enrolling in this course. May be taken three times for a maximum of nine credits. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Sociology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

SOC 101 Introduction to Sociology**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the basic concepts of sociology, sociological analysis and research. Includes social structure, status, social group, social control, social stratification, social class, gender, race, sexuality, ethnicity, aging, learning and physical challenges, family, religion, education, government, health, technology, corporations, terrorism, environmental sustainability, social movements and social change, mass society, and postmodernity. Also includes globalization within and across contemporary societies and cultures.

SOC 110 Introduction to Cities and Global Society**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the study of the urban environment. Includes exploring the city, city form and city culture, urban diversity, and urban and global dilemmas and possible solutions. Also includes a special emphasis on understanding cities and the impact of globalization at community, national, and international levels.

Information: Same as GLS 110.

SOC 120 Current Social Problems**3 cr. hrs. 3 periods (3 lec.)**

Analysis of the causes, effects, and solutions to current social problems. Includes the causes, effects, and the complexity of solutions to current social problems in behavioral variance, inequality, social institutions, and global issues.

Recommendation: Completion of SOC 101 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

SOC 127 Marriage and the Family**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the social functions of marriage and the family. Includes structures of marriages and families, relationships, marriage, and transformation of marriage.

SOC 130 Social World of Drugs**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the social aspects of the use and abuse of drugs in the United States. Includes evolution of drug use, pharmacology, social and medical aspects of drugs, the business of drugs, sociological explanations of drug use and abuse, and social issues, policy, and politics.

Recommendation: Completion of SOC 101 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

SOC 201 Race, Ethnicity, Minority Groups and Social Justice**3 cr. hrs. 3 periods (3 lec.)**

Social processes involved in the construction of difference. Includes race, ethnicity, minority groups, nationality, and social justice. Also includes the analysis of social, political, cultural, religious, economic and historical formations with special reference to current global trends, social conflict, and change.

SOC 204 Gender Identities, Interactions and Relations**3 cr. hrs. 3 periods (3 lec.)**

Examination of the social structures and processes related to gender in society. Includes sex versus gender, theoretical perspectives, politics past and present, gender and the family, love and marriage, and masculinity. Also includes gender in the workplace, in the media, religion, and medicine, and global perspectives.

SOC 215 Human Sexuality**3 cr. hrs. 3 periods (3 lec.)**

Examination of human sexual experience throughout the life cycle, viewed from sociological and psychological perspectives. Includes psychological, sociological, and cultural legacy of sexuality, biological foundations of sexuality, varieties of sexual behaviors, sexuality and the life cycle, sexual problems, and social issues.

Recommendation: Completion of one of the following before enrolling in this course: PSY 101 or SOC 101. REA 091 with a C or better (or assessment into REA 112). If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Same as PSY 215.

SOC 296 Independent Study in Sociology**3 cr. hrs. 3 periods (3 lec.)**

Exploration of special interest areas. Includes sociological question(s), methodological research design, implementation of viable research, data analysis using sociological theories, and presentation of findings.

Information: Activities determined by conference between student and instructor related to content of this course. May be taken two times for a maximum of six credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Solar Technologies

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

SLR 101 Beginning Photovoltaic Installation**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to photovoltaic energy and photovoltaic (PV) system installation. Includes markets and applications, safety basics, electricity basics, energy efficient appliances, solar energy fundamentals, photovoltaic materials, module fundamentals, concentrators, system components, system sizing, electrical design, mechanical design, and performance analysis and troubleshooting.

Information: This course specifically provides preparation for the North American Board of Certified Energy Practitioners (NABCEP) Photovoltaic Installer Certification exam.

SLR 102 Advanced Photovoltaic Installation**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Continuation of SLR 101. Includes advanced photovoltaic (PV) energy and system installation training. Also includes safety basics, stand-alone PV system sizing, grid-tied system sizing, National Electric Code (NEC) compliant wire sizing, grounding of PV systems, site analysis and array mounting, and PV system commissioning, troubleshooting, maintenance and performance evaluation.

Prerequisite(s): SLR 101

Information: This course specifically provides preparation for the North American Board of Certified Energy Practitioners (NABCEP) Photovoltaic Installer Advanced Certification exam.

SLR 130 Solar Hot Water Systems**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Introduction to solar thermal systems. Includes the types, maintenance, performance, controls, site selection considerations, performance estimating and testing. Also includes related mathematics, copper piping practices, soldering and brazing, basic heat transfer, and basic principles of hydronics.

Prerequisite(s): BCT 105 and 107.

Information: BCT 100, 112, and 115 substitute for BCT 105. BCT 111, 113, and 114 substitute for BCT 107.

Spanish

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

SPA 085 Introductory Spanish

4 cr. hrs. 4 periods (4 lec.)

Beginning Spanish for students with no previous formal study of the language. Includes correct pronunciation, basic grammar and conversation, and common communications such as informal greetings and numbers.

Information: This course is not for transfer, but helps prepare students for success in transferable courses.

SPA 101 Elementary Spanish I

4 cr. hrs. 4 periods (4 lec.)

Introduction to Spanish. Includes basic listening, reading, and writing skills and cultural and geographic awareness.

Prerequisite(s): Required score on Spanish assessment test.

SPA 101HN Elementary Spanish I: Honors

4 cr. hrs. 4 periods (4 lec.)

Introduction to Spanish. Includes basic speaking, listening, reading and writing and cultural and geographical awareness. Also includes additional Honors content.

Prerequisite(s): Required score on Spanish assessment test.

Information: Must qualify for Honors program. SPA 101HN will fulfill any SPA 101 requirement. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in a format appropriate for the discipline with research presented in class or to a wider audience.

SPA 102 Elementary Spanish II

4 cr. hrs. 4 periods (4 lec.)

Continuation of SPA 101. Includes further development of oral and written forms, additional grammatical structures, interpersonal transactions, and geographical and cultural differences. Also includes an emphasis on balancing more complex structures with active communication.

Prerequisite(s): SPA 101 or required score on Spanish assessment test.

Information: Prerequisite(s) may be waived with one year of high school Spanish. See an instructor, advisor, or counselor.

SPA 102HN Elementary Spanish II: Honors

4 cr. hrs. 4 periods (4 lec.)

Continuation of SPA 101. Includes further development of oral and written forms, additional grammatical structures, interpersonal transactions, and geographical and cultural differences. Also includes an emphasis on balancing more complex structures with active communication. Also includes additional Honors content.

Prerequisite(s): SPA 101 or required score on Spanish assessment test.

Information: Must qualify for Honors program. SPA 102HN will fulfill any SPA 102 requirement. Prerequisites may be waived with one year of high school Spanish. See an instructor, advisor, or counselor. Honors Content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in format appropriate for the discipline with research presented in class or to a wider audience.

SPA 103 Beginning Spanish for Heritage and Bilingual Learners

4 cr. hrs. 4 periods (4 lec.)

Spanish for heritage and bilingual learners. Includes basic oral and written forms for heritage and bilingual learners, grammatical structures, cultural and stylistic elements, interpersonal transactions, and geographical and cultural awareness. Also includes an awareness of diversity of Spanish-speaking cultures. required score on Spanish assessment test.

Prerequisite(s): Required score on Spanish assessment test.

Information: Ability to speak basic Spanish is required.

SPA 201 Intermediate Spanish I

4 cr. hrs. 4 periods (4 lec.)

Continuation of SPA 102. Includes intermediate grammar structures and vocabulary contexts in oral and written forms and using a variety of materials in the target language and cultures to promote proficiency in reading, writing, speaking and listening.

Prerequisite(s): SPA 102 or required score on Spanish assessment test.

SPA 201HN Intermediate Spanish I: Honors**4 cr. hrs. 4 periods (4 lec.)**

Continuation of SPA 102. Includes intermediate grammar structures and vocabulary contexts in oral and written forms and use of a variety of materials in the target language and cultures to promote proficiency in reading, writing, speaking and listening. Also includes additional Honors content.

Prerequisite(s): SPA 102 or required score on Spanish assessment test.

Information: Must qualify for Honors program. SPA 201HN will fulfill any SPA 201 requirement. Faculty or Advisor approval may be required before enrolling in this course. Instructor or advisor/counselor approval may be required before registering for this course. Honors content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in a format appropriate for the discipline with research presented in class or to a wider audience.

SPA 202 Intermediate Spanish II**4 cr. hrs. 4 periods (4 lec.)**

Continuation of SPA 201. Includes intermediate grammar structures and vocabulary contexts in oral and written forms and use of a variety of materials in the target language and cultures to promote proficiency in reading, writing, speaking, and listening. Also includes reading selections from authentic media, advanced conversation and discussions, and compositions using intermediate grammar structures.

Prerequisite(s): SPA 201 or required score on Spanish assessment test.

SPA 202HN Intermediate Spanish II: Honors**4 cr. hrs. 4 periods (4 lec.)**

Continuation of SPA 201. Includes intermediate grammar structures and vocabulary contexts in oral and written forms and use of a variety of materials in the target language and cultures to promote proficiency in reading, writing, speaking, and listening. Also includes reading selections from authentic media, advanced conversation and discussions, and compositions using intermediate grammar structures. Also includes additional Honors content.

Prerequisite(s): SPA 201 or required score on Spanish assessment test.

Information: Must qualify for Honors program. SPA 202HN will fulfill any SPA 202 requirement. Faculty or Advisor approval may be required before enrolling in this course. Instructor or advisor/counselor approval may be required before registering for this course. Honors content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in a format appropriate for the discipline with research presented in class or to a wider audience.

SPA 203 Writing & Oral Skills for Heritage & Bilingual Learners**4 cr. hrs. 4 periods (4 lec.)**

Continuation of SPA 103. Includes further development of oral and written forms for heritage and bilingual learners, additional grammatical structures, cultural and stylistic elements, interpersonal transactions, and geographical and cultural differences. Also includes a continued awareness of the diversity of Spanish.

Prerequisite(s): SPA 103 or required score on Spanish assessment test.

Information: Ability to speak Spanish is required.

SPA 251 Intermediate Spanish III**3 cr. hrs. 3 periods (3 lec.)**

Intensive writing and speaking in Spanish for second language learners of Spanish. Includes intermediate oral communication, complex reading communication, intermediate written communication, and themes in popular and traditional cultures.

Prerequisite(s): SPA 202 or required score on Spanish assessment test.

SPA 253 Intermediate Spanish for Heritage and Bilingual Learners**4 cr. hrs. 4 periods (4 lec.)**

Intensive writing and speaking in Spanish for heritage and bilingual learners. Includes intermediate oral communication, complex reading communication, intermediate written communication, and themes in popular and traditional cultures.

Prerequisite(s): SPA 203 or required score on Spanish assessment test.

Information: Ability to speak, read, and write Spanish is required.

SPA 254 Interm Grammar/Writing for Span Heritage/Bilingual Learners**3 cr. hrs. 3 periods (3 lec.)**

Continuation of SPA 253. Includes intensive grammar and writing for heritage and bilingual learners within a dynamic cultural context. Includes complex intermediate oral communication, intermediate grammar and writing communication, exploration of diversity of culture and customs, and themes in literature.

Prerequisite(s): SPA 203 or required score on Spanish assessment test.

Information: Prerequisites may be waived with ability to speak, read, and write Spanish.

SPA 296 Independent Study in Spanish**1-4 cr. hrs. 1-4 periods (1-4 lec.)**

Independent Spanish readings or other projects under the supervision of an instructor.

Information: Consent of instructor is required before enrolling in this course. **Information:** May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.**Student Success**

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

STU 100 College Success and Career Planning**1 cr. hrs. 1 periods (1 lec.)**

Theoretical models of cognition, motivation, and human development serve as the conceptual basis for the introduction of academic and career development strategies. Includes an introduction to the factors that impact learning, goal persistence, self-efficacy, and communication, which will foster the integration of relevant knowledge and skills. Also includes the use of assessment instruments (e.g., learning and career inventories) to identify students' strengths and challenges, and the application of skills to their academic and career development processes.

Information: This course is intended for students who are generally decided about their major and/or career path.**STU 102 Personal Finance****1 cr. hrs. 1 periods (1 lec.)**

Examination of financial practices students can use to build a strong financial foundation for their future. Includes budgeting, examining expenses, increasing income, minimizing college and other sources of debt, and exploring investment and insurance fundamentals. Also includes making informed personal finance decisions that lead to greater financial independence and increased personal success throughout life.

STU 105 Math Success Skills**1 cr. hrs. 1 periods (1 lec.)**

Confidence and skills to successfully master math classes. Includes personal learning styles, identifying math degree requirements and designing the course sequences necessary for graduation. Also includes strategies to reduce anxiety with math and test taking.

STU 106 Choosing a Major and College Success**1 cr. hrs. 1 periods (1 lec.)**

Theoretical models of career development, motivation, and cognition serve as the conceptual basis for the introduction of career and college success strategies. Includes an introduction to factors that impact career choices, decision-making, critical thinking, and learning, which will foster the application of knowledge and skills in academics and career development. Also includes the use of career inventories to identify areas of fit and interest, and to integrate this information into the decision-making process.

Information: This course is intended for students who are undecided or uncertain about their major and/or career path.**STU 107 University Transfer Preparation and College Success****1 cr. hrs. 1 periods (1 lec.)**

Theoretical models of career and human development, motivation, and cognition serve as the conceptual basis for the introduction of transfer, career, and college success strategies. Includes an introduction to the factors that impact choice of transfer major and related career(s), critical thinking, and learning, and the factors that foster academic success and university degree attainment. Also includes synthesis of information from inventories and resources and application of information to planning and decision-making processes.

Information: This course is intended for students who plan to transfer to a university and are generally undecided about their major.**STU 109 Making Career Choices****2 cr. hrs. 2 periods (2 lec.)**

Development of skills and knowledge necessary to make a career selection. Includes career exploration and self-assessments, choosing an occupational area or specific career, and researching potential career opportunities. Also includes degrees and programs of study, goal setting, and job seeking skills.

Information: STU 109 is a 2 credit hour version of STU 106 that expands the career exploration process to include skills and strategies necessary to secure employment in the future.

STU 112 Strategies for Taking Control of Your Future**.25 cr. hrs. .25 periods (.25 lec.)**

Development of an educational plan based on career expectations. Includes strategies for success, setting a career direction, and taking control of the future.

Information: Students cannot receive credit for both STU102 and STU112.

STU 121 Adult College Re-entry Skills**3 cr. hrs. 3 periods (3 lec.)**

Enhance academic, professional, and personal skills to maximize learning and success as an adult college student. Includes career exploration; self-assessments; development and enhancement of employability skills; college success skills; college and community resources; and personal, academic, and financial goals. Also includes confidence building, diversity awareness, and enhancement of communication skills.

Recommendation: Completion of REA 081 before enrolling in this course or concurrent enrollment. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

STU 135 Stress Management**1 cr. hrs. 1 periods (1 lec.)**

Principles and techniques for managing stress and living a healthier life style. Includes factors that impact stress in daily life and the positive influence of wellness practices, such as observing healthy nutrition habits, maintaining physical fitness, and managing stressful situations.

STU 150 Becoming a Master Student**3 cr. hrs. 3 periods (3 lec.)**

Enhance academic, professional, and personal skills to maximize learning and success at the college level. Includes critical thinking skills, learning styles, college and/or career goals, study and interpersonal skills. Also includes examination of values, human diversity and perspectives, as they relate to academic and personal success.

Recommendation: Completion of REA 091 and WRT 090 before enrolling in this course or concurrent enrollment. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

STU 200 Becoming a Critical Thinker**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the development and application of critical thinking strategies. Includes fundamentals of critical thinking and application of thinking skills to everyday issues. Also includes exploration of the following topics: bias, perception, and beliefs; critical questioning; reporting, inferring and judging; argumentation; language and thought; creativity and critical thinking; and critical thinking about the media.

Recommendation: Completion of REA 091 before enrolling in this course or concurrent enrollment. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

STU 210 Transfer Strategies**2 cr. hrs. 2 periods (2 lec.)**

Exploration of the application process for transitioning to a college or university. Includes financial aid, registration requirements for the upcoming semester, and the development of a transfer plan that supports individual academic and career goals.

Information: This class requires students to meet at the University of Arizona on specific days and participate in campus adventures.

Recommendation: Consult with a counselor or advisor prior to enrolling in this course. Completion or near completion of the AGEC-A, B, or S is highly recommended.

STU 230 Dynamics of Leadership**3 cr. hrs. 3 periods (3 lec.)**

Overview of the theoretical and applied foundations of leadership. The theoretical component includes the historical and contemporary theories and models of leadership, effective followership, multiculturalism, and ethics. The applied component includes the importance and use of vision and mission, inclusive leadership practices, responding to change, developing a personal philosophy of leadership, and creating a personal profile of strengths and assets. Communication and facilitation skills will be practiced with the completion of a leadership project.

Information: Same as MGT 230.

Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

TEC 100 Introduction and Overview of Electronics

3 cr. hrs. 4 periods (2 lec., 2 lab)

Examination of the principles and techniques of basic electrical concepts. Includes fundamentals of electricity, current, voltage, resistance, Ohm's Law, electrical measurements, meters, power, DC circuits, magnetism, inductance, capacitance, alternating current, transformers, and AC circuits. Also includes the language of electronics and the mathematical foundations relative to the electronics industry.

TEC 101 Physics for Technology

3 cr. hrs. 3 periods (3 lec.)

Fundamentals of applied physics for technology. Includes matter, motion, forces, work and energy, fluids, temperature and heat, wave motion, electricity, direct current electricity, magnetism, alternating current, electronic devices, and light.

Prerequisite(s): MAT 097 or TEC 111.

Corequisite(s)

TEC 103 Light and Optical Systems

2 cr. hrs. 3 periods (1 lec., 2 lab)

Introduction to light and optical systems used in photolithographic processes and equipment in semiconductor manufacturing. Includes the electromagnetic spectrum, basic principles of light, light sources, interaction between matter and light, optics terminology, and standing waves. Also includes filters, microscopes, photolithography, and optical fibers.

Prerequisite(s): TEC 113.

TEC 105 Electronic Assembly Tools

3 cr. hrs. 4 periods (2 lec., 2 lab)

Introduces hand tools and measuring devices used in electronics and electromechanical assemblies. Includes basic and special assembly tools; fastener installation and removal tools; precision measuring tools; fabrication tools; and torque and optical measuring instruments. Also includes an emphasis on required safety procedures and practices and the use of selected tools, measuring devices, and procedures.

TEC 111 Applied Math I

2 cr. hrs. 2 periods (2 lec.)

Introduction to numerical operations in measurement and systems of units. Includes geometric figures, waveshapes, scale drawings, collection of data, display of data, and data calculations. Also includes basic algebraic and numeric expressions, scientific notation, and instruction on using the handheld calculator.

TEC 112 Applied Math II

2 cr. hrs. 2 periods (2 lec.)

Continuation of TEC 111. Includes graphing, linear equations, functional notation, quadratic equations, and solving systems of linear equations. Also includes many examples and exercises pertaining to electrical, magnetic, fluidic, thermal, and mechanical systems; and layout and analysis of resistor, diode, and transistor circuits using a circuit simulation program.

Prerequisite(s): TEC 111.

TEC 113 Problem Solving for Electronics and Optics

3 cr. hrs. 3 periods (3 lec.)

Problem solving for electronics and optics. Includes exponents and radicals, logarithmic and exponential functions, application of equations, resistive-capacitive and resistive-inductive transient behavior, trigonometric considerations, circular functions, vectors and phasors, mathematics of phasors, alternative current and circuits, and sinusoidal alternating current. Also includes coordinate systems, the conic sections, trigonometric identities, complex exponentials, Euler's formula, and examples in optics.

Prerequisite(s): MAT 095 or 097 TEC 112 or required score on the mathematics assessment test.

TEC 117 Optical Assembly Techniques

3 cr. hrs. 4 periods (2 lec., 2 lab)

Fundamental procedures used during the assembly of optical equipment. Includes vibration isolation, epoxy and curing, mounting optics, alignment aids, assembly and disassembly techniques, fasteners, and materials. Also includes thermal considerations, vibration mounting of components, baffles, hermetic sealing, and metal finishing.

Recommendation: Completion of TEC 116 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

TEC 121 Basic Electric and Magnetic Properties**3 cr. hrs. 3 periods (3 lec.)**

Introduction to AC, DC, and magnetic circuit theory. Includes passive devices, terminology, basic laws, network calculations, electrical measurements, instruments, and units. Also includes use of hand tools, safety, use of schematic and block diagrams, troubleshooting, and electronic circuit applications.

Prerequisite(s): TEC 100 and 111.

Corequisite(s): TEC 121LB

TEC 121LB Basic Electric and Magnetic Properties Lab**1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of TEC 121.

Prerequisite(s): TEC 100 and 111.

Corequisite(s): TEC 121

TEC 122 Applied Semiconductor Devices**3 cr. hrs. 3 periods (3 lec.)**

Basic semiconductor theory and applications. Includes measurement, component selection, effects of the environment on components, component protection, and applications. Also includes diodes, transistors, integrated circuits with operational amplifiers, and regulated power supplies.

Prerequisite(s): TEC 113 and 121.

Corequisite(s): TEC 122LB

TEC 122LB Applied Semiconductor Devices Lab**1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of TEC 122.

Prerequisite(s): TEC 113 and 121.

Corequisite(s): TEC 122

TEC 123 Digital Circuits and Computers**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the theory, operation, and application of digital components used in combinational and sequential logic. Includes number systems; Boolean algebra; gates and invertors; digital measurements and test equipment; memory; error detection; convertors; programmable logic arrays; microprocessor basics; and technical information.

Corequisite(s): TEC 123LB

TEC 123LB Digital Circuits and Computers Lab**1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of TEC 123.

Corequisite(s): TEC 123

TEC 125 AC Networks with Phasors**3 cr. hrs. 3 periods (3 lec.)**

Applications of trigonometry and the algebra of complex numbers to AC circuits safety, troubleshooting, analysis, measurement, and design. Includes phasors, transfer functions, three phase power, filters, concepts of Fourier analysis, impedance matching, RLC circuits, waveshaping, and transmission lines at high AC frequencies.

Prerequisite(s): TEC 113 and 121.

Corequisite(s): TEC 125LB

TEC 125LB AC Networks with Phasors Lab**1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of TEC 125.

Corequisite(s): TEC 125

TEC 126 Electronics Construction and Assembly**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Basic skills in construction and assembly of electronic equipment. Includes soldering through-hole and surface mount components; reading and interpreting internal electronic wiring schematics; and mechanical assembly diagrams. Also includes performing printed circuit board construction; wiring and cabling construction; terminations; and chassis construction.

Prerequisite(s): TEC 100, 105, and 111.

TEC 127 Printed Circuit Board Solder Assembly**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Advanced skills for assembly of electronic equipment. Includes wire and terminals connections; through-hole and surface mount soldering of components; printed circuit board requirements; coatings and encapsulations; and rework, repair and inspection methodology. Also included IPC standards to prepare student for IPC J-STD-001 Certification by exam.

Prerequisite(s): TEC 100, 105 and 111.*Corequisite(s):* TEC 126**TEC 128 Electronic Measurements****2 cr. hrs. 2 periods (2 lec.)**

Techniques to perform measurements on passive and active component circuits. Includes measurement standards; types of meters; parameters of passive and active devices; harmonic and inter-modulation distortion; radio frequency modulation; operation and measurements of the oscilloscope; and the distortion analyzer.

Prerequisite(s): TEC 122 and 125.*Corequisite(s):* TEC 128LB**TEC 128LB Electronic Measurements Lab****1 cr. hrs. 2 periods (2 lab)**

This is the Lab portion of TEC 128.

Corequisite(s): TEC 128**TEC 130 Computer Assembly and Testing****3 cr. hrs. 3 periods (3 lec.)**

Computer system assembly, set-up, and start-up. Includes computer systems overview, safety precautions, support equipment, operating systems, system assembly, system start-up, troubleshooting, and peripheral connections.

Corequisite(s): TEC 130LB**TEC 130LB Computer Assembly and Testing Lab****1 cr. hrs. 2 periods (2 lab)**

This is the Lab portion of TEC 130.

Corequisite(s): TEC 130**TEC 132 Computer Systems Servicing****3 cr. hrs. 3 periods (3 lec.)**

Advanced computers servicing and peripherals installation. Includes an introduction to computer servicing, laser and ink-jet printers, troubleshooting of printers, safety and troubleshooting of monitors, floppy disk drives, hard disk drives/optical drives, operating systems, application programs, and network basics.

Prerequisite(s): TEC 130.*Corequisite(s):* TEC 132LB**TEC 132LB Computer Systems Servicing Lab****1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of TEC 132.

Corequisite(s): TEC 132**TEC 160 Microcomputers and Programming Techniques****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to microcomputer operation. Includes overview and history of the microcomputer, applications, terminology and specifications, software/programming, operating systems, disk operations, programming in BASIC, and introduction to Assembly Language.

Prerequisite(s): MAT 092 or TEC 111.*Information:* Prerequisite maybe waived with consent of instructor.**TEC 221 Linear Devices****3 cr. hrs. 5 periods (2 lec., 3 lab)**

Linear devices in electronic systems. Includes overview of linear integrated circuits, the ideal operational amplifier, real operational amplifier parameters, selected linear and non-linear applications and transfer functions, phase lock loops, voltage reference circuits, and voltage regulators. Also includes optoelectronic devices, power supply bypassing, convertors, other selected linear devices, and testing and troubleshooting.

Prerequisite(s): TEC 122 and 125.

TEC 222 Electromechanical Devices and Systems**3 cr. hrs. 3 periods (3 lec.)**

Prime movers encompassing DC motors, AC motors, synchros, stepper motors, and fluid motors. Includes control systems and the utilization of electronic devices in electromechanical control. Also includes mechanical components of electromechanical systems, electronic components used in motor control systems, sensors, transducers, relays, and solenoids.

Prerequisite(s): TEC 221.*Corequisite(s):* TEC 222LB**TEC 222LB Electromechanical Devices and Systems Lab****1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of TEC 222.

Corequisite(s): TEC 222**TEC 225 Fluid Devices and Automated Systems****2 cr. hrs. 2 periods (2 lec.)**

Application and control of fluid devices using programmable logic devices. Includes microprocessors, software, ladder logic and diagrams, programmable logic controllers (PLCs), and variety of input/output devices used in the automated manufacturing and test environments. Also includes safety and basic physical principles or laws governing the operation of pneumatic and hydraulic devices.

Prerequisite(s): TEC 101, 123 and 222.*Corequisite(s):* TEC 225LB**TEC 225LB Fluid Devices and Automated Systems Lab****1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of TEC 225.

Corequisite(s): TEC 225**TEC 228 RF and Microwave Devices****3 cr. hrs. 3 periods (3 lec.)**

Introduction to electronic communication circuits and methodologies in transmitters and receivers. Includes history and trends in communications technology, the electromagnetic spectrum, resonant circuits, coupling, lumped filters, behavior of devices, amplifiers, receivers, transmitters, and signal sources. Also includes properties, applications, measurements, and specifications of electronic communications components, systems at RF and microwave frequencies, overview of RF components, waveguides, and antennas.

Prerequisite(s): TEC 221.*Corequisite(s):* TEC 228LB**TEC 228LB RF and Microwave Devices Lab****1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of TEC 228.

Corequisite(s): TEC 228**TEC 230 Peer-to-Peer Networking and Network Cabling Fundamentals****3 cr. hrs. 3 periods (3 lec.)**

Introduction to basic networking concepts and cabling standards. Includes the Open System Interconnection (OSI) model of networking, types of networking, multi-user vs. single-user programs, network security, type of connections, and type of cabling.

Prerequisite(s): TEC 132/132LB.*Corequisite(s):* TEC 230LB*Information:* Prerequisite maybe waived with consent of instructor.**TEC 230LB Peer-To-Peer Networking and Network Cabling Fundamentals Lab****1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of TEC 230.

Corequisite(s): TEC 230

TEC 250 Digital Devices**3 cr. hrs. 3 periods (3 lec.)**

Digital integrated circuits, primarily TTL. Includes power requirements, propagation delay, input and output electrical characteristics, counters, latches, multiplexors, decoders, flip-flops and other digital devices. Also includes digital circuit troubleshooting.

Prerequisite(s): TEC 122 and 123.*Corequisite(s):* TEC 250LB**TEC 250LB Digital Devices Lab****1 cr. hrs. 3 periods (3 lab)**

This is the Lab portion of TEC 250.

Corequisite(s): TEC 250**TEC 251 Analog Circuits****3 cr. hrs. 3 periods (3 lec.)**

Advanced analog circuits which includes subtractors, differential summing amplifiers, instrumentation amplifiers, I-to-V converters, V-to-I converters, integrators, differentiators, active filters, oscillators, comparators, voltage limiters, window detectors, V-to-F converters, F-to-V converters, clippers, clampers, universal active filters, switched capacitor filters, 555 timer applications, phase-locked loops, power amplifiers, and voltage regulators.

Prerequisite(s): TEC 221*Corequisite(s):* TEC 251LB**TEC 251LB Analog Circuits Lab****1 cr. hrs. 3 periods (3 lab)**

This is the lab portion of TEC 251. The student will do a capstone project in analog circuits.

Prerequisite(s): TEC 221*Corequisite(s):* TEC 251**TEC 286 Fiber Optics Installation and Testing****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Installation and use of optical fibers and related equipment in the optical industry. Includes optics theory, fiber types, cable assembly and installation, testing of cables, special equipment, and survey of applications.

Prerequisite(s): TEC 103.**TEC 287 Laser Fundamentals****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Fundamentals of lasers and how they are built and used in industry. Includes laser safety, properties of laser light, introduction to quantum mechanics, cavity design, effects of extra cavity feedback and stability, laser types and applications, cooling, and assembly and testing techniques.

Prerequisite(s): TEC 103.**TEC 288 Optical Testing****4 cr. hrs. 6 periods (2 lec., 4 lab)**

Common techniques and equipment for testing of optical systems and components. Includes optical testing theory, measurement of paraxial parameters, interferometers, non-interferometric tests, and surface profiling.

Prerequisite(s): TEC 103.

Theater

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

THE 104 Voice and Movement for the Actor**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Principles and practice of voice and movement skills for the actor. Includes phonetics, physical isolation and awareness exercises, development and practice of stage dialects, and physicalization of characters.

Information: May be taken two times for a maximum of six credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

THE 105 Theater Appreciation**3 cr. hrs. 3 periods (3 lec.)**

An exploration of the theory and practice of the discipline of theatre art. Includes setting the stage for understanding and appreciating theatre arts, the artists, and production of the play.

Prerequisite(s): WRT 090 or 101 or 102.

Information: Students are expected to attend and critique a minimum of one theatrical production. Students may, at the discretion of the instructor, receive additional credit for participation in a PCC theatre production when this participation is not part of the student's requirements for another class.

THE 110 Movement and Dance for Actors**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Physical dynamics of actor training. Includes relaxation and warm-up techniques, vocabulary for movement, use of movement in developing acting skills, and improvisation for scenes and text analysis. Also includes execution of basic dance and movement, history of dance and movement for musical theater, and exercises.

THE 111 Stagecraft**3 cr. hrs. 3 periods (3 lec.)**

Principles and the practical application to the operation and techniques of various types of stages and stage scenery. Includes theater organization, geography, shop safety, tools and hardware applications, historic overview, construction design, three-dimensional scenery, and properties research. Also includes acquisition, maintenance, costume design, stage rigging systems, stage lighting, paint, materials handling, measuring, construction, assembly, finishing, rigging, and painting techniques.

Corequisite(s): THE 113

THE 113 Stagecraft Crew**1 cr. hrs. 3 periods (3 lab)**

Preparing, organizing, setting up, running, and shifting of theatrical sets, properties, and costumes for approved theatrical productions. Includes scenic cost estimates and budget, construction, planning and execution, production deadlines, property acquisition, and props construction. Also includes painting and finishing, stage lighting, scenery shifting; and property organization, distribution, and security.

Corequisite(s): THE 111

THE 118 Basic Theater Graphics**3 cr. hrs. 3 periods (3 lec.)**

Principles and practice of graphic skills necessary in the planning of theatrical productions. Includes techniques of pencil sketching, study of theatrical drafting conventions, techniques of mechanical drawing, study of mechanical perspective, digital color rendering techniques, study of color theories, and study of computer design applications for theatrical drafting.

THE 125 Theater Production**2 cr. hrs. 6 periods (6 lab)**

The practical application of exploratory learning within an ensemble setting. Includes the relating of ideas and possibilities to practical methods, skills and structure of Theatrical Production.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of four credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

THE 140 History of Theater to the 18th Century**3 cr. hrs. 3 periods (3 lec.)**

Survey of theater, drama and audiences from their origins to the late 18th century. Includes an examination of theatrical architecture, scenic/costume design, acting styles, tragic/comic theories, audience, and literature.

THE 148 Costume Design**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Introduction to basic design techniques for theater costumes. Includes identifying and applying elements, sketching and coloring, paper fabrication of costume design, script and character analysis, application of historical research, and production scheduling and budget.

Information: May be taken two times for a maximum of six credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

THE 149 Introduction to Acting I**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to performance techniques and the development of physical skills for effective performance. Includes theatrical codes of behavior, exercise and structured improvisations, control of emotions and body, verbal and non-verbal intentions, emotional recall techniques and exercises, concentration and centering exercises, and physical investment exercises. Also includes physical projection of emotional states, imagery, auditioning, critiques of two productions, maintaining spontaneity, critiques of two productions, maintaining spontaneity, character analysis, playing a character, and monologues and scenes.

THE 151 Introduction to Acting II**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Continuation of THE 149. Includes advanced theatre game and improvisations, introduction to status and its application, rehearsal conferences, scene presentations, character creation, and language plays.

Prerequisite(s): THE 149.**THE 210 Screen Acting****2 cr. hrs. 3 periods (1 lec., 2 lab)**

Introduction to film and television acting techniques. Includes special technical aspects of acting before a camera, performance preparation, and conduct of performance.

THE 220 Stage Lighting**3 cr. hrs. 3 periods (3 lec.)**

Principles of stage lighting design and practice. Includes historical context, electricity and lamps, fixtures, dimming equipment, control equipment, color media use and handling, design techniques, special effects and set up, and safety procedures. Also includes care, maintenance, proper use of lighting equipment, organization of lighting work, and operation.

Corequisite(s): THE 222**THE 222 Stage Lighting Crew****1 cr. hrs. 3 periods (3 lab)**

Organizing, setting up and operating of stage lighting for approved theatrical productions. Includes analysis of designer information, cost estimates and budgeting, planning and execution of operations, and control board techniques for rehearsals and performances.

Corequisite(s): THE 220**THE 223 Scene Design****3 cr. hrs. 5 periods (2 lec., 3 lab)**

Principles of scene design for various types of stage and models of productions. Includes historical context, theater architecture, scenic elements, design process and research, development of working drawings, perspective rendering, color use, period styles in furniture and architecture, and script analysis. Also includes cost estimates, material choices, advanced construction techniques, paint mixing and application techniques, stage furniture overview, and set dressing and finishing.

THE 245 Principles of Dramatic Structure**3 cr. hrs. 3 periods (3 lec.)**

Examination and analysis of the structural elements of major dramatic genres. Includes reading the play, stage directions, characters and personages, plot and diction, the actor's body, and the play within context.

THE 250 Acting: Audition for Theater**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Theory and practice of creating sustained character portrayals through the performance of a series of monologues chosen from a broad spectrum of both classical and contemporary theatrical literature. Includes auditioning basics and resume fundamentals, prepared audition scenes in plays, and library and Internet research skills. Also includes contemporary monologue basics and performance, commercial auditioning, prepared audition scenes in film and television, Shakespeare monologue basics, auditioning, and performance of classical monologues.

Prerequisite(s): THE 149.**THE 251 Acting: Shakespeare and Classical Literature****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Performance-oriented class focuses on the practice and theory of pre-realistic styles of acting, and Shakespeare through the use of verse and prose. Includes the performance and analysis of Farce, Restoration Comedy, Shakespeare and presentation of a Sonnet.

Prerequisite(s): THE 149.

THE 296 Independent Studies in Theater**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Students work at various assigned tasks in theatrical settings under the guidance of an instructor. Includes the opportunity for the student to design his/her own project with the instructor's approval.

Information: Consent of instructor is required before enrolling in this course. May be taken two times for a maximum of eight credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Therapeutic Massage

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

TMA 101 Introduction to Massage Therapy**2 cr. hrs. 2 periods (2 lec.)**

Survey of massage therapy practice including history, overview of bodywork systems, benefits and indications of massage.

TMA 120 Professionalism and Ethics for Massage Therapists**2 cr. hrs. 2 periods (2 lec.)**

Overview of the ethics and professionalism related to an effective, successful massage therapy/bodywork practice. Includes general ethical principles of practice and professional dress, conduct, boundaries and communication.

TMA 201IN Therapeutic Massage Practices I**6 cr. hrs. 9 periods (3 lec., 6 lab)**

Principles of professionalism, ethics, and legalities. Includes use of terminology related to massage therapy; applications, indications, and contraindications of the nine strokes of Swedish massage; and study of the human osseous and muscular structure. Also includes emphasis on normal movement patterns, origins, insertions, and functions of the muscular system.

Prerequisite(s): With a grade of C or better or concurrent enrollment: TMA 101, 120, 210, WED 110 and 111.

TMA 202IN Therapeutic Massage Practices II**6 cr. hrs. 9 periods (3 lec., 6 lab)**

Refined application of the nine strokes of Swedish massage and contraindications to avoid. Includes application of advanced principles and techniques of trigger point therapy, muscle energy technique, stretching, hydrotherapy protocols, hot and cold applications, reflexology, and corporate massage. Also includes study of the human osseous and muscular structure with emphasis on normal movement patterns and the origin, insertion, and function of the muscular system.

Prerequisite(s): TMA 201IN with a grade C or better.

Corequisite(s): TMA 202LC or concurrent enrollment.

Information: Course is restricted to students enrolled in the program.

TMA 202LC Therapeutic Massage Practice Clinical Lab I**1 cr. hrs. 3 periods (3 lab)**

Students practice and perfect the application of fundamental Swedish Massage techniques in a supervised, supportive learning environment in an onsite clinical setting. Course reinforces massage theory and practice learned in TMA 201IN.

Corequisite(s): TMA 202IN

TMA 210 Fundamentals of Kinesiology**3 cr. hrs. 4 periods (2 lec., 2 lab)**

A survey of the biology of movement. Includes a review of the skeletal and muscular systems, planes of movement and terms of anatomical reference; structure and function of joints; and origins, insertions and actions of muscles of the trunk and limbs. Also includes demonstration and analysis of normal and abnormal movement.

Prerequisite(s): BIO 160IN with a grade of C or better.

TMA 215 Introduction to Pathology for Massage and Bodywork**3 cr. hrs. 3 periods (3 lec.)**

Introduces the student to basic disease processes and common pathologies associated with organ systems and provides an overview of pathology pertinent to massage therapy and bodywork. Includes cautions, contraindications and adaptive measures as applied to common pathologies of organ systems. Also includes the potential interactions between bodywork and medications.

Prerequisite(s): With a grade of C or better: BIO 160IN and TMA 101.

TMA 222 Business Management for Massage and Bodywork**2 cr. hrs. 2 periods (2 lec.)**

Business management course designed specifically for massage therapy and bodywork practitioners. Includes business planning and development, financial management, marketing, and communications for these professional practices.

Prerequisite(s): With a grade of C or better, or concurrent enrollment: BIO 160IN, TMA 202IN, and 202LC.

Recommendation: Concurrent enrollment in TMA 290LC.

TMA 225 Massage in Health Care Settings**1.5 cr. hrs. 1.5 periods (1.5 lec.)**

Introduction to concepts, conditions, and unique elements of performing therapeutic massage in health care settings. Includes overview of common hospital policies, professionalism in the medical field, communication with health care providers, and sanitation and hygiene. Also includes an overview of appropriate massage techniques to employ on patients with specific medical conditions and diseases, impact of medications on massage patients, appropriate massage modifications for effects of medications, medical terminology and abbreviations, and case studies.

Information: Elective course for Licensed Massage Therapists (equivalent to 19.5 Continuing Education Hours or 1.95 CEUs.)

TMA 290LC Therapeutic Massage Clinical**3 cr. hrs. 8 periods (8 lab)**

Application and integration of fundamental and advanced massage techniques for various purposes and populations. Includes Swedish, Deep Tissue, Pain and Injury Management, Stretching, Range of Motion, Asian, Energy, and Hospital-Based massage therapies.

Prerequisite(s): With a grade of C or better: TMA 120, 202IN, 202LC, 210, 215, and 222. (Concurrent enrollment permitted in: TMA 202IN, 202LC, 215, and 222.)

TMA 291 Therapeutic Massage Internship**1 cr. hrs. 5 periods (5 lab)**

Advancement and refinement of the knowledge, practice skills and professional abilities necessary for success in a therapeutic massage setting. Includes observing, assisting and participating in various duties and massage practices in an off-site, clinical therapeutic massage setting as appropriate and specific to the internship site. Also includes observation and application of business and professional skills.

Prerequisite(s): With a grade of C or better, or concurrent enrollment: BIO 160IN, TMA 222, and 290LC.

Information: May be taken three times for a maximum of three credit hours. If this course is repeated see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Students enrolling for the first time must take the course concurrently with TMA 290LC.

TMA 296 Therapeutic Massage Independent Study**1-3 cr. hrs. 2-6 periods (.5-1.5 lec., 1.5-4.5 lab)**

Opportunity to continue development as a massage therapist through the pursuit of a specific project or area of study in therapeutic massage. Content will be determined by instructor and student.

Information: Students must obtain faculty approval before enrolling in this course. Course content and performance objectives will be kept on file. May be taken three times for a maximum of three credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Translation and Interpretation

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

TRS 101 Introduction to Translation and Interpretation**3 cr. hrs. 3 periods (3 lec.)**

Principles and procedures for acquisition of skills in interpretation and translation of written materials. Includes an introduction to translation and interpretation; translation and interpretation preparation, procedures, and specialties; and work of the translator and interpreter.

TRS 102 English and Spanish for Translation**4 cr. hrs. 4 periods (4 lec.)**

Analysis of the English and Spanish languages from the translator's point of view. Includes the structure of English and Spanish, cultural and stylistic components, and semantics. Also includes standard English mechanics, punctuation, and metaphorical and idiomatic expressions as well as an analysis of Spanish and the dialectal differences, interferences and lexical obstacles.

TRS 120IN Technology for Translation and Interpretation**2 cr. hrs. 3 periods (1 lec., 2 lab)**

Survey of the technological equipment that facilitates the work of the translator. Includes computers for transcription/translation, information distribution techniques, file transfer technologies, using the World Wide Web in translation and interpretation, and applied projects.

Information: CSA 100 may be waived if computer applications experience is documented. See an instructor.

TRS 150 Survey of Translation Specialty Areas**4 cr. hrs. 4 periods (4 lec.)**

Introduction to the translation specialty areas of health care, legal, literary, and commercial/business. Includes introduction to specialty areas, types of documents, elements and characteristics of specialty documents, resource development, ethical and legal restrictions, and development of translation subskills.

TRS 160 Translation in Specialty Areas**4 cr. hrs. 4 periods (4 lec.)**

Principles and procedures for translating specialty area materials. Includes health care, legal, commercial/business, and literary translation exercises.

TRS 161 Medical Spanish and English Interpreting**3 cr. hrs. 3 periods (3 lec.)**

Interpreting in a medical context. Includes interpreting in a medical setting, pronunciation of Spanish and English names and medical terms, Spanish and English medical terminology, bicultural medical communication, and regional dialects.

Information: This course assumes bilingual fluency in both English and Spanish.

TRS 162 Introduction to Legal Spanish/English Interpretation**3 cr. hrs. 3 periods (3 lec.)**

Interpreting in a legal context. Includes interpreting in a legal setting, knowledge of legal procedure and ancillary issues related to legal terminology in Spanish and English, bicultural legal communication, and regional differences.

Information: Requires Spanish/English language fluency.

TRS 202 Interpretation Techniques**3 cr. hrs. 3 periods (3 lec.)**

Specific theories and practices in interpreting oral communication from English to Spanish and Spanish to English. Includes theories of interpretation, techniques of interpretation, interpretation strategies, interpretation procedures, and modes of interpretation.

Prerequisite(s): TRS 101.

TRS 203 Consecutive Interpretation and Sight Translation**4 cr. hrs. 6 periods (3 lec., 3 lab)**

Essential modes of interpretation. Includes history and use, theory, interpreting skills development, sight translation skills, consecutive interpretation skills, and interpretation issues.

TRS 270 Simultaneous Interpretation**4 cr. hrs. 4 periods (4 lec.)**

Study and practice of simultaneous interpretation. Includes history and use, theory, interpreting skills development, simultaneous interpretation skills, and issues in simultaneous interpretation.

TRS 282 Advanced Project in Translation**4 cr. hrs. 5 periods (3 lec., 2 lab)**

Engaging in a specialty area advanced project to produce a translated product. Includes agency/individual sponsor, translation goals, translating written documents, on-site and/or supervised training, and preparation for exit competency evaluation.

Travel/Tourism Operations

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

TVL 101 Introduction to the Travel Industry**3 cr. hrs. 3 periods (3 lec.)**

Major components of travel products and careers. Includes travel industry and hospitality products, distribution of the travel product, and careers in the travel industry.

TVL 102 Computerized Reservation Systems**3 cr. hrs. 5 periods (2 lec., 3 lab)**

Basic software training. Includes screen management, passenger name record (PNR), Sabre's FOX, PNR modifications, faring/pricing the completed PNR, booking and pricing hotels and rental cars.

TVL 103 Geography for the Tourism Professional**3 cr. hrs. 3 periods (3 lec.)**

Applied physical geography of popular global tourist destinations, major tourist attractions, popular history, and itineraries for specific destinations. Includes the opportunity to take the Travel Institute's Destination Specialist Certification Exam in the geographic area of choice.

TVL 109 Survey of Leisure Products**3 cr. hrs. 3 periods (3 lec.)**

Electronically research, sell, and book retail leisure travel components to include, but not limited to hotels, rental cars, rail travel, escorted and all-inclusive tours, and cruise accommodations. Includes an introduction to web-based marketing (blogs, Facebook, Instagram, and other web-based conduits for increasing sales) for tourism consultants who sell a variety of tourism products.

TVL 121 Tourism Sales and Marketing**3 cr. hrs. 3 periods (3 lec.)**

Concepts of selling techniques for the tourism professional. Includes phone and internet selling strategies as well as an introduction to listening skills, sales techniques, client behavior styles, closing the sale, legal aspects of the travel industry for inside, outside and home-base tourism professionals. Also includes concepts of tourism marketing and marketing techniques for the tourism professional, consumer behavior, strategies, and marketing elements.

TVL 211 Tour Direction and Tour Group Management**3 cr. hrs. 3 periods (3 lec.)**

Introduction to the basic principles of guiding tours. Includes principles of tour group handling, tour group planning, tour guide basics, tour guide narration, tour guide procedures and challenges, and public speaking for the tour guide.

TVL 296 Independent Study in Travel/Tourism**1-3 cr. hrs. 1-3 periods (1-3 lec.)**

Independent studies projects or special interest areas in travel/tourism. Content to be determined jointly between student and instructor.

Information: May be taken three times for a maximum of nine credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate. Offered; Fall.

Truck Driver Training

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

TDT 116 Basic Vehicle Operations-Coach/Transit Bus**3 cr. hrs. 3 periods (3 lec.)**

Information to prepare the trainees to pass the Commercial Driver License (CDL) exam and obtain a Class "B" permit with a "P" passenger endorsement. Includes CDL preparation, driving conditions, pre-trip inspection, air brakes, map reading, hours of service, backing, and transporting passengers.

Information: Admission to the Truck Driver Training Program is required prior to registration.

TDT 117 Basic Driving Maneuvers - Coach/Transit Bus**3 cr. hrs. 3.5 periods (2.5 lec., 1 lab)**

Techniques for the inspection and safe operation of a coach or transit bus. Includes pre-trip inspection, backing, basic control of left and right turns, progressive shifting, space and speed management, visual search and communication, defensive driving, and hazard perception.

Information: Admission to the Truck Driver Training Program is required prior to registration.

TDT 118 Basic Vehicle Operations and Commercial Driver's License Req**5 cr. hrs. 5 periods (5 lec.)**

Basic methods of safely operating a combination vehicle. Includes the operation of the air brake system, coupling and uncoupling a tractor and trailer, cargo handling including hazardous materials, proper method of conducting a pre-trip inspection, completion of braking maneuvers, and trip planning. Also includes familiarization of the United States Department of Transportation (USDOT) regulations, hours of driver service, and all Commercial Driver's License (CDL) requirements, managing a professional driver life, managing speed effectively, and road and weather condition response.

Information: Admission to the Truck Driver Training Program is required prior to registration.

TDT 119 Basic Driving Maneuvers-Class A CDL**3.5 cr. hrs. 4 periods (3 lec., 1 lab)**

Demonstration and skill development of basic maneuvers of driving a combination vehicle. Driving proficiency development including control, backing, visual search, shifting, turning, space and speed management, and hazard perception. Successful completion of this class should prepare trainee for Commercial Driver's License (CDL) skill examination.

Prerequisite(s): Completion of TDT 118 with a grade of C or better.

Information: Admission to the Truck Driver Training Program is required prior to registration. A valid Commercial Driver's License (CDL) permit will meet the prerequisite for TDT 118.

TDT 120 Truck Driver Training Refresher**3.5 cr. hrs. 4 periods (3 lec., 1 lab)**

Overview of Truck Driver skill requirements. Includes all range and road skills with instruction in control, backing, visual search, shifting, turning, space and speed management, and hazard perception.

Information: Valid Commercial Driver's License and Department of Transportation physical and drug screen are required before enrolling in this course.

Veterinary Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

VET 100 Introduction to Veterinary Technology**3 cr. hrs. 3 periods (3 lec.)**

Introduction into the role of the veterinary technician careers and career paths, legal applications, ethical responsibilities, professional attitudes, medical terminology, and occupational safety issues. Also includes breed identification of domestic animals, behavioral characteristics of animals, human-animal bonding, and dealing with pet loss.

Prerequisite(s): With a grade of C or better: REA 091 (or assessment into REA 112), and MAT 095 or 097 or Module 35 in MAT 089A or 089B (or assessment into MAT 151 or higher.)

Corequisite(s): VET 110, VET 130, VET 225

Information: Admission to the Veterinary Technology program is required before enrolling in this course.

VET 106 Veterinary Practice Assistant I**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to the basic skills needed to assist veterinary professionals in the quality care of animals. Includes animal restraint, nursing, vaccinations and other basic assisting skills.

Corequisite(s): VET 107, VET 108

Information: Consent of program faculty is required before enrolling in this course.

VET 107 Veterinary Practice Assistant II**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Continuation of VET 106. Build on the foundation skills of veterinary clinical care in VET 106. Includes foundations in pharmacy order fulfillment, supportive roles in surgical environment, care of surgical equipment, and the assistant's role in obtaining samples and submitting them for diagnostic results. Also includes an introduction to veterinary imaging and restraint techniques needed related to imaging.

Corequisite(s): VET 106, VET 108

Information: In order to continue in VET 107, students must complete VET 106 with a grade of C or higher.

VET 108 Introduction to Veterinary Facility Practices**6 cr. hrs. 6 periods (6 lec.)**

Introduction into the role of the veterinary practice assistant in the veterinary medicine profession. Includes careers and career paths, legal applications, ethical responsibilities, professional attitudes, medical terminology, and occupational safety issues. Also includes standard office procedures with an emphasis in client relations and education and computer skills, breed identification of domestic animals, behavioral characteristics of animals, human-animal bonding, and dealing with pet loss.

Corequisite(s): VET 106, VET 107**VET 110 Veterinary Nursing Procedures I****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to veterinary nursing techniques. Includes physical examination, history taking, injections, preventative health care, basic nutrition and animal restraint. Also includes husbandry techniques, kennel management and sanitation of kennel facilities for dogs and cats.

Corequisite(s): VET 100, VET 130, VET 225*Information:* Admission to the Veterinary Technology program is required before enrolling in this course.**VET 111 Veterinary Nursing Procedures II****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Continuation of VET 110 with an emphasis on venipuncture, catheterization, fluid therapy and basic dental care procedures. Includes complete physical examinations, wound management, CPR and first aid.

Prerequisite(s): Within the last two years: C or better in VET 100, 110, 130 and 225.*Corequisite(s):* VET 120, VET 131, VET 150**VET 120 Clinical Pathology I****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to clinical pathology. Includes pathology terminology, basic laboratory procedures and specimen collection and preservation. Also includes basic use and care of microscopes.

Prerequisite(s): Within the last two years: with a C or better in VET 100, 110, 130 and 225.*Corequisite(s):* VET 111, VET 131, VET 150**VET 121 Clinical Pathology II****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Continuation of VET 120. Includes review of laboratory procedures, urinalysis, and cytologic evaluations. Also includes pathogens, parasites, and hematologic evaluations.

Prerequisite(s): Within the last two years: C or better in VET 111, 120, 131 and 150.*Corequisite(s):* VET 200, VET 200LB, VET 210, VET 211**VET 130 Animal Anatomy and Physiology I****4 cr. hrs. 6 periods (3 lec., 3 lab)**

Anatomy and physiology of domestic animals. Includes the study of body systems such as skeletal, muscular, integumentary, special sense organs, circulatory and digestive. Also includes principles of disease.

Prerequisite(s): Within the last eight years with a C or better: BIO 156IN or BIO 181IN (or required score on BIO Challenge Exam), and CHM 130IN or CHM 151IN (or score of 34 or higher on the CHM Challenge Exam.)*Corequisite(s):* VET 100, VET 110, VET 225*Information:* Admission to Veterinary Technology program is required before enrolling in this course.**VET 131 Animal Anatomy and Physiology II****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Continuation of VET 130. Includes the study of the nervous, respiratory, and reproductive systems and special sense organs. Also includes endocrine, urinary systems, and principles of disease.

Prerequisite(s): Within the last two years: C or better in VET 100, 110, 130 and 225.*Corequisite(s):* VET 111, VET 120, VET 150**VET 150 Pharmacology****3 cr. hrs. 4 periods (2 lec., 2 lab)**

Introduction to regulations of biologics and pharmaceuticals. Includes classification, dosage calculations, labeling, logging and packaging of drugs.

Prerequisite(s): Within the last two years: C or better in VET 100, 110, 130, and 225.*Corequisite(s):* VET 111, VET 120, VET 131

VET 191 Veterinary Technician Clinical Experience I**3 cr. hrs. 12 periods (12 lab)**

Supervised 200 hour clinical experience, which will be conducted at local veterinary hospitals, clinics, laboratory, and zoo or research facilities.

Information: Completion of first year Veterinary Technology courses is required before enrolling in this course.

VET 196 Independent Study in Veterinary Technology**1-3 cr. hrs. 1-3 periods (1-3 lec.)**

Independent study course offering students an inroad to focus on a particular veterinary medical subject or subjects, to study that subject, and to hone manual skills while working in an independent format. Content of study and its manner of execution must be developed through mutual agreement between the student and the instructor prior to enrollment in the course.

Information: Consent of instructor is required before enrolling in this class.

VET 200 Anesthetic and Surgical Nursing**2 cr. hrs. 2 periods (2 lec.)**

Explore scientific principles on which asepsis, sterilization, staff and patient safety, and nursing techniques are practiced in the anesthetic and surgical environment. Includes pharmacology and physiology associated with anesthesia. Also includes content knowledge behind the application in the laboratory setting and in the field, which lead to favorable clinical outcomes.

Prerequisite(s): Within the last two years: C or better in VET 111, 120, 131, and 150.

Corequisite(s): VET 121, VET 200LB, VET 210, VET 211

VET 200LB Anesthetic and Surgical Nursing Lab**1 cr. hrs. 3 periods (3 lab)**

This is the lab portion of VET 200. Foundation of techniques and procedures involving surgery and anesthesia. Includes preparation, maintenance care, sterilization and identification of instruments and surgical equipment. Also includes active participation in routine surgical procedures as an operating nurse (e.g. anesthesia induction, anesthetic maintenance, anesthetic monitoring, post-surgical patient care, surgical suite maintenance, and surgical and medical record keeping.)

Prerequisite(s): Within the last two years: C or better in VET 111, 120, 131, and 150.

Corequisite(s): VET 121, VET 200, VET 210, VET 211

VET 205 Radiology and Imaging Techniques**2 cr. hrs. 2 periods (2 lec.)**

Principles and techniques of radiographic imaging. Includes the physics behind production of X-rays, ultrasound and advanced imaging. Introduction to radiographic equipment, endoscopy equipment, ultrasound equipment and 3 dimensional imaging units. Instruction in workplace safety measures regarding imaging equipment.

Prerequisite(s): Within the last two years: C or better in VET 130 and 131.

Corequisite(s): VET 205LB

VET 205LB Radiology and Imaging Techniques Lab**1 cr. hrs. 2 periods (2 lab)**

The lab portion of VET 205. Includes principles and techniques of radiographic imaging. Also includes the production of X-rays, radiographic equipment, safety measures and radiographic quality, diagnostic radiographs, positioning of patients, darkroom techniques and X-ray processing.

Prerequisite(s): Within the last two years: C or better in VET 130 and 131.

Corequisite(s): VET 205

VET 210 Veterinary Nursing Procedures: Large Animal Care**1 cr. hrs. 1 periods (1 lec.)**

Veterinary nursing techniques for large animals. Includes restraint procedures; nursing care and behavior of large animals; preventative medicine; nutrition; and large animal medical and surgical procedures. Also includes mentoring techniques; teamwork; communications; and health problem assessment involving kennel management.

Prerequisite(s): VET 111, 120, 131 and 150.

Corequisite(s): VET 210LB

VET 210LB Veterinary Nursing Procedures Lab: Large Animal Care**1 cr. hrs. 3 periods (3 lab)**

The lab portion of VET 210. Veterinary nursing techniques for large animals. Includes restraint procedures; nursing care and behavior of large animals; application of preventative medicine; application of nutrition; and large animal medical and surgical procedures. Also includes mentoring techniques; teamwork; communications; and health problem assessment involving kennel management.

Prerequisite(s): Within the last two years: C or better in VET 111, 120, 131 and 150

Corequisite(s): VET 210

Information: Registration for this course is restricted to students who have completed the first year in the Veterinary Technician Program.

VET 211 Veterinary Nursing Procedures:Avian, Exotic, and Lab Animals**1 cr. hrs. 1 periods (1 lec.)**

Veterinary nursing techniques for avian, exotic and laboratory animals. Includes care and management of laboratory animals and exotic companion animals; nursing procedures; preventative health care; and restraint. Also includes Animal Welfare knowledge and principles of regulations of animal use in research.

Prerequisite(s): Within the last two years: C or better in VET 111, 120, 131, 150.

Corequisite(s): VET 121LB

Information: Registration for this course is restricted to students who have completed the first year in the Veterinary Technician Program.

VET 211LB Veterinary Nursing Procedures Lab:Avian,Exotic,& Lab Animals**1 cr. hrs. 3 periods (3 lab)**

The lab portion of VET 211. Veterinary nursing techniques for avian, exotic and laboratory animals. Includes care and management of laboratory animals and exotic companion animals; husbandry; nursing procedures; preventative health care; and restraint. Also includes mentoring techniques; teamwork; communications; and health problem assessment involving kennel management.

Prerequisite(s): Within the last two years: C or better in VET 111, 120, 131, 150.

Corequisite(s): VET 211

Information: Registration for this course is restricted to students who have completed the first year in the Veterinary Technician Program.

VET 220 Clinical Pathology III**3 cr. hrs. 4 periods (2 lec., 2 lab)**

Continuation of VET 121 for summation of laboratory skills and techniques needed of the Veterinary Technician. Includes blood chemistry, bacteriologic and microbiologic procedures and necropsy.

Prerequisite(s): Within the last two years: C or better in VET 121, 200, and 200LB.

VET 225 Veterinary Hospital Procedures**3 cr. hrs. 3 periods (3 lec.)**

Standard office procedures with an emphasis in client relations, education and computer skills. Ethics in veterinary medicine, state and federal regulations governing veterinarian practices and all aspects of clinical patient care will be covered.

Corequisite(s): VET 100, VET 110, VET 130

Information: Admission to the Veterinary Technology program is required before enrolling in this course.

VET 230 VTNE and AZ State Veterinary Medical Examining Board Review**3 cr. hrs. 3 periods (3 lec.)**

Test preparation for VTNE (Veterinary Technician National Examination) and state medical examination board. Includes a review of the Arizona Revised Statutes and Administrative Rules pertaining to veterinary medicine and content review of all pertinent medical subjects. Also includes test taking skills, test anxiety reduction techniques, and practice for board exams.

VET 291 Veterinary Technician Clinical Experience II**3 cr. hrs. 12 periods (12 lab)**

Supervised 200 hour clinical experience, which will be conducted at local veterinary hospitals, clinics, laboratory, and zoo or research facilities.

Information: Registration for this course is restricted to students enrolled in their final semester of the Veterinary Technician program. This course may be taken concurrently with the final semester of VET coursework. Instructor approval required.

Welding

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

WLD 110 Basic Arc and Oxyacetylene Welding

4 cr. hrs. 6 periods (2 lec., 4 lab)

Procedures and techniques in arc and oxyacetylene welding. Includes health, safety, and environmental practices, welding terminology, arc and oxyacetylene welding equipment, proper welding procedures for arc and oxyacetylene, arc and oxyacetylene steel welding, welding machines and polarities, filler metal identification, and welding positions, and oxyacetylene cutting.

WLD 115 Blueprint Reading/Estimating

4 cr. hrs. 4 periods (4 lec.)

Principles and procedures for interpreting structural blueprints and determining materials and labor costs. Includes fundamentals of blueprint reading, welding print format and types of fabrication blueprints, welding symbols and sizes, structural shapes and symbols, blueprint interpretation, introduction to estimating, bonds and insurance, materials specifications, labor, structural steel systems, and steel fabrication checklist.

Prerequisite(s): Within the last three years: MAT 089A through Module 10 or ICS 081 with a C or better or required score on the Mathematics assessment test.

WLD 120 Welding for Metal Sculpture

4 cr. hrs. 6 periods (2 lec., 4 lab)

Basic welding techniques and processes used in metal sculpture design and fabrication. Includes oxyacetylene safety practice, oxyacetylene equipment handling, oxyacetylene welding procedures, assembly of portable equipment, oxyacetylene cutting and design, oxyacetylene bronze build-up, arc welding safety practices, arc welding procedures, basic joint design, currents and polarities, arc welding machines and electrodes, and arc designing for sculpture.

WLD 160 Arc Welding

4 cr. hrs. 6 periods (2 lec., 4 lab)

Principles and techniques of joining metals with an electric arc as the source. Includes arc welding uses, safety, techniques, flame cutting, joint design, welding costs, electric currents and power sources, carbon arc cutting, filler metal selection, hardfacing, and metal identification.

Prerequisite(s): WLD 110.

Information: Prerequisite may be waived with appropriate work experience or course work. See a welding instructor or advisor for prerequisite information.

WLD 250 Pipe Welding

4 cr. hrs. 6 periods (2 lec., 4 lab)

Principles and techniques of pipe welding. Includes introduction to pipe layout and drawing equipment. Also includes an introduction to performance testing, types of pipe, methods and preparation of pipe joints and miter joints, methods of joining pipe and miter joints.

Prerequisite(s): WLD 160.

Information: Prerequisite(s) may be waived with appropriate work experience. See a welding instructor or advisor for prerequisite information.

WLD 261 Gas Metal Arc Welding

4 cr. hrs. 6 periods (2 lec., 4 lab)

Procedures and techniques in Gas Metal Arc Welding (GMAW) and Flux Core Arc Welding (FCAW) processes. Includes health, safety, and environmental practices, welding terminology, GMAW and FCAW processes and equipment, equipment operation and welding techniques, power source and wire feed types and controls, welding currents and polarities, welding wires in GMAW and FCAW processes, shielding gases, and mild steel and aluminum welding.

WLD 262 Gas Tungsten Arc Welding

4 cr. hrs. 6 periods (2 lec., 4 lab)

Procedures and techniques in the Gas Tungsten Arc Welding (GTAW) process. Includes health, safety, and environmental practices, welding terminology, GTAW process and equipment, equipment operation and techniques, power source types and controls, welding currents and polarities, tungsten electrodes, shielding gases, mild steel welding, aluminum welding, stainless steel welding, and GTAW certification.

Prerequisite(s): WLD 110.

Information: Prerequisite may be waived with welding industry experience.

WLD 263 Layout and Fabrication Welding**4 cr. hrs. 6 periods (2 lec., 4 lab)**

Principles and techniques of steel layout and fabrication welding. Includes measurement, print reading review, layout tools, layout techniques, hand-held power tool safety and use, large power tool safety and use, drawing interpretation, structural methods, and welding projects.

Prerequisite(s): WLD 115, 261 and GTM 105 (or placement into MAT 092 or higher).

Recommendation: Completion of WLD 160 before enrolling in this course. If any recommended course is taken, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Information: Prerequisites may be waived for appropriate work experience. See a welding instructor or advisor for prerequisite information.

WLD 296 Welding Independent Projects**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Self-directed laboratory projects. Includes project objectives, procedures, safety practices, welding processes, set-up for the project, and project completion.

Prerequisite(s): WLD 110.

Information: Welding industry experience or welding skills may be substituted for the prerequisite requirement. See a welding instructor for approval. May be repeated up to three times for a maximum of sixteen credit hours.

Wellness Education

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

WED 110 Introduction to Complementary & Alternative Medicine**3 cr. hrs. 3 periods (3 lec.)**

Definition of health; exploration of mind-body-spirit connection in health; various therapeutic modalities; identification of strengths and limitations of alternative therapies. Also includes development of ability to critically review written material in the alternative therapy area.

WED 111 Self Care for Personal Wellness**2 cr. hrs. 2 periods (2 lec.)**

Emphasis on mind-body methods for personal wellness through integration of physical, emotional, social, and spiritual dimensions of being. Development of a personal practice to achieve and sustain a balanced program to support personal health and well being.

WED 124 Craniosacral Therapy for Massage Therapists/Health Prof.**2 cr. hrs. 2 periods (2 lec.)**

Instruction and certification in Craniosacral Therapy: a gentle, non-invasive bodywork technique. Includes history, concepts, effects, hand placements, sensations, and practice of a Craniosacral session.

Information: Elective course for Therapeutic Massage students. Open to anyone who wishes to enroll. Recommended for health and wellness professionals (equivalent to 26 Continuing Education Hours or 2.6 CEUs.)

Writing

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

WRT 090 Writing Fundamentals**3 cr. hrs. 3 periods (3 lec.)**

Introduction to academic writing. Includes basic practice in employing critical thinking skills, practicing multiple writing processes, using appropriate conventions in creating and revising texts, composing using appropriate technology, and analyzing and writing paragraphs and short essays.

Prerequisite(s): With a C or better: ESL 088WG; or ICS 079 with a B or better, or required score on the Writing assessment.

WRT 090P English Composition Fundamentals Plus**4 cr. hrs. 4 periods (4 lec.)**

Development of fundamental writing skills and introduction to academic writing. Includes basic practice in employing critical thinking skills, practicing multiple writing processes, using appropriate conventions in creating and revising texts, composing using appropriate technology, and analyzing and writing paragraphs and short essays.

Prerequisite(s): ICS 079 with a C or better or placement into WRT 090P on the Writing assessment.

WRT 090S English Composition Fundamentals**4 cr. hrs. 4.5 periods (3.5 lec., 1 lab)**

Introduction to academic writing. Includes basic practice in employing critical thinking skills, practicing multiple writing processes, using appropriate conventions in creating and revising texts, composing using appropriate technology, and analyzing and writing paragraphs and short essays. Integrates an intensive studio component that includes specific strategies designed to improve student performance and success.

Prerequisite(s): ICS 079 with a C or better or placement into WRT 090S on the writing assessment.

Information: Equivalent to WRT 090.

WRT 101 English Composition I**3 cr. hrs. 3 periods (3 lec.)**

Principles and practices of college-level writing. Includes using rhetorical principles in analyzing and creating texts, employing critical thinking skills, practicing multiple writing processes, using conventions in creating and revising texts, composing using appropriate technology, and writing college-level essays with an emphasis on argumentation.

Prerequisite(s): Requires both Reading and Writing prerequisites. With a C or better in REA 091 or concurrent enrollment, or placement into REA 112 and with a C or better in WRT 090 or 090P or 090S or ESL 088WG, or placement into WRT 101.

WRT 101HC English Composition I: Honors**3 cr. hrs. 3 periods (3 lec.)**

Principles and practices of college-level writing. Includes using rhetorical principles in analyzing and creating texts, employing critical thinking skills, practicing multiple writing processes, using conventions in creating and revising texts, composing using appropriate technology, and writing college-level essays with an emphasis on argumentation. Also includes additional Honors content.

Prerequisite(s): Honors-level score on the Reading and Writing assessment test.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors Content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in a format appropriate for the discipline with research presented in class or to a wider audience.

WRT 101S English Composition I / Integrated Studio**4 cr. hrs. 4.5 periods (3.5 lec., 1 lab)**

Principles and practices of college-level writing. Includes using rhetorical principles in analyzing and creating texts, employing critical thinking skills, practicing multiple writing processes, using conventions in creating and revising texts, using appropriate technology, and writing college-level essays with an emphasis on argumentation. Integrates an intensive studio component that includes specific strategies designed to improve student performance and success.

Prerequisite(s): With a C or better: WRT 090P or 090S; or ESL 088WG with a B or better, or placement into WRT 090 on the Writing assessment.

Information: Equivalent to WRT101. For students who assess into WRT 090 but believe that with additional studio instruction they can successfully complete WRT101.

WRT 102 English Composition II**3 cr. hrs. 3 periods (3 lec.)**

Continuation of WRT 101. Includes reading, analyzing, and discussing various types of text; writing analytical or critical papers; and developing research skills. Also includes writing a research paper.

Prerequisite(s): With a C or better: WRT 101, 101S, or 107.

WRT 102HC English Composition II: Honors**3 cr. hrs. 3 periods (3 lec.)**

Continuation of WRT 101 or WRT 101HC. Includes reading, analyzing, and discussing various types of text; writing analytical or critical papers; and developing research skills. Also includes writing a research paper and additional Honors content.

Prerequisite(s): With a B or better: WRT 101, 101HC, 101S, or 107.

Information: Must qualify for Honors program. Instructor or advisor/counselor approval may be required before registering for this course. Honors content may include: Intensive research using highest standards and best practices for the discipline, and a significant number/variety of readings of both primary and secondary sources. Also may include a high-quality, peer reviewed paper or project in a format appropriate for the discipline with research presented in class or to a wider audience.

WRT 107 English Composition for Non-Native Speakers**3 cr. hrs. 3 periods (3 lec.)**

Principles and practices of college-level writing. Includes using rhetorical principles in analyzing and creating texts, employing critical thinking skills, practicing multiple writing processes, using conventions in creating and revising texts, composing using appropriate technology, and writing college-level essays with an emphasis on argumentation.

Prerequisite(s): Requires both Reading and Writing prerequisites. Reading: With a C or better REA 091 or concurrent enrollment, or placement into REA 112. Writing: With a C or better WRT 090 or 090P or 090S or 096 or ESL 088 WG, or placement into WRT 101.

Information: Equivalent to WRT 101.

WRT 108 English Composition II for Non-Native Speakers**3 cr. hrs. 3 periods (3 lec.)**

Continuation of WRT 107 appropriate for non-native speakers of English. Includes reading, analyzing, and discussing various types of text; writing analytical or critical papers; and developing research skills. Also includes writing a research paper.

Prerequisite(s): With a C or better: WRT 101, 101S or 107.

Information: Equivalent to WRT 102.

WRT 125 Beginning Poetry Writing**3 cr. hrs. 3 periods (3 lec.)**

Poetry for beginners. Includes beginning poetry writing techniques, beginning evaluation and critical response to poems, and beginning original writing.

Information: May be taken three times for a maximum of nine credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

WRT 126 Basics of Short Story Writing**3 cr. hrs. 3 periods (3 lec.)**

Short fiction writing for beginners. Includes beginning fiction writing techniques, beginning critical responses to fiction, and beginning original writing.

Information: May be taken three times for a maximum of nine credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

WRT 140 Writing and Editing Technical Communications**3 cr. hrs. 3 periods (3 lec.)**

Introduction to basic concepts and techniques for writing and editing technical documents. Includes sentence structure and style; common grammar, usage, and punctuation rules; paragraph structure; common style-level problems; advanced writing-style concepts; editing in document development, publication, and use; editing technical reports; and writing a technical document.

Prerequisite(s): WRT 101 or 107 with a grade of C or better.

WRT 140A Writing and Editing Technical Communications: Module A**1 cr. hrs. 1 periods (1 lec.)**

Introduction to concepts and techniques for writing and editing technical documents at the beginning level. Includes sentence structure and style; common style-level problems; advanced writing-style concepts; editing in document development, publication, and use; and editing technical reports.

Prerequisite(s): WRT 101 or 107 with a grade of C or better or required score on writing assessment test.

Information: WRT 140A, 140B and 140C together constitute WRT 140. A student may concurrently enroll in WRT 140A, 140B and 140C.

WRT 140B Writing and Editing Technical Communications: Module B**1 cr. hrs. 1 periods (1 lec.)**

Introduction to concepts and techniques for writing and editing technical documents at the intermediate level. Includes common grammar, usage, and punctuation rules; common style-level problems; writing-style concepts; editing in document development, publication, and use; and editing technical reports.

Prerequisite(s): WRT 140A with a grade of C or better or concurrent enrollment in WRT 140A and 140C.

Information: WRT 140A, 140B and 140C together constitute WRT 140. A student may concurrently enroll in WRT 140A, 140B and 140C.

WRT 140C Writing and Editing Technical Communications: Module C**1 cr. hrs. 1 periods (1 lec.)**

Introduction to concepts and techniques for writing and editing technical documents at the advanced level. Includes common grammar, usage, and punctuation rules; paragraph structure; common style- level problems; writing-style concepts; editing in document development, publication, and use; editing technical reports; and writing a technical document.

Prerequisite(s): WRT 140B with a grade of C or better or concurrent enrollment in WRT 140A and 140B.

Information: WRT 140A, 140B and 140C together constitute WRT 140. A student may concurrently enroll in WRT 140A, 140B and 140C.

WRT 154 Career Communications**3 cr. hrs. 3 periods (3 lec.)**

Job related writing skills for use in career communications. Includes writing for audiences and situations at the beginning and intermediate levels, applying business writing and organization conventions, completing job-related forms at the beginning and intermediate levels, and writing resumes.

Prerequisite(s): WRT 090 or 096 with a C or better or required score on writing assessment test.

WRT 162 Literary Magazine Workshop**3 cr. hrs. 3 periods (3 lec.)**

Creative magazine publication. Includes review of college literary magazines, critical review, magazine design and editing, magazine production techniques, as well as printing and distribution.

Information: May be taken two times for a maximum of six credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

WRT 196 Independent Studies in Writing**1-4 cr. hrs. 3-12 periods (3-12 lab)**

Independent projects in writing to be arranged with the instructor.

Information: May be taken four times for a maximum of sixteen credit hours. *Information:* May be taken four times for a maximum of sixteen credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

WRT 205 Introduction to Poetry Writing**3 cr. hrs. 3 periods (3 lec.)**

Writing contemporary poetry. Includes poetry writing techniques, evaluation and critical response to poems, and original writing.

Prerequisite(s): WRT 102 or 108 with a C or better.

WRT 206 Short Story Writing**3 cr. hrs. 3 periods (3 lec.)**

Short fiction writing. Includes fiction writing techniques, critical responses to fiction, and original writing.

Prerequisite(s): WRT 102 or 108 with a C or better.

WRT 207 Creative Nonfiction**3 cr. hrs. 3 periods (3 lec.)**

Creative nonfiction writing. Includes techniques of creative nonfiction writing, original writing, and critical responses to nonfiction.

Prerequisite(s): WRT 102 with a grade of C or better.

Information: Consent of instructor is required to enroll in this course.

WRT 215 Advanced Poetry Writing**3 cr. hrs. 3 periods (3 lec.)**

Advanced poetry writing workshop. Includes continued focus on techniques of writing, evaluation and critical responses to poetry, and original writing. Also includes more intensive study of contemporary poets and poetry.

Prerequisite(s): WRT 125 or 205 with a C or better.

Information: Consent of instructor is required to enroll in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

WRT 216 Advanced Fiction Writing**3 cr. hrs. 3 periods (3 lec.)**

Advanced techniques of fiction writing. Includes advanced techniques of fiction writing, original writing, and critical response to fiction. Also includes preparing manuscripts for publication.

Prerequisite(s): WRT 206 with a C or better.

Information: Consent of instructor is required to enroll in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

WRT 217 Advanced Creative Nonfiction**3 cr. hrs. 3 periods (3 lec.)**

Advanced techniques of creative nonfiction writing. Includes advanced original writing, advanced critical responses to nonfiction, and marketing techniques.

Prerequisite(s): WRT 207 with a C or better.

Information: Consent of instructor is required to enroll in this course. May be taken four times for a maximum of twelve credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

WRT 226 Special Projects in Fiction**3 cr. hrs. 3 periods (3 lec.)**

Advanced fiction writing for book-length projects. Includes techniques for book-length fiction writing, original writing and/or revision process, critical responses to fiction, and marketing and publishing of fiction books.

Prerequisite(s): WRT 216 with a C or better.

Information: Consent of instructor is required to enroll in this course. *Information:* May be taken four times for a maximum of twelve credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

WRT 254 Advanced Professional Communications**3 cr. hrs. 3 periods (3 lec.)**

Business writing and communication strategies and practices. Includes how to develop and improve business communication skills. Also includes how to apply business writing strategies in professional fields.

Prerequisite(s): With a C or better: WRT 102 or 108.

WRT 285 Pima Writers' Workshop**2 cr. hrs. 2 periods (2 lec.)**

Writing of fiction, nonfiction, poetry, and stories for children. Includes techniques of writing, publishing trends and approaches, and criteria for evaluating writing. Also includes the opportunity for participants to have their writing critiqued and presentations by professional authors, editors, and agents.

Information: May be taken five times for a maximum of ten credit hours. If this course is repeated, see a financial aid or Veteran's Affairs advisor to determine funding eligibility as appropriate.

Yaqui

For courses numbered 098, 198, 298, see "Topic Courses" on page 233

YAQ 101 Elementary Yaqui I**4 cr. hrs. 4 periods (4 lec.)**

Introduction to the Yaqui language. Includes instruction in the grammar and writing system of the language and is intended to help the student acquire skills in speaking, reading, and writing Yaqui.

YAQ 102 Elementary Yaqui II**4 cr. hrs. 4 periods (4 lec.)**

Continuation of YAQ 101. Includes development of skills in speaking, understanding, reading, and writing the language. Also includes study of the Yaqui traditional culture as a background for language use.

Prerequisite(s): YAQ 101.

Center for Training and Development Clock Hour Modules

Adult Education

For courses numbered 098, 198, 298, see "Topic Courses" on page TTT

AE 050 Adult Basic Education - Math I

0 cr. hrs. 1-100 periods

Cover basic math skills, such as addition, subtraction, multiplication, division, fractions, and decimals through a student centered, participatory approach. The course is targeted at students who test between 000-450 on the Test of Adult Education (TABE). This course will be a hybrid course, and students will be required to complete some of their coursework online in addition to attending face-to-face classes. Classes prepare students to advance in their math studies with the end goal of passing the high school equivalency examination.

Business and Office

For courses numbered 098, 198, 298, see "Topic Courses" on page TTT

BO 700 Basic Office Skills

0 cr. hrs. 49 periods

Basic skills to organize and maintain office filing systems. Includes basic skills in Microsoft Windows, Word, and Excel. Also includes how to develop telephone skills for the office.

BO 701A Document Formatting I

0 cr. hrs. 30 periods

Create business documents using keyboard Pro 4 and Microsoft Word software. Includes how to save a file, create a folder, print, edit a document.

BO 701B Document Formatting for Medical Office Specialist (MOS)

0 cr. hrs. 40 periods

Introduction to typing memos and emails for medical related business. Includes the basics of document formatting, and word processing, such as creating and saving documents. Includes an overview of editing features and how to block and modify block letter format for letters and envelopes. Also includes completing forms using a typewriter.

BO 701C Document Formatting for File Clerk

0 cr. hrs. 30 periods

Introduction to creating and formatting business documents using the Keyboarding Pro 4 and Microsoft Word software packages. Includes creating, saving, editing and printing document files as well as editing features which include copying and pasting text, changing text fonts, using font attributes such as bolding and italic, and other basic document editing features.

BO 702A Recordkeeping I

0 cr. hrs. 30 periods

Basic filing skills to function efficiently in a modern office environment. Includes alphabetizing by surname, surnames with first initials, surnames with titles or degrees, company names, individual and business names, abbreviations and single letters used in individual and firm names.

BO 702B Recordkeeping for Medical Office

0 cr. hrs. 32 periods

Introduction to records management with emphasis on the needs of a medical office. Includes how to organize and maintain files using various filing keys along with an introduction to financial recordkeeping.

BO 702C Recordkeeping for Unit Clerk**0 cr. hrs. 25 periods**

Introduction to records management with emphasis on the needs of a medical office. Includes how to organize and maintain files using various filing keys along with an introduction to financial recordkeeping.

BO 705 Business Composition**0 cr. hrs. 24 periods**

Basic business writing skills for composing business letters, memos, emails and reports. Includes memorizing correct spelling of 150 common words used in business along with dictionary skills for checking spelling of other words. Also includes proof reading skill training to find and correct mistakes in order to ensure quality work.

BO 706 Business Calculation I**0 cr. hrs. 30 periods**

Introduction to basic electronic office calculator and its use in the business environment. Includes parts of the machine and function, as well as how functions relate to business practice. Includes an introduction to the proper operation of a 10-Key calculator using touch method of numeric entry. Includes the effective use of the subtotal, non-add and subtracting keys and changing the paper tape. Also includes the addition, subtraction, multiplication and division of whole numbers.

BO 708 Principles of Accounting I**0 cr. hrs. 20 periods**

Introduction to accounting principles and concepts. Includes accounting vocabulary, process, and equation. Also includes types of business organizations and preparation of the income statement, balance sheet, and statement of owner's equity.

BO 709 Microsoft Word I**0 cr. hrs. 25 periods**

Introduction to basics of Microsoft Word with emphasis on creation of new documents and editing of existing documents using alignments, font changes and inserting pictures. Includes how to create a flyer with an inserted graphic image.

BO 710A Office Practice I**0 cr. hrs. 75 periods**

Basic skills needed to function efficiently in a modern office environment. Includes filing, mail handling, basic recordkeeping, spelling of commonly misspelled business words, converting dates to number format and soft skills such as stress and time management. Also includes the proper use and operation of common office equipment.

BO 710B Office Practice for MOS I**0 cr. hrs. 73 periods**

Basic medical office skills. Includes the basics of filing in a medical office, proper telephone skills, use of a facsimile machine, and other office machines.

BO 710C Medical Billing and Insurance**0 cr. hrs. 31 periods**

Basic office practices for a health care record keeping. Includes cover medical insurance claims processing terminology and how medical insurance works.

BO 710D Office Practice for Coders**0 cr. hrs. 5 periods**

Basic foundations for coding in the health care field. Includes a focus on work improvement skills. Also includes the concepts of time management, stress management, organization, memory tools, and positive communication techniques.

BO 710E Office Practice for Unit Clerk**0 cr. hrs. 172 periods****BO 710F Office Practice for Accounting****0 cr. hrs. 83 periods****BO 710G Office Practice for Business****0 cr. hrs. 34 periods**

Overview of basic office skills for business including how to prepare a deposit slip, write checks and balance a register, reconcile a bank statement, and record petty cash transactions. Includes use of office equipment, recordkeeping and file management, customer service skills, and basic work and personal development skills.

BO 711 Medical Insurance**0 cr. hrs. 30 periods**

An overview of confidentiality laws with respect to health information, insurance terminology, and insurance forms. Includes how to verify patient insurance information and how different insurance organizations work.

BO 713 Medical Terminology and Human Anatomy I**0 cr. hrs. 18 periods**

Basic medical terminology and human anatomy pertaining to the structural parts of the body. Includes analysis of medical terms that combine suffixes and prefixes to other words; work with and describe terms used to describe pathological appearance, growth, and spread of tumors. Also includes introduction to the name, location, physical description, and functions of the organs that make up the digestive system; and introduction to the physical properties of X-Rays.

BO 714 Introduction to Diagnostic Coding**0 cr. hrs. 8 periods**

Overview of Diagnostic Coding. Includes the concepts of ICD-9 and format of ICD9-CM along with the Centers for Medicare and Medicaid Services (CMS) guidelines. Also includes using diagnostic codes and different versions of coding information. Also includes information on current and accurate coding guidelines.

BO 716 Introduction to Procedural Coding**0 cr. hrs. 15 periods**

Introduction to the structure of Current Procedural Coding (CPT) coding. Includes an overview of CPT coding that is a part of a uniform and reliable nationwide system of recording patient data. Also includes procedural coding for common outpatient services in radiology, laboratory, and surgical departments.

BO 718 Microsoft Excel I**0 cr. hrs. 35 periods**

Introduction to Microsoft Excel spreadsheet applications. Includes spreadsheets concepts, formulas and functions, and formatting worksheets and cells. Also includes an introduction to working with charts and graphics.

BO 719 Microsoft Access I**0 cr. hrs. 35 periods**

Microsoft Access at the beginning level. Includes an overview of Access, creating a new database, creating tables, and working with tables. Includes creating and using select queries and reports. Also includes creating a report that contains totals.

BO 720 Computer Basics**0 cr. hrs. 72 periods****BO 725 Health Care Statistics****0 cr. hrs. 30 periods**

Concepts and skills to use statistics in the healthcare environment. Includes computing percentages and tracking inpatient census. Includes the role of statistics in analyzing and reporting vital records, such as ambulatory and long-term care statistics. Also includes how to enhance presentations through the use of statistics.

BO 730 Quality Management**0 cr. hrs. 30 periods**

Quality management skills for medical offices. Includes how to access and improve quality using external and internal quality concerns and strategies. Includes how to manage quality in organizations that employ peer review processes. Also includes utilization, risk management, and medical staff credentialing as quality management tools.

BO 750 Keyboard Operator**0 cr. hrs. 80 periods**

Introduction to typing and keyboarding skills. Includes introduction to the computer system, keyboarding skills by touch and typing for accuracy and time.

BO 760 Microsoft Windows**0 cr. hrs. 30 periods**

Basic skills to operate software in a Microsoft Windows environment. Includes the basics of vocabulary, use of general features of Windows; started and shutting down Windows; use of the control panel, My Computer, and Explorer; and accessory applications.

BO 800 Business English**0 cr. hrs. 20 periods**

Basic English grammar for use in business. Includes punctuation, capitalization, parts of speech, sentence patterns, and proper tense.

BO 801A Document Formatting II**0 cr. hrs. 50 periods**

Continuation of BO 701A. Includes creating business documents using Keyboarding Pro 4 and Microsoft Word computer software. Includes how to create interoffice memos, emails, business letters, envelopes, and forms in a mailable format. Also includes the basic operation of an electronic typewriter.

BO 801B Typing for Cmptr Sftwre Applic

0 cr. hrs. 26 periods

BO 803A Telephone Procedures

0 cr. hrs. 25 periods

Techniques to effectively use the telephone in an office environment. Includes the use of white and yellow page telephone directories, properly identification when answering a phone, obtaining and verifying information by phone, placing local and long distance calls, operation of a multi- button telephone, knowing time zone of person calling or being called, and awareness and use of miscellaneous telephone services.

BO 804 Outgoing Mail

0 cr. hrs. 16 periods

BO 806 Business Calculation II

0 cr. hrs. 20 periods

Continuation of BO 706. Includes elements of electronic office calculator to introduce student to time saving features needed for large volume calculations. Includes new +/- selector keys and decimal keys. Includes using calculator to calculate discounts with percentages and multiplication of decimals and fractions. Also includes how business calculations are used in business areas.

BO 807 Recordkeeping II

0 cr. hrs. 64 periods

Continuation of BO 702A. Includes additional filing procedures, such as filing names with conjunctions, compound names, names with numbers, and identical names. Includes how to apply alphabetizing rules and the proper use of filing equipment. Includes additional preparation and maintenance of financial records for a business. Also includes preparation of bank deposit slips, writing and recording of checks, recording of petty cash transactions, and reconciling monthly bank account statements.

BO 807A Recordkeeping for Legal Office

0 cr. hrs. 47 periods

Records management for a legal office. Includes filing procedures, such as filing names with conjunctions, compound names, and firm names. Includes how to apply alphabetizing rules and the proper use of filing equipment and aids. Includes how to use consecutive number filing system. Includes the preparation and maintenance of financial records for a legal office with recording and tracking work hours for billing, tracking and recording time cards. Also includes common bookkeeping and accounting terminology.

BO 807B Recordkeeping for Accounting

0 cr. hrs. 36 periods

Records management for accounting office personnel. Includes how to organize and maintain files using various filing keys both alpha and numeric. Also includes time card billing, tracking and management.

BO 808 Principles of Accounting II

0 cr. hrs. 20 periods

Continuation of BO 708. Introduction to T accounts. Includes how to use T accounts to record, analyze and report financial information. Includes how to post journal entries, prepare worksheets and make adjustments, prepare financial statements. Also includes accounting for sales and accounts receivable, purchases and accounts payable, cash transactions, and payroll.

BO 809 Microsoft Word II

0 cr. hrs. 60 periods

Continuation of BO 709. Additional Microsoft Word document editing and management features are introduced including file management, advanced page setup, preparing reports, tables, Auto Text, templates and wizards.

BO 810A Office Practice II

0 cr. hrs. 76 periods

Continuation of BO 710A, Office Practice I. Includes an emphasis on clerical skills. Includes acceptable working qualities, communication skills, rules for typing numbers, use of Office Reference Manual and abbreviation rules for typing, telephone skills, and spelling of commonly misspelled business words.

BO 810B Legal Office Practice I

0 cr. hrs. 75 periods

Introduction to the law office. Includes ethics and malpractice issues, staff manuals, quality management, marketing, and planning. Also includes basic client service, communication skills, legal office timekeeping, and billing.

BO 810C Office Pract for File Clerk

0 cr. hrs. 24 periods

BO 811 Microsoft Excel II**0 cr. hrs. 30 periods**

Continuation of BO 718. Includes spreadsheet concepts expanded to include Excel Lists, managing multiple worksheets and workbooks, working with what-if analysis, working financials functions, collaborating on a workbook and web page, and developing an Excel application.

BO 812 Microsoft Access II**0 cr. hrs. 30 periods**

Continuation of BO 719. Includes techniques to enhance database designs using the principles of normalization and table relationships. Also includes principles of table design, principles of table relationships, table design techniques, designing select queries, customizing form designs, working with data access pages, and customizing reports.

BO 813 Medical Terminology and Human Anatomy II**0 cr. hrs. 48 periods**

Continuation of BO 713. Includes locating and describing the organs of the urinary system, male and female reproductive systems, cardiovascular system, lymphatic system, and respiratory system. Also includes major organs and parts of nervous system; composition and function of blood; structure and functions of bones; joints and muscles; and the skin and its accessory structures.

BO 814 Intermediate Diagnostic Coding**0 cr. hrs. 70 periods**

Continuation of BO 714. Includes increased proficiency in applying skills to types and levels of coding using current coding standards. Also includes specialty codes, late effects codes, injury codes, adverse effects codes, and abstract codes with an emphasis on developing the critical thinking and analysis skills needed in a medical office.

Prerequisite(s): BO 714.

BO 815 Intermediate Procedural Coding**0 cr. hrs. 70 periods**

Continuation of BO 716. Expansion of coding information to specialty codes used for medical services provided to patients. Includes techniques and application to the various types and levels of coding utilizing the current coding standards. Includes the differences in coding in a hospital and a physician's office. Also includes an introduction to abstract coding with an emphasis on developing the coding analytical skills.

BO 816 3M Computerized Medical Coding**0 cr. hrs. 30 periods**

Introduction to the 3M Computerized Medical Coding system. Includes an introduction to the 3M Codefinder Coding and Reimbursement System. Also includes how to access the Help, Reference and accessory screens in 3M coding; coding using codes and reference guides in 3M Coding; determination of CPT-4 Codes in 3M Coding.

BO 817A Introduction to Medical Transcription**0 cr. hrs. 20 periods**

Overview, concepts, and skills for medical transcription. Includes proofreading standards, utilization of reference and resource materials, use of medical reports, and the basic functions of medical transcription machines. Also includes ergonomic issues and techniques.

BO 817B Standards of Style**0 cr. hrs. 6 periods****BO 817C Beginning Medical Transcript****0 cr. hrs. 100 periods****BO 817D Advanced Medical Transcript****0 cr. hrs. 250 periods****BO 818 Computerized Patient Accounting****0 cr. hrs. 30 periods**

Introduction to computerized patient billing. Includes how to set up new patient records, use a computer for patient billing, and process patient transactions. Also includes how to produce reports, patient statements, and claims.

BO 819 Human Anatomy for Medical Coding**0 cr. hrs. 7 periods**

Brief introduction to the parts and systems that make up the human body. Includes concepts to familiarize coders with the structure of the human body to visualize where the medical services being coded take place on the human body. Also includes a general overview of the body.

BO 820 Patient Records and Communication Skills**0 cr. hrs. 21 periods**

Skills to maintain patient records. Includes communication skills for a Unit Clerk in a hospital.

BO 825 Medical Office Transcription**0 cr. hrs. 20 periods**

This course teaches the student skills in proofreading, common medical and surgical words unique to transcribed documents, Pharmacology, as well as punctuation and abbreviations commonly used. The student will learn how to use transcription equipment and reference books such as the PDR, Medical and Surgical Word Books. Upon completion, the student will demonstrate a proficiency in the transcription of a variety of healthcare documents.

BO 828 Electronic Medical Records (EMR)**0 cr. hrs. 90 periods**

Concepts and skills needed to create and use Electronic Medical Records. Includes how to create and use digital technology to store and analyze patient data, quality information, and statistical data for use in patient billing. Also includes statistical tracking and reporting, managing quality, and other tracking and reporting.

BO 830 Office Procedures**0 cr. hrs. 35 periods**

Student will learn about functions and procedures used in a wide range of activities found in small to large offices. Module includes business operations, office functions, documentation production, communication skills, office duties, tasks and responsibilities, office equipment, professional attitude and image, Internet exploration and job evaluation. Same as Administrative Assistant program.

BO 835 Records Management**0 cr. hrs. 45 periods**

This module provides instruction on the fundamentals of records management. The module includes: development of a records management program, management of active records and inactive records, electronic records, forms management, mail center operations, reprographics, manuals, records center operations and equipment and archives management.

BO 840 Business Meeting**0 cr. hrs. 30 periods**

The student will receive instruction on the fundamentals of the business meeting. The module includes: planning a business meeting, making arrangements for a business meeting, agenda and minute preparation and business meeting protocol.

BO 845 Document Preparation**0 cr. hrs. 30 periods**

The student will learn preparation of business documents in a professional manner using the latest version of Microsoft Word. The module includes the preparation of professional business letters, memorandums, forms, and reports.

BO 850 Business Communications**0 cr. hrs. 45 periods**

The student will learn the development of basic business communication skills through reading, listening, speaking, and writing effectively. The module will include learning the composition of effective communication using modern and established methods: email, professional letters, memorandums, reports, listening, nonverbal and speaking skills.

BO 855 Payroll Records and Procedures**0 cr. hrs. 30 periods**

The student will experience a comprehensive exposure to the practice of accepted methods of payroll preparation used in the business community. The module includes the calculation of payroll by using accepted calculation techniques and meeting the requirements of payroll taxing authorities.

BO 860 Microsoft Publisher**0 cr. hrs. 45 periods**

This course provides instruction on how to use Publisher tools to create newsletters, brochures, business forms, web pages and other professional documents. The course includes procedures on how to produce quality documents that combine text with graphics, illustrations, and photographs that will be suitable for outside commercial printing.

BO 901A Advanced Document Formatting**0 cr. hrs. 22 periods**

Continuation of BO 701A-C. Advanced document formatting builds on previous document formatting. Includes specialty letter formatting, special notations, business reports, working with columns, draft and final document use, and using shared documents. Also includes importing and exporting documents and the need for accuracy in all aspects of document formatting and composition.

BO 901B Type Columns**0 cr. hrs. 9 periods**

Basics of arranging and typing material in a column form. These columns are sometimes referred to as tables or lists.

BO 906 Business Calculation III**0 cr. hrs. 12 periods**

Continuation of BO 806. Includes advanced office calculator operations such as dividing decimals, using product accumulations, use of memory key, constant multiplication and division, and use of the percentage key.

BO 907 Bookkeeping III**0 cr. hrs. 30 periods**

Continuation of BO 807 Recordkeeping II. Includes how to maintain payroll, tax and earnings records for employees; computing and preparing invoices with discounts; and mastering common bookkeeping and accounting terminology.

BO 908 Principles of Accounting III**0 cr. hrs. 80 periods**

Continuation of BO 808. Skills and techniques to calculate payroll taxes, such as employer and employee Social Security, Medicare, federal and state unemployment taxes, and employee income taxes. Includes how to pay and report payroll taxes. Includes accounting for inventory and adjustments to accrued and prepaid expense items, and accrued and deferred income items. Also includes how to prepare financial statements and closing the accounting records at the end of the accounting cycle.

BO 909 Microsoft Word III**0 cr. hrs. 105 periods**

Continuation of BO 809. Includes advanced Microsoft Word features for use in typical office. Includes how to embed a table chart or watermark in a document; generating form letters, mailing labels and directories; creating newsletters and online forms.

BO 909A Microsoft Word IIIA**0 cr. hrs. 15 periods**

Concepts and skills to use Microsoft Word for business. Includes how to generate form letters, mailing labels, and directories.

BO 910B Legal Office Practice II**0 cr. hrs. 75 periods**

Continuation of BO 810B Legal Office Practice I. Includes the concepts and skills to perform effectively and efficiently in a legal office environment. Includes accounting for client trust funds; calendaring, docket control, case management; and human resource management in a legal firm. Includes the management of space, equipment and law library for the firm. Also includes the preparation of various types of legal documents.

BO 911 Microsoft Excel I 2003**0 cr. hrs. 30 periods**

Spreadsheet applications using Microsoft Excel at the intermediate level. Includes Excel Lists, managing multiple worksheets and workbooks, working with what-if analysis, working with financial functions, collaborating on a workbook and Web page, and developing an Excel application.

BO 912 Microsoft Access 2003 II**0 cr. hrs. 30 periods**

Microsoft Access at the intermediate level. Includes techniques to enhance database designs using the principles of normalization and table relationships. Also includes principles of table design, principles of table relationships, table design techniques, designing select queries, customizing form designs, working with data access pages, and customizing reports.

BO 913 QuickBooks**0 cr. hrs. 90 periods**

QuickBooks basics used to automate the accounting process. Includes an overview of QuickBooks; a popular computerized accounting system which performs the same reporting, tracking and reporting as a manual accounting system. Also includes how to use QuickBooks to produce the level of management information and control as a manual system but with greater speed and efficiency.

BO 914 Microsoft FrontPage**0 cr. hrs. 90 periods**

Course provides basic web page design skills for an entry-level administrative support position. Skills include creating a FrontPage Web site using a template; creating a new FrontPage Web; using images, hotspots, bookmarks, and Excel to create web pages; creating and using interactive forms on the web; using frames in web pages.

Prerequisite(s): Keyboarding speed of 25wpm, with max. 5 errors in a 5-minutes timed writing; MS Windows; MS Word; MS Excel, or CTD modules BO 709 , BO 750, BO 760, and BO 811.

Corequisite(s): Test of Adult Basic Education (Scores: R-9.0; M-8.0; L-7.0)

BO 915 Advanced Procedural Coding**0 cr. hrs. 40 periods**

Continuation of BO 714 and 716. Includes advanced skills for both diagnostic and procedural coding in all medical environments. Includes concepts and applications of types and levels of coding with an emphasis on abstract coding and critical analysis. Also includes the study of the three levels of the Healthcare Common Procedure Coding system (HCPCS) and the role of Current Procedural Terminology coding within this system.

BO 917 Microsoft PowerPoint**0 cr. hrs. 30 periods**

Create and use Microsoft PowerPoint to prepare and present professional quality business presentations. Includes the use of viewing options to develop slides. Also includes how to import information, use templates, and automate portions of the presentation.

BO 918 Microsoft Excel III**0 cr. hrs. 30 periods**

Continuation of BO 811. Includes creating and using templates in Excel to automate the process of building new spreadsheets and workbooks. Also includes linking workbooks to consolidate data, linking worksheet and a chart to a Word document and saving the document with the link, recording a macro and assigning it to a toolbar button and menu command, and using Visual Basic Applications (VBA) to create procedures to automate work in Excel.

BO 919 Machine Transcription**0 cr. hrs. 15 periods****BO 920 Microsoft Access III****0 cr. hrs. 30 periods**

Continuation to BO 812. Includes advanced techniques for using complex queries, creating more efficient forms and reports, and automating forms. Also includes parameter and action queries, query joins and cross-tab queries using advanced form techniques, creating basic macros to automate forms, using macros to provide user interaction and automate tasks, and using advanced report techniques.

BO 921 Comprehensive Microsoft Excel**0 cr. hrs. 105 periods**

This course provides comprehensive instruction in Microsoft Excel. The course includes procedures for creating worksheets, writing formulas, creating charts, working with the web feature, hyperlinks and the integration feature, creating queries, templates, and using macros and complex problem solving. Accuplacer scores: RC-56;A-32;SS-70; High School diploma or GED; Keyboard 35 wpm/5 errors; math/ calculator proficiency; one year documented office experience.

BO 922 Comprehensive Microsoft Access**0 cr. hrs. 105 periods**

This course provides comprehensive instruction in Microsoft Access. The course includes procedures for creating, querying, and maintaining databases, and sharing data among applications through reports and forms, and data access pages. Also included is an introduction of new features such as: automatic error checking, using smart tags, importing and linking SharePoint lists to Access databases, setting macro security, and changing the font size for SQL queries.

BO 927 Comprehensive MS PowerPoint**0 cr. hrs. 60 periods**

This module provides comprehensive instruction for PowerPoint. The module includes instruction on how to: use design templates to create presentations; use the outline tab and clip art to create a slide show; create a presentation to view on the Web; use visuals to enhance slide shows; modify visual elements and presentation formats; use collaboration features to deliver and schedule online broadcasts; work with Macros and Visual Basic for Applications (VBA); create self-running presentations; use the Microsoft Office online Web site to import files. Same as Administrative Assistant program.

BO 929 Comprehensive Microsoft Word**0 cr. hrs. 120 periods**

This course provides comprehensive instruction in Microsoft Word. The course includes procedures for creating documents such as: letters; flyers; research papers; resumes and cover letters; web pages; documents with tables, charts or watermarks; mail merge documents; newsletters; online forms; working with macros and Visual Basic for Applications (VBA); master documents, an Index, a Table of Contents, and XML; integration features and collaboration features. High School diploma or GED; Keyboard 35 wpm/5 errors; Accuplacer scores: RC-56, A-32, SS-70; One year documented Math/Calculator proficiency.

BO 991 Office Practice Externship**0 cr. hrs. 60 periods**

Synthesize skills learned in the classroom to the office environment. Includes the application of office skills that utilize work ethics, customer service, communication, peer and supervisor relationships, and general practices.

BO 991A Legal Office Externship**0 cr. hrs. 60 periods**

Synthesize skills learned in the classroom to the legal office environment. Includes the application of office skills that utilize work ethics, customer service, communication, peer and supervisor relationships, and general legal office practices.

BO 992 Medical Office Externship**0 cr. hrs. 120 periods**

Synthesize skills learned in the classroom to the medical office environment. Includes the application of medical office skills that utilize work ethics, customer service, communication, peer and supervisor relationships, and general practices.

BO 992A Accounting Assistant Externship**0 cr. hrs. 120 periods**

Synthesize skills learned in the classroom to the accounting office environment. Includes the application assistant office skills that utilize work ethics, customer service, communication, peer and supervisor relationships, and general accounting assistant practices.

BO 992B Medical Coding Externship**0 cr. hrs. 120 periods**

Synthesize skills learned in the classroom to the medical office environment. Includes the application of medical coding and office skills that utilize work ethics, customer service, communication, peer and supervisor relationships, and general practices.

BO 993 Medical Transcription Externship**0 cr. hrs. 240 periods**

Synthesize skills learned in the classroom to the medical office environment. Includes the application of medical transcription and office skills that utilize work ethics, customer service, communication, peer and supervisor relationships, and general practices.

Department of Transportation

For courses numbered 098, 198, 298, see "Topic Courses" on page TTT

DT 700 Pre-Apprenticeship in Highway Construction Trades**0 cr. hrs. 185 periods**

Overview of highway construction trades. Includes training in automotive mechanics, welding, machining, construction, applied mathematics, Occupational Safety and Health Act (OSHA), safety, flagging certification, basic computer and employability skills. Also includes research in work and personal preferences in highway construction trades.

Information: Provides the student with experience in highway construction trades in order to make an informed choice as to which area of the industry to choose for employment.

Health Information Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page TTT

HI 501 Introduction to Health Care and Public Health in the U.S.

0 cr. hrs. 15 periods

A survey of how health care and public health are organized and services delivered in the U.S. Includes public policy, relevant organizations and their interrelationships, professional roles, legal and regulatory issues, and payment systems. Also includes health reform initiatives in the U.S.

HI 502 Culture of Health Care

0 cr. hrs. 15 periods

Overview for individuals not familiar with health care, contents address job expectations in health care settings. Also includes how care is organized inside a practice setting, privacy laws, and professional and ethical issues encountered in the workplace.

HI 503 Terminology in Health Care and Public Health Settings

0 cr. hrs. 15 periods

Explanation of specific terminology used by workers in health care and public health. Includes the use of health care terminology in health care technology roles and electronic health records.

Information: Note: This is NOT a course in data representation or standards.

HI 504 Introduction to Information and Computer Science

0 cr. hrs. 15 periods

Introduction for students without an IT background, provides a basic overview of computer architecture; data organization, representation, and structure; structure of programming languages; and networking and data communication. Includes basic terminology of computing.

HI 505 History of Health Information Technology in the U.S.

0 cr. hrs. 15 periods

Traces the development of information technology (IT) systems in health care and public health beginning with the experiments of the 1950's, 1960's and culminating in the Health Information Technology for Economic and Clinical Health Act (HITECH) Act. Introduces the concept of meaningful use.

HI 506 Health Management and Information Systems

0 cr. hrs. 30 periods

A theory component specific to health care and public health applications. Introduction to health information technology (IT) standards, health-related data structures, software applications, and enterprise architecture in health care and public health organizations.

HI 507 Fundamentals of Health Workflow Process Analysis & Redesign

0 cr. hrs. 45- periods

Fundamentals of health workflow process analysis and redesign, as a necessary component of complete practice automation, includes topics of process validation and change management.

Information: This entire Component is estimated to require 20 total contact/instructional hours plus 40-60 additional hours of independent or team work, depending on the learning activities and assessments used within each unit.

HI 508 Usability and Human Factors

0 cr. hrs. 30 periods

Discussion of rapid prototyping, user-centered design and evaluation, usability; understanding effects of new technology and workflow on downstream processes. Includes facilitation of a unit-wide focus group or simulation.

HI 509 Introduction to Project Management

0 cr. hrs. 20 periods

Overview of project management tools and techniques. Includes how to create and follow a project management plan.

HI 510 Planning, Management, and Leadership for Health IT

0 cr. hrs. 20 periods

A practical experience with a laboratory component, addressing approaches to assessing, selecting, and configuring EHRs to meet the specific needs of customers and end-users.

HI 511 Professionalism & Customer Service in the Health Environment

0 cr. hrs. 15 periods

Development of skills necessary to communicate effectively across the full range of roles that will be encountered in health care and public health settings. Includes ethical and cultural aspects of communication.

HI 512 Quality Improvement**0 cr. hrs. 20 periods**

Introduction to health IT concepts and practice workflow redesign as instruments of quality improvement. Includes establishing a culture that supports increased quality and safety. Also includes approaches to assessing patient safety issues and implementing quality management and reporting through electronic systems.

HI 513 Working with Health IT Systems**0 cr. hrs. 30 periods**

Laboratory work with simulated systems or real systems with simulated data. Includes individuals experiencing the role of practitioners using these system and what is happening under the hood. Includes experience with threats to security to appreciate the need for standards, high levels of usability, and how errors can occur. Also includes hands-on experience in computer labs and on-site in health organizations.

HI 514 Working in Teams**0 cr. hrs. 15 periods**

Concepts for individuals specifically contemplating careers in public health agencies; and overview of specialized public health applications such as registries, epidemiological databases, biosurveillance, and situational awareness and emergency response. Includes information exchange issues specific to public health.

HI 515 Public Health IT**0 cr. hrs. 30 periods**

Concepts for individual specifically contemplating careers in public health agencies; an overview of specialized public health applications such as registries, epidemiological databases; biosurveillance, and situational awareness and emergency response. Includes information exchange issues specific to public health.

HI 516 Networking and Health Information Exchange**0 cr. hrs. 20 periods**

More in-depth analysis of data mobility including the hardware infrastructure (wires, wireless, and devices supporting them), the ISO stack, standards, Internet protocol, federations and grids. Includes the Nationwide Health Information Network (NHIN) and other nationwide approaches.

HI 517 Training and Instructional Design**0 cr. hrs. 30 periods**

Overview of learning management systems, instructional design software tools, teaching techniques and strategies, evaluation of learner competencies, and maintenance of training records. Includes measurements of training program effectiveness.

HI 518 Installation and Maintenance of Health IT Systems**0 cr. hrs. 30-45 periods**

Concepts and techniques to install and maintain health IT systems. Includes testing prior to implementation and the principles underlying system configuration. Also includes hands-on experiences in computer labs and on-site in the health organizations.

HI 519 Configuring EHRs**0 cr. hrs. 45 periods**

A practical, hands-on experience with a laboratory component configuring an Electronic Health Record. Includes how to assess, select, and configure EHRs to meet the specific needs of customers and end-users.

HI 520 Special Topics on Vendor Specific Systems**0 cr. hrs. 15 periods**

Overview of the most popular vendor systems, highlighting the features of each as they would relate to practical deployments. Includes differences between the systems.

Health Occupations

For courses numbered 098, 198, 298, see "Topic Courses" on page TTT

HO 706 Spanish Medical Interpreting**0 cr. hrs. 120 periods****HO 707 Phlebotomy****0 cr. hrs. 100 periods**

HO 715 LPN RE-entry**0 cr. hrs. 200 periods**

Review and update of content and skills corresponding to current clinical practice for Licensed Practical Nurses preparing to reenter practice. Includes LPN scope of practice, cultural considerations and diversity, communication skills and legal requirements and the skills and tools of the LPN.

HO 719 Core Challenge Assessment**0 cr. hrs. 60 periods****HO 720 PN Challenge Assessment****0 cr. hrs. 120 periods****HO 722 PCT - Special Project****0 cr. hrs. 40 periods****HO 723 Registered Nurse Refresher****0 cr. hrs. 240 periods**

This course provides a basic review and update of content corresponding to current clinical practice for Registered Nurses preparing to re-enter nursing practice or to transition to an acute or community based health care facility.

HO 800 Success Skills**0 cr. hrs. 15 periods****HO 818 Introduction to Anatomy and Microbiology****0 cr. hrs. 150 periods**

Introduction to the systems of the human body. Includes contextualized content in body systems, basic microbiology, and nutrition. Also includes references to normal, abnormal, and pathologic occurrences found within health care settings such as hospitals, long-term and assisted living care centers, clinics, physician and dental practices, labs, urgent and emergency care facilities, and community care centers. Also includes health care responsibilities and roles associated with biology, microbiology, and nutrition.

HO 819 Nursing Care Fundamentals**0 cr. hrs. 60 periods**

Training in performing mathematical drug dosage and I.V. calculations. Includes presentations designed to aid in the development of life and school skills.

HO 855 Practical Nurse Proficiency Evaluation**0 cr. hrs. 150 periods**

This program is designed to provide the nursing student who has completed two or more semesters of a registered nursing program or an equivalent program with a practical nurse certificate. Students must demonstrate theoretical competence and competence performing nursing skills in a nursing skills laboratory and hospital clinical setting.

HO 920 A&P: Skin, Skeletal, Muscle**0 cr. hrs. 100 periods**

Introduction to anatomy and physiology with a structural orientation. Includes the organization of the human body, cells, tissues, organs, integumentary system, skeletal system, and muscular system.

HO 922 A&P: Nerves, Senses, Endocrine**0 cr. hrs. 100 periods**

Introduction to nerves, senses, and endocrine glands with a functional orientation. Includes the central nervous system, peripheral nervous system, autonomic nervous systems, and special senses. Also includes major endocrine glands, major hormones and their functions.

HO 924 A&P: Blood, Heart, Vessels, and Lymph**0 cr. hrs. 100 periods**

Components and characteristics of blood, heart, vessels, and lymphatic system with a functional orientation. Includes blood, cardiac circulatory system, vascular circulatory system, and lymphatic system in relationship to the circulatory system.

HO 926 A&P: Respiratory and Digestive**0 cr. hrs. 100 periods**

Components and characteristics of respiratory and digestive anatomy and physiology. Includes the structure, function, and regulatory mechanisms of the respiratory system. Also includes the structure and function of the digestive system.

HO 928 A&P: Urinary and Reproductive**0 cr. hrs. 100 periods**

Components and characteristics of urinary and reproductive surgery. Includes the structure, function, and regulatory mechanisms of the urinary system. Also includes the structure and function of the male and female reproductive systems.

Job Success

For courses numbered 098, 198, 298, see "Topic Courses" on page TTT

JS 720 Employment and College Success Skills**0 cr. hrs. 30-60 periods**

Introduction to skills needed to be successful in both college and the workplace. Includes time management, study and test taking skills, connecting to college and community resources, budgeting and fiscal management, job search skills, differences in work environments, life management, and diversity awareness.

Nursing Assistant

For courses numbered 098, 198, 298, see "Topic Courses" on page TTT

NA 810 Nursing Assistant**0 cr. hrs. 120 periods**

Introduction to Nursing Assisting. Includes body systems and common diseases, basic nursing assisting skills, providing client, restorative, long-term, and home health care; and certification requirements.

Prerequisite(s): Accuplacer: Reading 40, Arithmetic 21, Sentence Skills 35.

Practical Nursing

For courses numbered 098, 198, 298, see "Topic Courses" on page TTT

PN 861 Introduction to Practical Nursing**0 cr. hrs. 220 periods**

Introduction to the Practical Nurse (PN) scope of practice and the nursing process. Includes the concepts, processes, principles and theory of nursing practice for the PN. Includes foundation skills, such as ethical and legal considerations, and health and illness throughout the life span, with an emphasis on the application of critical thinking in nursing practice. Also includes the application of concepts in the Skills Lab and clinical work.

Prerequisite(s): HO 818, HO 819 or equivalency: Accuplacer score of R-31, M-34, S-46.

Recommendation: Completion of a Nurse assistant class and Anatomy and Physiology class, and Math calculations class satisfies prerequisites.

PN 872 Practical Nursing A**0 cr. hrs. 220 periods**

Concepts and skills in medical-surgical nursing care. Includes interventions, pharmacology, pathophysiology, lab and diagnostics related to fluid and electrolyte antacid-base balance and shock, the hematopoietic, neurological, integumentary, gastrointestinal and respiratory systems. Includes an emphasis in utilizing the nursing process at the Practical Nurse (PN) level of care.

Prerequisite(s): PN 861.

PN 874 Practical Nursing B**0 cr. hrs. 220 periods**

Continuation of PN 872. Includes skills for medical-surgical nursing care interventions, pharmacology, pathophysiology, lab and diagnostics related to the musculoskeletal, immune, cardiovascular, renal, endocrine, sensory and reproductive systems. Also includes an emphasis on utilizing the nursing process at the Practical Nurse (PN) level of care.

Prerequisite(s): PN 872.

PN 882 Maternal-Child Nursing for Practical Nurse**0 cr. hrs. 120 periods**

This module includes theory, skills labs, and clinical assignments. The student will learn nursing care of the client in the prenatal, labor, birth and postpartum phases. The student will also learn the care of preterm, term and and post term newborns and the newborn with congenital malformations.

Prerequisite(s): NA810, HO818, HO819, PN861, PN 872, PN874.

PN 887 Pediatric Nursing for the Practical Nurse**0 cr. hrs. 120 periods**

This module includes theory, skills labs, and clinical assignments. The student will learn to provide nursing care to the child with a sensory, neurologic, musculoskeletal, respiratory, cardiovascular, blood or blood-forming organ, lymphatic system, gastrointestinal, genitourinary, skin disorder, metabolic disorders or conditions, communicable diseases, and emotional or behavioral disorders.

Prerequisite(s): NA810, HO818, HO819, PN 861, PN 872, PN874, PN 882.

PN 890 Transition to Practice for the Practical Nurse**0 cr. hrs. 120 periods**

This module includes theory, skills labs and clinical assignments and a comprehensive final exam. The student will learn about the role of the board of nursing, scope of practice for the LPN, leadership, NCLEX review, applications for licensure, the employment process, community nursing services, cultural diversity, alternative therapies, malpractice issues, and stress management.

Prerequisite(s): NA810, HO818, HO819, PN861 PN 872, PN 874, PN 882 PN 887.

Surgical Technology

For courses numbered 098, 198, 298, see "Topic Courses" on page TTT

SG 900 Introduction to Healthcare**0 cr. hrs. 86 periods**

Introduction to the hospital environment, the history of surgery, and medical terminology as it applies to the health care setting. Includes an introduction to legal, ethical and accountability issues in a health care setting. Also includes personal responsibilities, professional responsibilities, and environmental and work place safety.

Prerequisite(s): HO818 or BIO160IN or BIO201IN.

SG 910 Introduction to Instrumentation, Equipment and Sterilization**0 cr. hrs. 106 periods**

Classifications, names, and components of surgical instruments and equipment used in the surgical setting. Includes microbiology and how it applies in the operating room environment to decontamination, sterilization, and disinfection of instruments and equipment. Also includes the computer as a communication tool and technical device; and principle concepts of robotics, physics and electricity in a healthcare setting.

Prerequisite(s): HO818 or BIO160IN or BIO201IN.

SG 920 Anesthesia and Surgical Pharmacology**0 cr. hrs. 35 periods**

Introduction to the fundamentals of pharmacology and pharmacy practice. Includes pharmacological terminology, types of anesthesia, drug origins, methods of administration, and drug handling techniques. Also includes basic math calculations, safe and accurate drug preparation, and distribution of sterile and non-sterile medications. Emphasis is on the surgical technologist's role in drug packaging, administration, labeling, and classification in routine and emergency situations.

Prerequisite(s): HO818 or BIO160IN or BIO201IN.

SG 930 Patient Care**0 cr. hrs. 23 periods**

Examination of the entire perioperative experience of the patient undergoing surgery. Includes pre-admission, transportation, and positioning. Also includes considerations for special populations, such as geriatric, pediatric, diabetic, and physically challenged patients. Also includes sentinel events in the operating room, perceptions of death and dying, the needs of dying patients, and coping skills for the patient's family.

Prerequisite(s): HO818 or BIO160IN or BIO201IN.

SG 950LB Surgical Lab Procedures I**0 cr. hrs. 110 periods**

Classroom presentations and laboratory demonstrations of surgical procedures. Includes a review of anatomy and related pathophysiology, an introduction to the operating room using mock lab procedures, and an introduction to pediatric and adult surgery. Also includes basic ear, nose, throat and OB/GYN procedures based on current industry standards. The student will work in the laboratory performing set-ups, practicing procedures, and learning standards of teamwork and organization. Prerequisite: HO818 or BIO160IN or BIO201IN.

SG 960LB Surgical Lab Procedures II**0 cr. hrs. 165 periods**

Classroom presentations and laboratory demonstrations of surgical procedures, such as general and genitourinary procedures. Includes concepts of robotic use in surgery based on current industry standards. Also includes a review of anatomy; and diseases and disorders of the respiratory system, digestive system, urinary system, endocrine system, and male and female reproductive systems. Classroom presentations on all specialties are included.

Prerequisite(s): SG950LB.**SG 970LB Surgical Lab Procedures III****0 cr. hrs. 125 periods**

Classroom presentations and laboratory demonstrations of surgical procedures, including a review of the operating room and surgery using mock lab procedures. Includes orthopedic, oral and maxillofacial, plastic and reconstructive, ophthalmic, cardiothoracic, peripheral vascular, and neurosurgical procedures based on current industry standards. Also includes a review of anatomy, and diseases and disorders of the integumentary, musculoskeletal, nervous, and cardiovascular systems. Classroom presentations on all specialties are included.

Prerequisite(s): SG960LB.**SG 990 Surgical Technology Externship I****0 cr. hrs. 250 periods**

Assisting surgical team members with daily preoperative and postoperative duties of a student surgical technologist while under the direct supervision of a staff surgical technologist and a registered nurse. Includes one-on-one training in a facility providing surgical services, progressing through rotations into the first scrub role for minor procedures and the second scrub role in major cases. At the completion of the externship rotations the student will be scrubbing in the first scrub role for most procedures when appropriate.

Prerequisite(s): SG970LB.**SG 995 Surgical Technology Externship II****0 cr. hrs. 276 periods**

Assisting surgical team members with daily preoperative and postoperative duties of a student surgical technologist while under the direct supervision of a staff surgical technologist and a registered nurse. Includes one-on-one training in a facility providing surgical services, progressing through rotations into the first scrub role for minor procedures and the second scrub role in major cases. At the completion of the externship rotations the student will be scrubbing in the first scrub role for most procedures when appropriate. Also includes a review in preparation for the National Surgical Technology Certification Exam.

Prerequisite(s): SG990.

Transportation & Logistics

For courses numbered 098, 198, 298, see "Topic Courses" on page TTT

TD 600 Commercial Driver's License Permit Preparation - ESL Level 1**0 cr. hrs. 1-80 periods**

Overview and preparation for the Commercial License Permit with English as a Second Language component. Includes general knowledge of USDOT regulations, hours of service, license requirements, and Class A License with endorsements: Tank, Doubles, and Triples to obtain a Commercial Driver's License permit.

TD 601 Commercial Driver's License Permit Preparation-ESL Level 2**0 cr. hrs. 1-160 periods**

Continuation of TD 600. Overview and preparation for the Commercial Driver's License Permit with English as a Second Language component. Includes general knowledge of USDOT regulations, hours of service, license requirements, and Class A License with endorsements: Tank, Doubles, and Triples to obtain a Commercial Driver's License permit.



Other Educational Programs

Workforce Response Programs
Center for Training and Development (CTD) Programs

Workforce Response Programs

The programs and courses in this section are provided as a service to external agencies, usually on a contractual basis. Students are selected for these programs and courses by the contractual agency, and generally are not open to the general public. Please contact Workforce Development and Continuing Education for more information at 520-206-6593

Business and Industry

The Business and Industry certificates and degrees are designed for a variety of purposes to meet the needs of business, industry, and government agencies. They can be customized for clientele in need of a specific credential.

Business and Industry Technology — Associate of Applied Science Degree

The Associate of Applied Science degree is available for a variety of purposes to meet the needs of business, industry, and government agencies. It can be customized for apprenticeship, for workforce development, and for special clientele in need of a custom credential.

The intent of the technical electives is to provide students a body of knowledge and skills that is coherent and provides them opportunities for either a new career or career advancement. The choice of these electives usually requires a partnership between the College and another organization.

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|--------------|
| Communication Requirement | 6 |
| Analysis and Critical Thinking Requirement | 6 |
| Humanities and Social Science Requirement | 6 |
| Computer and Information Literacy Requirement | 1-3 |
| Subtotal. | 19-21 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | |
|---|--------------|
| Technical Electives | 41-43 |
| Subtotal. | 41-43 |
| Total credits as displayed | 60-63 |

Advanced Business and Industry Technology — Certificate for Direct Employment

General Education courses are required for certificates that exceed 29 credits

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|----------|
| Communication Requirement | 3 |
| Analysis and Critical Thinking Requirement | 3 |
| Subtotal. | 6 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | |
|---|--------------|
| Technical Electives | 16-53 |
| Complete 16-59 credit hours from Business or Industry Technical courses with the approval of a faculty advisor or instructional dean. | |
| Total credits as displayed | 16-59 |

Basic Business and Industry Technology — Certificate for Direct Employment

| Course Number | Course Title | Credit Hours |
|--|---------------------------|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| Electives | Technical Electives. | 3-15 |
| Complete 3-15 credit hours from Business or Industry Technical courses with the approval of a faculty advisor or instructional dean. | | |
| Total credits as displayed | | 3-15 |

Advanced Business and Industry Technology –Natural Gas Utility – Certificate for Direct Employment

This certificate is designed to provide natural gas utility fundamentals for entry-level employment in the energy field. This is a workforce certificate specifically designed to meet employer needs.

What can I do with this degree?

Career Options: Apply skills learned to increase opportunities or success in the workforce.

Locations: Community Campus

Department/Contact Information: Academic Dean: 520-206-6593

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| BCT 111 | Basic Safety for the Building Trades | 1 |
| BCT 112 | Construction Mathematics, Communication, and Employability | 1 |
| BCT 202 | Construction Business Management | 3 |
| BUS 148 | Ethics in the Workplace | 3 |
| CMN 120 | Business and Professional Communications | 3 |
| CPD 104 | Career and Personal Development | 3 |
| GTW 101* | Writing for the Trades and Technical Operations | 3 |
| NGT 101 | Introduction to the Natural Gas Industry | 3 |
| REA 112* | Critical Reading | 4 |
| STU 230 | Dynamics of Leadership | 3 |
| Subtotal. | | 27 |
| Total: | | 27 |

* This course has a prerequisite, co-requisite or recommendation. See course description section.

Basic Business and Industry Technology –Natural Gas Utility – Certificate for Direct Employment

This certificate is designed to provide natural gas utility fundamentals for entry-level employment in the energy field. This is a workforce certificate specifically designed to meet employer needs.

What can I do with this degree?

Career Options: Apply skills learned to increase opportunities or success in the workforce.

Locations: Community Campus

Department/Contact Information: Academic Dean: 520-206-6593

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| BCT 111 | Basic Safety for the Building Trades | 1 |
| BCT 112 | Construction Mathematics, Communication, and Employability | 1 |
| CPD 104 | Career and Personal Development | 3 |
| GTW 101* | Writing for the Trades and Technical Operations | 3 |
| NGT 101 | Introduction to the Natural Gas Industry | 3 |
| Subtotal: | | 11 |
| Total: | | 11 |

* This course has a prerequisite, co-requisite or recommendation. See course description section.

Advanced Business and Industry Technology – Fabrication Welding – Certificate for Direct Employment

Courses prepare students for entry level welding positions in Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW), Gas Metal Arc Welding (GMAW) and Flux Core Arc Welding (FCAW). Students who complete this certificate have demonstrated advanced skills in all aspects of welding, such as structural fabrication, ornamental, and working with exotic metals.

This certificate is **not open to the general public**. Please contact the Community Campus for more information, 520-206-6593.

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses – A grade of C or better is required for graduation | | |
| GTM 105* | Applied Technical Mathematics | 3 |
| WLD 110 | Basic Arc and Oxyacetylene Welding | 4 |
| WLD 115* | Blueprint Reading/Estimating..... | 4 |
| WLD 160* | Arc Welding | 4 |
| WLD 261 | Gas Metal Arc Welding..... | 4 |
| WLD 262* | Gas Tungsten Arc Welding | 4 |
| WLD 263* | Layout and Fabrication Welding..... | 4 |
| Subtotal. | | 27 |
| Total | | 27 |

* This course has a prerequisite, co-requisite or recommendation. See course description section.

Basic Business and Industry Technology – Gas Tungsten Arc Welding – Certificate for Direct Employment

Basic development of welding skills. Students who complete this certificate have demonstrated basic skills in Gas Tungsten Arc Welding (GTAW)/ tungsten inert gas (TIG) Welding for entry level aviation, culinary, and exotic metal welding jobs.

This certificate is **not open to the general public**. Please contact the Community Campus for more information, 520-206-6593.

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses – A grade of C or better is required for graduation | | |
| GTM 105* | Applied Technical Mathematics | 3 |
| WLD 110 | Basic Arc and Oxyacetylene Welding | 4 |
| WLD 115* | Blueprint Reading/Estimating..... | 4 |
| WLD 262* | Gas Tungsten Arc Welding | 4 |
| Subtotal. | | 15 |
| Total | | 15 |

* This course has a prerequisite, co-requisite or recommendation. See course description section.

Basic Business and Industry Technology – GMAW/FCAW Welding – Certificate for Direct Employment

Basic development of welding skills. Students who complete this certificate have demonstrated basic skills in ornamental welding to include Gas Metal Arc Welding (GMAW) and Flux Core Arc Welding (FCAW).

This certificate is **not open to the general public**. Please contact the Community Campus for more information, 520-206-6593.

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses – A grade of C or better is required for graduation | | |
| GTM 105* | Applied Technical Mathematics | 3 |
| WLD 110 | Basic Arc and Oxyacetylene Welding | 4 |
| WLD 115* | Blueprint Reading/Estimating..... | 4 |
| WLD 261 | Gas Metal Arc Welding..... | 4 |
| Subtotal. | | 15 |
| Total | | 15 |

* This course has a prerequisite, co-requisite or recommendation. See course description section.

Basic Business and Industry Technology – Shielded Metal Arc Welding – Certificate for Direct Employment

Basic development of welding skills. Students who complete this certificate have demonstrated basic skills in field structural welding.

This certificate is **not open to the general public**. Please contact the Community Campus for more information, 520-206-6593.

| Course Number | Course Title | Credit Hours |
|--|--|--------------|
| Required Core Courses – A grade of C or better is required for graduation | | |
| GTM 105* | Applied Technical Mathematics | 3 |
| WLD 110 | Basic Arc and Oxyacetylene Welding | 4 |
| WLD 115* | Blueprint Reading/Estimating..... | 4 |
| WLD 160* | Arc Welding | 4 |
| Subtotal. | | 15 |
| Total | | 15 |

* This course has a prerequisite, co-requisite or recommendation. See course description section.

Corrections

These programs are part of the Public Safety and Emergency Services Institute. For more information contact the Division Dean/Director at 520-206-6350.

County Corrections Training Academy — Certificate for Direct Employment

This certificate program is open to those persons selected for employment by the Pima County Sheriff’s Department, Bureau of Corrections, or Program Director and is awarded upon successful completion of this certificate.

Before enrolling in this program, you must meet certain admission requirements.

| Course Number | Course Title | Credit Hours |
|---|--|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| COR 110 | County Correctional Officer Training Academy | 18 |
| COR 115* | Corrections Training Officer | 3 |
| Total credits as displayed | | 21 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Electrical Utility Technology

Electrical Utility Technology - Certificate for Direct Employment

This certificate is designed to provide electrical utility fundamentals for entry-level employment in the energy field. This is a workforce certificate specifically designed to meet employer needs.

What can I do with this degree?

Career Options: Apply skills learned to increase opportunities for success in the workforce.

Location: Community Campus

Department/Contact Information:

Academic Dean: 520-206-6593

| Course Number | Course Title | Credit Hours |
|---|---|--------------|
| Required Core Courses - A grade of C or better is required for graduation. | | |
| BCT 105 | Professionalism in Service, Construction, Mathematics and Basic Rigging. | 3 |
| BCT 107 | Basic Safety, Hand and Power Tools and Blueprint Reading | 3 |
| EUT 103 | Generation Steam Systems | 3 |
| EUT 104 | Overhead and Underground Systems, Hardware, and Equipment | 4 |
| EUT 106 | Measuring Electricity | 3 |
| GTM 105* | Applied Technical Mathematics | 3 |
| NRG 101 | Energy Industry Fundamentals..... | 3 |
| WRT 101* | Writing I | |
| or GTW 101* | Writing for Trades and Technical Occupations | 3 |
| Subtotal. | | 25 |
| Total credits as displayed | | 25 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Emergency Medical Technology

Emergency Medical Technology — Paramedic Certificate for Direct Employment

The paramedic certificate program increases the knowledge and skills of the I-EMT and the EMT-B in advanced life support including endotracheal intubation, cardiac arrhythmia recognition and intervention. The program also includes drug therapy, invasive procedures, advanced airway management, and I.V. therapy.

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|-----------|
| Communication Requirement | 3 |
| Analysis and Critical Thinking Requirement | 3 |
| Subtotal. | .6 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

All of the core courses require acceptance into the Advanced Paramedic Program.

| | | |
|---|--|------------|
| EMT 170* | ALS Operations. | 1 |
| EMT 205* | ALS Pharmacology and Medication Administration | 3 |
| EMT 214* | ALS Advanced Special Considerations. | 2.5 |
| EMT 218* | Paramedic National Registry Preparatory Course | 3.5 |
| EMT 219* | ALS Foundations | 1.5 |
| EMT 221* | ALS Airway and Ventilation | 1.5 |
| EMT 222* | ALS Patient Assessment and Assessment Based Management. | 1.5 |
| EMT 223* | ALS Trauma Emergencies and Systems | 2 |
| EMT 224* | ALS Medical Emergencies. | 4 |
| EMT 225* | ALS Special Medical Considerations | 2 |
| EMT 227LC* | ALS Practicum: Clinical Lab | 3 |
| EMT 228LC* | ALS Practicum: Vehicular Lab | 3 |
| EMT 230* | Basic ECG Interpretation | 1.5 |
| EMT 242* | ALS Advanced Foundations. | 2 |
| EMT 244* | ALS Advanced Medical Emergencies | 2.5 |
| EMT 247LC* | ALS Advanced Practicum: Clinical Lab | 3 |
| EMT 248LC* | ALS Advanced Practicum: Vehicular Lab | 3 |
| EMT 250* | Advanced Cardiac Care | 1.5 |
| EMT 252* | Pediatric Advanced Life Support | |
| or EMT 258* | Pediatric Education for Pre-Hospital Professionals | 1.5 |
| EMT 254* | Advanced ECG Interpretation | 3 |
| EMT 263* | Tox-Medic. | 1.5 |
| EMT 295* | ALS Independent Research | 3 |
| Subtotal. | | .51 |
| Total credits as displayed | | .57 |

* This course has a prerequisite, co-requisite, or recommendation. See course description section.

Law Enforcement

For more information about the Law Enforcement programs, please contact the Public Safety and Emergency Services Institute at Community Campus, 520-206-6350.

Basic Law Enforcement — Certificate for Direct Employment

Learn the skills necessary to become a law enforcement officer with courses in ethics, criminal investigation, police proficiencies and law. This certificate is designed for individuals working in a law enforcement position. The courses are scheduled based on agency requirements.

Required Prerequisites:

- High school diploma or High School Equivalency (HSE) diploma
- At least 21 years of age upon completion of the academy
- No felony convictions
- U. S. Citizen
- Must possess a valid driver's license
- Physical requirement test
- Written evaluation

- Psychological evaluation
- Oral Board review
- Background investigation
- Medical evaluation
- Polygraph exam
- Other requirements that are specific to Arizona Peace Officer Standards and Training Board (AZ POST)

Completion of the program meets and exceeds the minimum P.O.S.T. requirements for entry-level employment as an Arizona peace officer.

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|--|----------|
| Communication Requirement | 3 |
| Analysis and Critical Thinking Requirement | 3 |
| Subtotal. | 6 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

| | | |
|------------------------|--|-----------|
| LEN 105 | Ethics and Leadership in Law Enforcement | 3 |
| LEN 110 | Multicultural Issues in Law Enforcement. | 3 |
| LEN 115 | Interpersonal Relations in Law Enforcement. | 3 |
| LEN 120 | Introduction to Law Enforcement | 1 |
| LEN 125 | Law and Legal Matters I | 3 |
| LEN 126 | Law and Legal Matters II | 3 |
| LEN 130 | Patrol Procedures. | 3 |
| LEN 135 | Traffic Enforcement and Investigation | 3 |
| LEN 140 | Criminal Investigation | 4 |
| LEN 145 | Community and Police Relations | 2 |
| LEN 150 | Records and Reports | 3 |
| LEN 205 | Police Proficiency Skills I | 4 |
| LEN 206 | Police Proficiency Skills II | 4 |
| LEN 207 | Police Proficiency Skills III | 4 |
| LEN 208 | Police Proficiency Skills IV | 4 |
| Subtotal. | | 47 |
| Total | | 53 |

Law Enforcement — Associate of Applied Science

General Education Requirements - A grade of C or better is required for graduation.

Course lists for each General Education category listed below can be found starting on page 74.

| | |
|---|--------------|
| Communication Requirement | 6 |
| Analysis and Critical Thinking Requirement | 6 |
| Humanities and Social Science Requirement | 3 |
| AJS 225 fulfills 3 credits of this requirement. Complete a course from the Humanities/Fine Arts or the Leadership/Ethics category | |
| Computer Information and Literacy Requirement | 1-3 |
| Subtotal. | 16-18 |

| Course Number | Course Title | Credit Hours |
|---------------|--------------|--------------|
|---------------|--------------|--------------|

Required Core Courses - A grade of C or better is required for graduation.

Law Enforcement Concentration

| | | |
|---------|--|---|
| LEN 105 | Ethics and Leadership in Law Enforcement | 3 |
| LEN 110 | Multicultural Issues in Law Enforcement. | 3 |
| LEN 115 | Interpersonal Relations in Law Enforcement. | 3 |
| LEN 120 | Introduction to Law Enforcement | 1 |

| | | |
|-----------------|---------------------------------------|-----------|
| LEN 125 | Law and Legal Matters I | 3 |
| LEN 126 | Law and Legal Matters II | 3 |
| LEN 130 | Patrol Procedures | 3 |
| LEN 135 | Traffic Enforcement and Investigation | 3 |
| LEN 140 | Criminal Investigation | 4 |
| LEN 145 | Community and Police Relations | 2 |
| LEN 150 | Records and Reports | 3 |
| LEN 205 | Police Proficiency Skills I | 4 |
| LEN 206 | Police Proficiency Skills II | 4 |
| LEN 207 | Police Proficiency Skills III | 4 |
| LEN 208 | Police Proficiency Skills IV | 4 |
| Subtotal | | 47 |

Required Support Courses

| | | |
|-----------------------------------|---|----------------|
| AJS 101 | Introduction to Administration of Justice Systems | 3 |
| AJS 225 | Criminology | 3 |
| Subtotal | | 6 |
| Total Credits as Displayed | | 69-71\$ |

Center for Training and Development (CTD) Programs

Pima Community College’s Center for Training and Development (CTD) provides high quality training leading to immediate jobs or to job advancement in many in-demand fields. Since 1963, CTD has trained more than 40,000 individuals who wanted to gain new employment, improve their skills in their current jobs or move up the career ladder in their fields. Students learn entry-level skills or upgrade existing knowledge through training classes that provide classroom instruction, hands-on lab learning, and internships and externships. CTD boasts a 90% completion rate and an 85% job placement rate.

The Center’s non-traditional training options allow students to attend in an open-entry/open-exit enrollment year-round up to 30 hours a week during days, evenings or weekends. Each student receives a certificate at the conclusion of their training. CTD offers programs for credit, noncredit, clock-hour, and continuing education units (CEUs). Credit program information is found under the credit programming section of the catalog.

CTD clock-hour certificate programs are found below. Please contact the Center for Training and Development for most current programming information. Clock-hour offerings provide students with a method for accessing immediate employment skills related to specific occupational areas. They require student attendance as well as completion of competencies related to the career field. Clock-hour programming is offered in a variety of methods depending on the career path; it provides intensive instruction in the career field, contains integrated academic and life success skills, and provides comprehensive student support services.

Clock-hour programs have various admissions requirements depending on the programming area. Testing is required for most certificates. Please contact the Center for Training and Development at 520-206-5100 for details on specific admissions requirements for each program area.

Business Technology

Accounting Assistant – Certificate for Direct Employment

This program is being submitted for inactivation. No students are being accepted into the program at this time.

Administrative Assistant – Certificate for Direct Employment

This program is being submitted for inactivation. No students are being accepted into the program at this time.

Computer Software Applications – Certificate for Direct Employment

This program is being submitted for inactivation. No students are being accepted into the program at this time.

Keyboard Operator

This program is being submitted for inactivation. No students are being accepted into the program at this time.

Office Assistant I – Certificate for Direct Employment

| Module Number | Course Title | Clock Hours |
|-------------------------|----------------------------|-------------|
| Required Modules | | |
| BO 701A | Document Formatting I..... | 30 |

| | | |
|---|----------------------------|------------|
| BO 706 | Business Calculator I..... | 30 |
| BO 709 | Microsoft Word I..... | 25 |
| BO 710A | Office Practice I..... | 75 |
| BO 750 | Keyboard Operator..... | 80 |
| BO 760 | Microsoft Windows | 30 |
| Total for Office Assistant I | | 270 |

Office Assistant II – Certificate for Direct Employment

Review program costs, student debt, on-time graduation and more: <https://www.pima.edu/programs-courses/gainful-employment/2017/ge-67/52.0408-Gedt.html>

| Module Number | Course Title | Clock Hours |
|--|------------------------------|-------------|
| Required Modules | | |
| BO 701A | Document Formatting I..... | 30 |
| BO 706 | Business Calculator I..... | 30 |
| BO 709 | Microsoft Word I..... | 25 |
| BO 710A | Office Practice I..... | 75 |
| BO 718 | Microsoft Excel I..... | 35 |
| BO 719 | Microsoft Access I | 35 |
| BO 750 | Keyboard Operator..... | 80 |
| BO 760 | Microsoft Windows | 30 |
| BO 800 | Business English..... | 20 |
| BO 801A | Document Formatting II | 50 |
| BO 806 | Business Calculator II | 20 |
| BO 807 | Recordkeeping II | 64 |
| BO 809 | Microsoft Word II | 60 |
| BO 810A | Office Practice II | 76 |
| Total for Office Assistant II Certificate | | 630 |

Office Specialist – Certificate for Direct Employment

Review program costs, student debt, on-time graduation and more: <https://www.pima.edu/programs-courses/career-training-programs/business-technology/office-specialist.html>

| Module Number | Course Title | Clock Hours |
|-------------------------|------------------------------|-------------|
| Required Modules | | |
| BO 701A | Document Formatting I..... | 30 |
| BO 706 | Business Calculator I..... | 30 |
| BO 709 | Microsoft Word I..... | 25 |
| BO 710A | Office Practice I..... | 75 |
| BO 718 | Microsoft Excel I..... | 35 |
| BO 719 | Microsoft Access I | 35 |
| BO 750 | Keyboard Operator..... | 80 |
| BO 760 | Microsoft Windows | 30 |
| BO 800 | Business English..... | 20 |
| BO 801A | Document Formatting II | 50 |
| BO 806 | Business Calculator II | 20 |
| BO 807 | Recordkeeping II | 64 |
| BO 809 | Microsoft Word II | 60 |
| BO 810A | Office Practice II | 76 |
| BO 811 | Microsoft Excel II | 30 |

| | | |
|--|------------------------------------|------------|
| BO 812 | Microsoft Access II..... | 30 |
| BO 901A | Advanced Document Formatting | 22 |
| BO 906 | Business Calculator III..... | 12 |
| BO 907 | Recordkeeping III..... | 30 |
| BO 909 | Microsoft Word III..... | 105 |
| BO 917 | Microsoft PowerPoint..... | 30 |
| BO 919 | Machine Transcription..... | 15 |
| Total for Office Specialist Certificate | | 904 |

Optional modules

| | | |
|--|---------------------------------|------------|
| BO 920 | Microsoft Access III..... | 30 |
| BO 991 | Office Practice Externship..... | 60 |
| Total with optional modules | | 994 |

Quickbooks – Certificate for Direct Employment

This program is being submitted for inactivation. No students are being accepted into the program at this time.

Legal Office

Legal Office Procedures – Certificate for Direct Employment

This program is being submitted for inactivation. No students are being accepted into the program at this time.

Legal Office Support Staff– Certificate for Direct Employment

This program is being submitted for inactivation. No students are being accepted into the program at this time.

Medical Office

Medical Office Clerk – Certificate for Direct Employment

| Module Number | Course Title | Clock Hours |
|---|---|-------------|
| Required Modules | | |
| BO 700 | Basic Office Skills | 49 |
| BO 711 | Medical Insurance | 30 |
| BO 713 | Medical Terminology and Human Anatomy I | 18 |
| BO 714 | Introduction to Diagnostic Coding | 8 |
| BO 716 | Introduction to Procedural Coding | 15 |
| BO 750 | Keyboard Operator | 80 |
| BO 800 | Business English..... | 20 |
| Total for Medical Office Clerk Certificate. | | 220 |

Medical Office Specialist – Certificate for Direct Employment

| Module Number | Course Title | Clock Hours |
|--|---|-------------|
| Required Modules | | |
| BO 701B | Document Formatting for Medical Office Specialist | 40 |
| BO 709 | Microsoft Word I | 25 |
| BO 710B | Office Practice for Medical Office Specialist I | 73 |
| BO 711 | Medical Insurance | 30 |
| BO 713 | Medical Terminology and Human Anatomy I | 18 |
| BO 714 | Introduction to Diagnostic Coding | 8 |
| BO 716 | Introduction to Procedural Coding | 15 |
| BO 718 | Microsoft Excel I | 35 |
| BO 719 | Microsoft Access I | 35 |
| BO 750 | Keyboard Operator | 80 |
| BO 760 | Microsoft Windows | 30 |
| BO 800 | Business English | 20 |
| BO 809 | Microsoft Word II | 60 |
| BO 909A | Microsoft Word IIIA | 15 |
| BO 992 | Medical Office Externship | 120 |
| Total for Medical Office Specialist Certificate | | 604 |

Medical Records Technician Billing and Coding – Certificate for Direct Employment

Review program costs, student debt, on-time graduation and more: <https://www.pima.edu/programs-courses/gainful-employment/2017/ge-46/51.0707-Gedt.html>

| Module Number | Course Title | Clock Hours |
|--|---|-------------|
| Required Modules | | |
| BO 701B | Document Formatting for Medical Office Specialist | 40 |
| BO 709 | Microsoft Word I | 25 |
| BO 710 | Business Office Practices | 34 |
| BO 710B | Office Practice for Medical Office Specialist I | 73 |
| BO 710C | Office Practice for Medical Records Technician | 31 |
| BO 710D | Office Practice for Coders | 5 |
| BO 710G | Office Practices for Business | 34 |
| BO 713 | Medical Terminology and Human Anatomy I | 18 |
| BO 718 | Microsoft Excel I | 35 |
| BO 719 | Microsoft Access I | 35 |
| BO 725 | Health Care Statistics | 30 |
| BO 730 | Quality Management | 30 |
| BO 750 | Keyboard Operator | 80 |
| BO 760 | Microsoft Windows | 30 |
| BO 800 | Business English | 20 |
| BO 809 | Microsoft Word II | 60 |
| BO 813 | Medical Terminology II | 48 |
| BO 814 | Intermediate Diagnostic Coding | 70 |
| BO 815 | Intermediate Procedural Coding | 70 |
| BO 816 | 3M Computerized Medical Coding | 30 |
| BO 818 | Computerized Patient Accounting | 30 |
| BO 828 | Electronic Medical Records | 90 |
| BO 909A | Microsoft Word IIIA | 15 |
| BO 915 | Advanced Procedural Coding | 40 |
| BO 992 | Medical Office Externship | 120 |
| Total for Medical Records Certificate | | 969 |

Medical Terminology – Certificate for Direct Employment

| Module Number | Course Title | Clock Hours |
|--|--|-------------|
| Required Modules | | |
| BO 713 | Medical Terminology and Human Anatomy I | 18 |
| BO 813 | Medical Terminology and Human Anatomy II | 48 |
| Total for Medical Terminology Certificate | | 66 |

Professional Medical Coding Specialist– Certificate for Direct Employment

| Module Number | Course Title | Clock Hours |
|---|---|-------------|
| Required Modules | | |
| BO 710D | Office Practice for Coders | 5 |
| BO 713 | Medical Terminology and Human Anatomy I | 18 |
| BO 814 | Intermediate Diagnostic Coding | 70 |
| BO 815 | Intermediate Procedural Coding | 70 |
| BO 816 | 3-M Computerized Medical Coding | 30 |
| BO 818 | Computerized Patient Accounting | 30 |
| BO 819 | Human Anatomy for Medical Coding | 7 |
| BO 828 | Electronic Medical Records (EMR) | 90 |
| BO 915 | Advanced Procedural Coding | 40 |
| Total for Professional Medical Coding Specialist Certificate | | 323 |

Culinary and Food Industry

NOTE: All Culinary and Food Industry certificates have been submitted for inactivation. No new students are being accepted into the program at this time.

Nursing

LPN Re-Entry– Certificate for Direct Employment

This program is being submitted for inactivation. No students are being accepted into the program at this time.

Nursing Assistant – Certificate for Direct Employment

| Module Number | Course Title | Clock Hours |
|--|-------------------|-------------|
| Required Modules | | |
| HO 810 | Nursing Assistant | 120 |
| Total for Nursing Assistant Certificate | | 120 |

Patient Care Technician– Certificate for Direct Employment

| Module Number | Course Title | Clock Hours |
|--|-------------------------------|-------------|
| Required Modules | | |
| HO 740 | Patient Care Technician | 120 |
| Total for Patient Care Technician Certificate | | 120 |

Practical Nurse - Certificate for Direct Employment

Review program costs, student debt, on-time graduation and more: <https://www.pima.edu/programs-courses/gainful-employment/2017/ge-54/51.3901-Gedt.html>

| Module Number | Course Title | Clock Hours |
|--|--|-------------|
| Required Modules | | |
| HO 810 | Nursing Assistant | 150 |
| HO 818 | Introduction to Anatomy and Microbiology | 150 |
| HO 819 | Nursing Care Fundamentals | 60 |
| HO 861 | Introduction to Practical Nursing | 220 |
| HO 872 | Practical Nursing A | 220 |
| HO 874 | Practical Nursing B | 220 |
| HO 882 | Maternal-Child Nursing for the Practical Nurse | 120 |
| HO 887 | Pediatric Nursing for the Practical Nurse | 120 |
| HO 890 | Transition to Practice for the Practical Nurse | 120 |
| Total for Practical Nurse Certificate | | 1380 |

RN Refresher - Certificate for Direct Employment

This program is being submitted for inactivation. No students are being accepted into the program at this time.

Surgical Technology

Surgical Technologist – Certificate for Direct Employment

Review program costs, student debt, on-time graduation and more: <https://www.pima.edu/programs-courses/gainful-employment/2017/ge-51/51.0909-Gedt.html>

| Module Number | Course Title | Clock Hours |
|-------------------------|---|-------------|
| Required Modules | | |
| HO 818 | Introduction to Anatomy and Microbiology | 150 |
| SG 900 | Introduction to Healthcare | 86 |
| SG 910 | Introduction to Instrumentation, Equipment, and Sterilization | 106 |
| SG 920 | Anesthesia and Surgical Pharmacology | 35 |
| SG 930 | Patient Care | 23 |
| SG 950 | Surgical Lab Procedures I | 110 |
| SG 960 | Surgical Lab Procedures II | 165 |
| SG 970 | Surgical Lab Procedures III | 125 |

| | | |
|--|--|-------------|
| SG 990 | Surgical Technologist Externship I | 250 |
| SG 995 | Surgical Technologist Externship II..... | 276 |
| Total for Surgical Technologist Certificate | | 1326 |

For additional information regarding the Surgical Technologist Certificate Program, please contact the Center for Training and Development Office at 520-206-5100. More information can be found at <http://pima.edu/programs-courses/career-training-programs/surgical-technology/index.html>.



Selected Policies, Governance and Faculty

Selected Board Policies

The following policies address the College's compliance with a variety of federal anti-discrimination laws. The College makes every effort to resolve the complaints of persons who feel they have been discriminated against.

For questions concerning the College's Affirmative Action/Equal Opportunity and Harassment policies, the College's unlawful discrimination complaint process, or the College's Americans with Disabilities Act (ADA) process, contact EEO/AA/ADA Office at Pima Community College District Office, 4905C, East Broadway Blvd., Tucson, AZ 85709-1310, 520-206-4539. Confidentiality will be practiced on a need-to-know basis.

Equal Employment Opportunity/ Affirmative Action

Pima Community College is committed to the principles of equal employment opportunity and affirmative action. The College prohibits discrimination in the terms and conditions of employment based on race, color, national origin, religion, sex, age, disability, veteran status, sexual orientation, gender identity or any other basis protected by law. Our affirmative action program identifies specific recruiting needs in an effort to increase the representation of minorities, women, individuals with disabilities and protected veterans in our institution. Employees and applicants shall not be subjected to retaliation because they have filed a complaint, participated in an investigation or opposed any unlawful practice.

Anti-Harassment

The College is committed to providing a work and educational environment that is free from harassment. Harassment based on an individual's race, color, national origin, religion, sex including sexual harassment, age, disability, veteran status, sexual orientation, gender identify or any other basis protected by law is prohibited. All employees and students are expected to abide by this policy. Retaliation against any member of the College community for reporting harassment, filing an internal or external complaint, or participating in an investigation is strictly prohibited.

Title IX

"No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any educational program or activity receiving Federal financial assistance." Title IX of the Educational Amendments of 1972; 34 CFR Part 106

Pima Community College is committed to providing a safe and positive learning and working environment that is free from discrimination on the basis of sex, including sexual harassment and sexual violence. The following people have been designated to handle inquiries regarding Title IX policies and procedures:

EO/Deputy Title IX Coordinator

4905 E. Broadway, D108, Tucson, AZ 85709 520-206-4539
Email: #EEO-ALL@pima.edu

Title IX Coordinator

4905 E. Broadway, B204, Tucson, AZ 85709 520-206-4973
Email: Title9@pima.edu

Americans with Disabilities Act (ADA)

It is the policy of Pima Community College to comply with the ADA and Section 504 of Rehabilitation Act of 1972. No qualified person will, because of disability, be denied employment, access to, participation in, or the benefits of any program, activity or service offered by the College. The College will make every effort to ensure that qualified individuals with a disability are provided a reasonable accommodation; and the College will promote respect for and equal treatment of individuals with disabilities. For public and employee requests for accommodations, or questions concerning the College discrimination complaint process, contact the College ADA Coordinator at 520-206-4539, #EEO-ALL@pima.edu or 4905 E. Broadway Blvd., D108, Tucson AZ 85709.

Pima County Community College District Governing Board

| | Term Expires |
|-----------------------------|-----------------------|
| Mark Hanna | District 1, Dec. 2020 |
| Demion Clinco | District 2, Dec. 2022 |
| Sylvia M. Lee, Ph.D. | District 3, Dec. 2018 |
| Meredith Hay, Ph.D. | District 4, Dec. 2022 |
| Luis Gonzales | District 5, Dec. 2018 |

College District Administrators

Office of the Chancellor

Lee D. Lambert, Chancellor

B.A. The Evergreen State College; J.D. Seattle University

Jeffrey S. Silvyn, College General Counsel

B.A. Johns Hopkins University; J.D. University of California, Los Angeles

Thomas A. Davis, Special Assistant to the Chancellor

B.A. Portland State University; M.A. Boston University; M.A. U.S. Army War College

Rachel Schaming, Transition Officer (Interim)

B.S. University of Florida

Office of the Provost and Executive Vice Chancellor for Academic and Student Services

Dr. Dolores Durán-Cerda, Provost and Executive Vice Chancellor for Academic and Student Services

B.A. University of Iowa; M.A., Ph.D. University of Arizona

Julian Easter, Assistant Vice Chancellor for Academic Affairs

B.A. University of Notre Dame; M.S. Pittsburg State University

Bruce Moses, Assistant Vice Chancellor for Accreditation and Quality Improvement

B.B.A, B.S., M.A. Eastern Michigan University

Dr. Nicola Richmond, Chief Strategist and Assistant Vice Chancellor for Institutional Research, Planning and Effectiveness

B.S. University of Southampton (England); Ph.D. University College London (England)

Kathryn Schmidt, Executive Director for Faculty Affairs and Development

B.S. University of Vermont; M.P.A. University of Arizona

Hilda Ladner, Executive Director for Diversity, Equity and Inclusion

B.A., M.Ed. Northern Arizona University

Office of the Vice Chancellor for External Relations**Lisa Brosky, Vice Chancellor for External Relations**

B.A. Eastern Kentucky University; M.A. The Ohio State University

Libby Howell, Executive Director of Media, Community and Government Relations

B.A. Adams State College

Office of the Executive Vice Chancellor for Finance, Administration, Human Resources and Information Technology**Dr. David W. Bea, Executive Vice Chancellor for Finance and Administration**

B.A. Colgate University; M.A., Ph.D. Claremont Graduate University

Daniel Soza, Assistant Vice Chancellor for Finance

B.S. University of Arizona

Alison Colter-Mack, Chief Human Resources Officer and Assistant Vice Chancellor for Human Resources

B.S. Park University; M.A. Northern Arizona University

Gwen Goodman, Executive Director for Employee Services Center

B.A. University of California Santa Cruz; M.G.A. University of Pennsylvania

Dr. Raj Murthy, Assistant Vice Chancellor for Information Technology

M.S., Ph.D. Indiana University of Pennsylvania

Office of the Vice Chancellor for Facilities**Bill Ward, Vice Chancellor for Facilities and the College Police Department**

A.A. St. Petersburg College; B.S. Indiana State University

Christopher Albers, College Chief of Police

B.A., M.A. Biola University

College Campuses**Amanda Abens, Dean of Workforce Development and Continuing Education**

B.A. University of Arizona; M.C. University of Phoenix

Michael Amick, Vice President of Distance Education

B.S. Moorhead State University; M.A. Minnesota State University Moorhead

David Arellano, Dean of Enrollment Management

B.A., M.A. Northern Arizona University

Dr. Gregory Busch, Vice President of Instruction and Transfer Pathways

B.S. Xavier University; M.S., Ed.D. West Virginia University

Dr. Ricardo Castro-Salazar, Vice President for International Development

B.S.B.A. Instituto Tecnológico de Sonora; M.A. University of Arizona, M.A. University of Amsterdam; M.Ed. Universidad La Salle–Mexico City; Ed.D. University of Durham-England

Kenneth Chavez, Dean of Communications

B.A., M.A. New Mexico State University, Ed.S. American College of Education

Dr. Aubrey Conover, Northwest Campus Vice President and Director of Student Affairs

B.A. University of Wisconsin, Madison; M.A., Ph.D. University of Arizona

Nina Corson, Dean of Mathematics

B.S. Stephen F. Austin State University; M.A. University of Arizona

James Craig, Dean of Business

B.S., M.B.A. University of Arizona

Dr. Suzanne Desjardin, Dean of Students

A.A. Pima Community College; B.A. University of Arizona; M.C. University of Phoenix; M.A. Arizona State University; Ph.D. University of Arizona

Dr. David Doré, Downtown and Northwest Campus President and Vice Chancellor of Workforce and Economic Development

B.A. Gannon University; M.Ed. Boston College; Ph.L. Gonzaga University; M.B.A. Georgetown University; M.T.S. Santa Clara University; Ed.D. Pepperdine University

Dr. Joseph Gaw, Dean of Nursing and Critical Care

B.S.N., M.S.N., Ed.D. Grand Canyon University

Emily Halvorson-Otts, Dean of Sciences

B.S. Fort Lewis College; M.A. University of Arizona

Dr. Janice Kempster, Dean of Distance Education

B.S. Lewis Clark State College; M.A. Northern Arizona University; Ph.D. Colorado State University

Dr. Lamata Mitchell, Vice President of Instruction and Academic Operations

B.A. Trent University; M.A. Loughborough University; M.A. Andrews University; Ph.D. Northern Illinois University

Dr. Lorraine Morales, Community and East Campus President and Vice Chancellor of Student Affairs

B.S. Western New Mexico University; M.A. University of Arizona; Ed.D. Northern Arizona University

Dr. Mark A. Nelson, Co-Acting Dean of Fine Arts and Humanities

B.A. Point Loma Nazarene University; L.T.C.L. Trinity College of Music; M.Ed. University of Vermont; M.M., D.M.A. Arizona State University

Dr. Michael Parker, Dean of Social Sciences (Interim)

B.A., M.A. Northern Arizona University; Ph.D. University of Arizona

Dr. Morgan Phillips, Desert Vista and West Campus President and Vice Chancellor of Educational Partnerships

A.A.S. Blue Ridge Community College; A.A. Brevard Community College; B.S., M.S. University of Central Florida; Ed.D. University of Florida

Dr. Ian Roark, Vice President of Workforce Development

B.Mus. Angelo State University; M.Ed. University of Texas at Permian Basin; Ed.D. University of Texas at San Antonio

Dr. Irene Robles-Lopez, Vice President of Student Affairs

B.I.S. University of Texas – El Paso; M.C. University of Phoenix; Ph.D. University of Arizona

Ted A. Roush, Desert Vista Campus Vice President and Director of Student Affairs

B.S. United States Air Force Academy; M.S. Boston University

Edgar Soto, Dean of Athletics, Fitness and Wellness, and Co-Acting Dean of Fine Arts and Humanities

B.A. University of New Mexico; M.Ed. Northern Arizona University

Brian Stewart, Dean of Education and Biomedical Sciences

B.F.A., B.N, M.S. University of Arizona

Regina Suitt, Vice President of Adult Basic Education for College and Career

B.A. Iowa State University; M.Ed. Northern Arizona University

Dr. Jeff Thies, Dean of Developmental Education

B.A. Arizona State University; M.A. Northern Arizona University; Ph.D. University of Arizona

Gregory J. Wilson II, Dean of Applied Technology

B.A. University of Virginia; M.Div. Duke University

Dr. Darla Zirbes, East Campus Vice President and Director of Student Affairs

A.A. Bismarck State College; B.S. Moorhead State University; M.Ed. Northern Arizona University; Ph.D. University of Arizona

Emeritus Status

The Governing Board confers Emeritus status on distinguished individuals, retired from the College, to signify honor and respect for outstanding accomplishments and contributions to the College over many years. This distinction is a tribute to the special relationship that will extend well into the future as the College periodically calls upon the services of these highly regarded colleagues for the benefit of the College community. Faculty and administrators receiving such an award exemplify the characteristics of ideal community college educators who, through their professional careers at Pima Community College, have contributed significantly to disciplines or services, professional organizations, their campuses, the District Office, the College district, and the community.

- James E. Gibson, Ed.D., Provost Emeritus 1991
- Edward M. Duperret, M.Ed., Faculty Emeritus 1992
- Leland H. Scott, Ph.D., Faculty Emeritus 1992
- Henry "Hank" Oyama, M.Ed., Vice President Emeritus 1992
- Robert Longoni, M.A., Faculty Emeritus 1993
- Jamie Trainer, M.S., Faculty Emerita 1993
- Constance Howard, M.S., Dean Emerita 1993
- Johnas F. Hockaday, Ph.D., Chancellor Emeritus 1995
- Max Jules Gottschalk, B.A., Faculty Emeritus 1999
- Robert D. Jensen, Ed.D., Chancellor Emeritus 2003
- Angela Zerdavis, Ed.D., President and Faculty Emerita 2004

- Miguel A. Palacios, Ph.D., President Emeritus 2004
- Philip J. Silvers, Ph.D., Assistant Vice Chancellor Emeritus 2004
- Arthur Alberding, Ph.D., Faculty Emeritus 2005
- Gun Elisabet Bailey, M.A., Faculty Emeritus 2015
- Guadalupe Castillo, M.A., Faculty Emeritus 2015
- Anne Franklin, M.A., Faculty Emeritus 2015
- Richard Fridena, Ph.D., Faculty Emeritus 2015
- Margaret Fried, M.A., Faculty Emeritus 2015
- Mary Kay Gilliland, Ph.D., Faculty Emeritus 2015
- Jo Ann Little, M.Ed., Faculty Emeritus 2015
- Nancy Wall, M.A., Faculty Emeritus 2015
- George Welch, M.S., Faculty Emeritus 2015
- Paul Welsh, Ph.D., Faculty Emeritus 2015
- Charles A. Land, M.Ed., Faculty Emeritus, 2016
- David V. Stephen, Ph.D., Faculty Emeritus 2016
- Gustavo Chavez, M.A. Faculty Emeritus 2017
- Joseph Labuda, M.L.S. Faculty Emeritus 2017

Distinguished Staff Status

The Governing Board confers Distinguished status on retired College staff to signify honor and respect for outstanding accomplishments and contributions to the College over many years. Staff members receiving such an award exemplify the characteristics of the ideal community college. Through their professional careers at Pima Community College, these distinguished individuals have contributed significantly to their areas of service, professional organizations, their campuses, the District Office, the College district, and the community.

- Emily McMillin, 1996
- Harold Thompson, 1996

Pima Community College Faculty

Dr. Darla J. Aguilar, Mathematics (1999)

B.S.Ed. Montana State University; M.A., Ed.D. University of Arizona

Dr. Eric Aldrich, Writing (2014)

B.A. Assumption College; M.A. Arizona State University

Jacqueline Allen, Counselor (2013)

B.A., M.Ed. University of Arizona

Carmen Amavizca, Writing (1999)

B.S.Ed., M.Ed., University of Arizona

Brooke Anderson, Reading and Writing (2007)

B.A., M.S. California State University

Dean C. Anderson, Administration of Justice Studies (2016)

B.A. California State University; M.A. Naval Postgraduate School; J.D. George Mason University

Michele Anderson, Mathematics (2008)

B.S., M.S. University of Wyoming

Emilia Andujo, Dental Hygiene Education (1991)

A.A. Rio Hondo Community College; A.S. Cerritos Community College; B.S. California State University-Long Beach; M.S. California State University-Los Angeles

Jean Arbogast, Mathematics (2008)

B.A. California State University; M.S., M.S. University of Wyoming

Dr. Alexandra Armstrong, Biology (2014)

B.S. Northern Arizona University; Ph.D. University of Arizona

Max R. Atwell, Dental Lab Technology (2002)

A.A.S. Pima Community College; B.S.Ed. Northern Arizona University

Mark Backes, Machine Tool Technology (2004)

Certificates Rock Valley College, U.S. Department of Labor

Dr. Maha Baddar, Writing (2007)

B.A. Alexandria University; M.A. University of Massachusetts; Ph.D. University of Arizona

Dr. Hema Bandaranayake, Biology (2009)

B.S. University of Peradeniya; Ph.D. University of Maryland

John Barrowman, Aviation Technology (2013)

B.S. University of Phoenix

Yuko Bautista, Nursing (2010)

B.S., M.N., M.B.A. University of Phoenix

Amparo Bayless, Radiologic Technology (2017)

A.A.S. Pima Community College; B.S. Northern Arizona University

Charles Becker, Librarian (1999)

B.A. George Mason University; M.A. University of Arizona

Dr. Kristina Beckman, Writing (2008)

B.S., M.A., Ph.D. Colorado State University at Fort Collins; M.Ed. Northern Arizona University

Sandra M. Bejarano, Biology (1993)

B.S. University of Arizona; M.Ed. Northern Arizona University

Janko Bensa, Accounting (2017)

A.A. Coconino Community College; B.S. Northern Arizona University; M.S. University of Phoenix

Kenneth J. Bice, Welding (2005)

B.A. University of Arizona

Matej Boguszak, Mathematics (2009)

B.S., M.A. University of Arizona

Joseph M. Brewer, Librarian (2005)

B.A. University of Arizona; B.S. University of New Mexico; M.L.S. University of Arizona

Dr. Katherine L. Broneck, Business (2005)

B.A. University of Illinois; M.A., Ph.D. University of Arizona

Theresa A. Brown, Computer Software Applications (2000)

A.A.S. Spokane Community College; B.A., B.A. Eastern Washington University; M.A. University of Arizona

Margaret Buck-Rodriguez, Reading (2003)

B.S. Lesley University; M.A. University of Arizona

Ellyn E. Bulikowski, Nursing (1991)

B.S.N. University of Massachusetts; M.N. Emory University

Kent R. Burbank, Social Services (2015)

B.S. University of North Dakota; M.A. University of Chicago; M.D.V. Meadville-Lombard Theological

April Burge, Writing (2008)

B.A. Northwest Missouri State University; M.A. Northern Arizona University

Dr. Lonnie D. Burke, Chemistry (2006)

A.A. Orange Coast College; B.S., Ph.D. University of California-Irvine

Dr. Christopher M. Cabello, Chemistry (2013)

B.S. University of Arizona; M.S. University of Michigan; Ph.D. University of Arizona

Dr. Teresa Campbell, Business (1998)

B.S.B.A., M.S., Ph.D. University of Arizona

Dr. Olga Carranza, Psychology (2006)

A.A. San Bernardino Valley College; B.A. University of California, Riverside; M.A. California State University, San Bernardino; Ph.D. University of California, Santa Barbara

Mariana Carreras, Art and Art History (2004)

A.A. Miami-Dade Community College; B.A., M.F.A. George Washington University

Roman A. Carrillo, Automotive Technology (2011)

A.A.S. Pima Community College

Roberta L. Casper, Mathematics (1999)

A.S. Pima Community College; B.S., B.S., M.Ed. University of Arizona

Mary E. Cassidy, Counselor (2015)

B.A. University of Arizona; M.A. University of Phoenix

Dr. Nancy G. Christie, Psychology (1993)

B.A., M.S., Ph.D. University of Arizona

Carol Christofferson, Music (2006)

B.M., M.M. University of Arizona

Joshua Cochran, Writing (2008)

B.A. University of Arizona; M.F.A. City College of New York

Dr. Rebecca Cohen, Special Education (2009)

B.A. University of Pittsburgh; M.A., Ph.D. University of Arizona

J. Scott Collins, Mathematics (1994)

B.S., M.S. Virginia Polytechnic Institute

Dr. Gary A. Cooper, Chemistry (2012)

B.A., M.S., Ph.D. Arizona State University

Barbara Cortes, Counselor (2002)

B.S.Ed. Northern Arizona University; M.A. Chapman University

Dr. Mayra E. Cortes-Torres, Spanish (2006)

B.A. University of Wisconsin; M.A. Arizona State University; Ph.D. University of New Mexico

Rosanne Couston, Librarian (2009)

B.F.A., M.A. University of Arizona

Janet Coyne, Nursing (2010)

B.S. Saint Joseph's College; M.S. The Sage College

Dr. Amy Cramer, Business and Economics (2002)

B.A., M.A., Ph.D. University of Massachusetts

Dr. Guadalupe A. Cruikshank, Spanish (2001)

B.A., M.A. University of Arizona; Ph.D. University of Arizona

Dr. Timothy Cruz, Biology (2013)

B.S. Stanford University; D.M. University of California

Carmen E. Cueva, Computer Aided Drafting (2010)

B.Arch. University of Arizona

Robert F. Cunningham, Counselor (2012)

B.A., M.S. University of California, Long Beach

Lynn M. Cushing, Radiologic Technology (2015)

A.A.S. Pima Community College

Deborah Cutler, Spanish (2014)

B.A. Siena College; M.S.Ed. The City University of New York - Queens College

Ryan W. Daily, Counselor (2015)

B.A. Lake Forest College; M.A. Northern Arizona University

Joseph Dal Pra, Art (2008)

B.F.A. College of Mount Saint Joseph; M.F.A. University of Cincinnati

Amy Davis, Counselor (2007)

B.A., Arizona State University; M.A. Northern Arizona University

Dr. James De La Rosa, Biology (1994)

B.S. University of Southern California; M.S., Ph.D. Cornell University

Jason Deaver, Machine Tool Technology (2017)

A.A.S. Pima Community College

Susan Jo Deering, Nursing (1985)

B.S.N. Lake Superior State College; M.S. University of Arizona

James Delaune, Computer Information Systems (2002)

B.S., M.B.A. University of Florida

Francisco O. Delgado-Duran, Biology (1990)

B.S. University of Chihuahua; M.S. University of Arizona

Mic R. Denfeld, Writing (1992)

A.A. Southeast Iowa Area Community College; B.A. Iowa Wesleyan College; M.A. Iowa State University

Kathryn Di Pierro, Nursing (2008)

B.S.N. University of Wisconsin-Milwaukee; M.S.N. Marquette University College of Nursing

Beth Dohaniuk, Counselor (2016)

A.A. Cottey College; B.A. Evergreen State College; M.A. Southwestern College

Edward Doran, Counselor (2010)

B.A. University of Arizona; M.Ed. Northern Arizona University

Shelly Dorsey, Writing (2002)

B.A., M.A. University of Arizona; M.A. University of Canterbury at Kent

Dino L. Dreyfus, Nursing (2012)

B.S.N. Colegio de San Agustin – Bacalod; M.S.N. University of Saint La Salle

Kimlisa S. Duchicela, History (2004)

A.A. San Diego City College; B.A., M.A. San Diego State University

Dr. Jody Lee Duek, Biology (2001)

B.S. University of Houston; M.A.Ed. California State University at Northridge; Ph.D. University of California-Los Angeles

Matthias K. Duwel, Art (2005)

M.F.A., Hochschule der Kunste

Dr. Joel E. Dworin, Reading (2012)

B.A.Ed., M.Ed., Ph.D. University of Arizona

Dr. Margaret Eagleton, Education (2014)

B.A. Lewis and Clark College; Ph.D. University of Arizona

Erin S. Eichelberger, Sign Language (2006)

B.S.Ed. University of Pennsylvania; M.A. University of Arizona

Barbara E. Elguta, Counselor (2000)

B.S. University of Wisconsin-Stevens Point; M.S. University of Wisconsin-Madison

Erika E. Elias, Counselor (2013)

B.A. University of Arizona; M.Ed. Northern Arizona University

John J. Evans, Computer Information Systems (2000)

B.S., Wayne State University

Dr. Ronald J. Evans, Computer Information Systems (2001)

B.S., M.S., M.S.E., Ph.D. Purdue University

Dr. Noah Fay, Geology (2004)

B.S. Eastern Michigan University; Ph.D. University of Oregon

Melania Federico, Counselor (2010)

B.S. University of Arizona; M.Ed. Northern Arizona University

Julia B. Fiello, Biology (1994)

B.A. Oberlin College; M.A. University of Arizona

Patricia Figueroa, Spanish (2005)

B.A. University of Arizona; M.A. New York University
Carolyn Fike, English as a Second Language (2008)
B.A. Michigan State University; M.S. Eastern Michigan University

Andrea Foege, Writing (2003)

B.A. Vassar College; M.A. New Mexico State University; M.F.A. Arizona State University

Colleen M. Ford, Nursing (2015)

B.A. Cedar Crest College; M.S. Grand Canyon University

Robert Foth, Mathematics (2008)

B.S. California State University; M.S. University of Nebraska

Kathy Fraychineaud, Sign Language (2002)

A.A.S. Rochester Institute of Technology; B.S.E.E.T. Northeastern University; M.A. University of Arizona

Dr. Jeffrey Gabbitas, Translation Studies (2009)

B.A., M.A. Brigham Young University; Ph.D. University of Arizona

Joy Gall, Dental Hygiene (2007)

Certificate, Dental Hygiene, University of Texas Health Science Center; B.S. University of the Incarnate Word; M.B.A. Midwestern State University

Dr. Nancy Gamboian, Fitness and Sports Science (2014)

B.S. State University of New York at Fredonia; M.F.A. University of North Carolina; Ph.D. University of Oregon

Patricia A. Gardiner, Digital Arts (2000)

A.A.S. Pima Community College; B.F.A. University of Arizona

John Gerard, Building and Construction Technology (2014)

B.F.A. University of Arizona

Simone Gers, Writing (1998)

B.A., M.A. University of Houston-Clear Lake

Mirjana Glisovic-Bensa, Mathematics (2012)

B.S., M.S. Northern Arizona University

Bryan C. Goldkuhl, Automotive Technology (2012)

Master Automotive Technician - National Institute for Automotive Service Excellence; Provisional Career and Technical Educational Industrial Technician Certificate - Arizona Department of Education

Margaret S. Golston, Writing (2012)

B.A., M.F.A. University of Arizona

Dr. Linda Gail Gonzales, Psychology (1999)

B.A. Southwest Texas State University; M.A., Ph.D. University of Texas

Gwen Gorbette, Paralegal (2016)

B.S.P.A., J.D. University of Arizona

Dr. Eugene W. Gotwalt, Economics (2010)

B.A., B.A. Millersville University; M.A., Ph.D. George Mason University

Monica L. Gouker, Nursing (2015)

A.S. Tulsa Community College; B.S.N. Langston University; M.S. Grand Canyon University

Dr. Julia V. Gousseva, Writing (2001)

B.A. Moscow State Linguistic University; M.A., Ph.D. University of Arizona

Andrea Graham, Writing (2010)

B.A., M. TESL, M.A. Arizona State University

Elena Grajeda, Spanish (1999)

B.A.Ed., M.A.Ed. University of Arizona

Stephen Grede, Computer Aided Drafting (2007)

Bachelor of Landscape Architecture, University of Arizona

Dr. Mischala Grill, Biology (2008)

B.S. Pennsylvania State University; Ph.D. University of Arizona

Jennifer Guajardo, Mathematics (2009)

B.S. University of Texas; M.S. University of Utah

Ann Haber, Biology (2002)

B.S. Purdue University; M.S. University of Arizona

Dr. Wayne L. Hacker, Mathematics (2004)

A.A. Florissant Valley Community College; A.B. Washington University; M.A. St. Louis University; M.S., Ph.D. University of Arizona

Stacey L. Hackett, Counselor (2015)

B.S. University of Arizona; M.A. University of Phoenix

Nancy W. Hamadou, English as a Second Language (1997)

B.A. Indiana State University; M.A. Ohio University

Dr. Chien-Wei Han, Technology Education (2002)

B.S. California Institute of Technology; M.S. Carnegie Mellon University; M.S., Ph.D. University of Arizona

Virginia Harmelink, Early Childhood Education (2008)

B.S., M.A. University of Wyoming

Erika Hartle-Shutte, Veterinary Technology (2015)

B.A. University of Colorado; D.V.M. Colorado State University

Makyla M. Hays, Mathematics (2011)

B.S. Grand Canyon University; M.A. University of Arizona

Dr. Shawn I. Hellman, Writing (2005)

B.S., M.A., Ph.D. University of Arizona

Mark R. Heywood, Aviation Technology (2000)

A.A.S. Pima Community College

Perry Higgins, Counselor (1996)

B.S. United States Naval Academy; M.A. California State University-Dominguez Hills; M.Ed. Northern Arizona University

Dr. Manuel M. Hinojosa, Writing (2005)

B.A. St. Edward's University; M.A. University of Rhode Island; Ph.D. University of Arizona

Lisa-Anne R. Hodgkins, Librarian (2013)

B.A. University of Illinois; M.L.S. University of Maryland

Olivia J. Holt, Nursing (2017)

A.A.S. Eastern Arizona College; B.S.N., M.S.N. Grand Canyon University

Dr. Lazaro M. Hong, Technology Education (2000)

B.S., M.A. University of Southern California; Ph.D. University of Arizona

Cynthia M. Howe, English as a Second Language (2005)

B.A., M.A. University of Washington

Dr. Carolina Ibanez-Murphy, Spanish (1998)

B.S. Marywood College; B.A. Western Michigan University; M.A., Ph.D. University of Arizona

Dr. Mays Imad, Biology (2013)

B.A. University of Michigan; Ph.D. Wayne State University

Helen M. Infanti, Psychology (2012)

B.A. University of Colorado, Boulder; M.A. University of Arizona

Barry T. Infuso, Culinary Arts (2000)

A.A. Foothill College; B.A. University of California- Berkeley

Dr. Francisca James-Hernandez, Anthropology (1998)

A.B., A.M., Ph.D. Stanford University

Ana Jimenez, Mathematics (2003)

A.G.S. Pima Community College; B.S., M.Ed. University of Arizona

Dr. Thomas T. Jordan, Biology (1999)

B.A. State University of New York; D.C. Western States Chiropractic College

Dr. Lisa A. Jurkowitz, English as a Second Language (2001)

B.A., M.A., Ph.D. University of Arizona

Dr. Dennis Just, Astronomy (2017)

B.S. Pennsylvania State University; M.S., Ph.D. University of Arizona

Dr. Mana Kariman, Computer Software Applications (2015)

B.S., M.S., Ed.D. Western Kentucky University

Kathy Karlberg, Nursing (2015)

B.S.N. Northern Arizona University; M.S. Grand Canyon University

Jennifer B. Katcher, Biology (2001)

B.A. University of Arizona; M.S. University of California-Davis

Donald Kavanaugh, Chemistry (2017)

B.S. Coastal Carolina University; M.A. University of Arizona

Dr. Jacqueline D. Kern, Nursing (2012)

B.S.N., M.S., Ph.D. University of Arizona

Vivian J. Knight, Accounting (2015)

A.A.S. Pima Community College; B.S.B.A., M.A.C.C. University of Arizona

Dr. Silvia Kolchens, Chemistry (1995)

B.S., M.S., Ph.D. University of Cologne

Andrea R. Kooshian, English as a Second Language (2005)

B.A. University of Arizona; M.A. Northern Arizona University

Dr. Timothy M. Krone, Veterinary Technology (2011)

D.V.M. Michigan State University

Susan Kuklin, Librarian (2007)

B.A. University of Arizona; M.L.S. Indiana University; J.D. University of Arizona

Melissa J. Laliberte Bouey, Mathematics (2017)

B.A.Ed., M.Ed. Arizona State University - Man

William J. Lang, English as a Second Language (2005)

B.S. Fontbonne College; M.A. City University of Hong Kong

Patrick J. Lawless, Building & Construction Technology (2011)

B.A. State University of New York; M.S. Long Island University

Rita L. Lennon, Massage Therapy (2016)

A.S. Pima Medical Institute

Luis A. León, Mathematics (2005)

B.A. University of Arizona; M.Ed. Northern Arizona University

Cori T. Leonetti, Biology (2017)

B.S. Suffolk University; M.S. Arizona State University - Main

Mickey Levendusky, Mathematics (1991)

B.A., B.A., M.A. University of Arizona

Sandra Ley, Librarian (2009)

B.A. University of San Diego; M.L.I.S. San Jose State University

Gregory J. Loumeau, Digital Arts (2013)

B.F.A. University of Arizona

Sylvia M. Loustaunau, Counselor (2013)

B.A. University of Arizona; M.Ed. Northern Arizona University

Cydnee Ludt, Biology (2008)

B.A., M.S. University of Arizona

Dr. Wade Lueck, Psychology (2010)

B.S., M.S., Ph.D. Brigham Young University

Diane C. Lussier, Mathematics (1999)

B.A., M.A. California State University-Fullerton

Steven A. Mackie, Biology (1997)

B.S. Arizona State University; M.S. University of Arizona

Jeanine M. Maine, Nursing (2016)

A.S. Pima Community College; B.S., M.S.N. Grand Canyon University

Jolene W. Marcelli, Nursing (2011)

B.S.N. University of North Dakota; M.S. University of Phoenix

Sarah A. Marcus, Dental Assisting Education (2006)

A.G.S. Pima Community College; B.S. University of Phoenix

Linda Marks, Paralegal (2009)

B.A. State University of New York; M.S. University of Phoenix

Erica A. Martin, Counselor (2012)

B.A. University of Arizona; M.Ed. Northern Arizona University

Mary Ann Martinez-Sanchez, Psychology (2015)

B.A. Duke University; M.A., Ph.D. University of Notre

Uvaldo M. Martinez, Counselor (1999)

A.A. Palomar Community College; B.B.A., M.A. National University

Molly McCloy, Writing (2009)

B.A. Evergreen State College; M.A. Northern Arizona University; M.F.A. The New School

Yolanda C. McCoy-Stokes, Nursing (2012)

B.S., M.S. Grand Canyon University

Dr. MaryKris McIlwaine, Sociology (2002)

B.S. Indiana University; M.A., Ph.D. University of Arizona

Dr. Gary E. Mechler, Astronomy (1984)

B.S. University of Pittsburgh; M.S., Ph.D. Case Western Reserve University

Kirk D. Mehtlan, Mathematics (2002)

B.A. Shippensburg University; M.Phil. University of Arizona

Dr. Jose Maria Menendez, Mathematics (2011)

B.S. Louisiana State University; M.S., Ph.D. Virginia Polytechnic Institute and State University

Sky G. Merten, Nursing (2015)

A.A.S. Pima Community College; B.A. University of Arizona; M.S. Grand Canyon University

Dr. Karie Meyers, Physics (2006)

B.A. Occidental College; M.S., Ph.D. University of Colorado

Jeffrey Miller, Respiratory Therapy (2009)

B.A. Northern Arizona University

John A. Miller, Business (1999)

B.S. University of Missouri; M.B.A. Florida State University; J.D. Widener University School of Law

Patricia Miller, Computer Software Applications (2003)

Microsoft Office User Special (MOUS) Certifications at Expert Level for Word, Excel, PowerPoint and Access; Undergraduate Courses, Pima Community College

Dr. Josie Milliken, Writing (2009)

B.A. Western Washington University; M.F.A. Arizona State University; Ph.D. University of Utah

Dr. Mary Minke, Mathematics (2013)

B.S. Colorado School of Mines; M.S., Ph.D. University of Arizona

Dr. Mark S. Moellenhoff, Mathematics (2012)

B.S., M.S. University of Missouri, Rolla; Ph.D. University of Alabama

Richard J. Montano, Counselor (2015)

B.S.Ed. University of Arizona; M.Ed. Northern Arizona University

Becky J. Moore, Librarian (1972)

B.A.Ed., M.Ed. University of Arizona

David A. Morales, Mathematics (2011)

B.S., M.S. University of Arizona

Rosa Morales, Social Services (2009)

B.S.W. University of Texas, El Paso; M.S.W. University of California, Los Angeles

Deborah Morrison, Reading (2002)

B.A.Ed., M.A. University of Arizona

Jonathan W. Mount, Welding (2017)

A.A.S. Cochise College

Dr. Randal H. Munsen, History (2004)

B.S. Minnesota State University; B.A., B.S., M.S. Mankato State University; M.A. Indiana University; Ed.D. University of Arizona

Dr. Timothy G. Murphy, Writing (2012)

B.A., M.A. University of Massachusetts; Ph.D. University of Arizona

Dr. Padma Nair, Chemistry (2008)

B.S. Rani Durgavati Vishwayidyalaya; M.S., Ph.D. University of Missouri

Dr. Mark A. Nelson, Music (2000)

B.A. Point Loma Nazarene University; L.T.C.L. Trinity College of Music; M.Ed. University of Vermont; M.M., D.M.A. Arizona State University

Dr. Jonathan Ng, Music (2015)

M.Mus. Rider University; D.Mus. Indiana University - Bloomington.

Dr. Bernard Ngovo, Reading (1996)

B.S.Ed. Cuttington University College; M.S.Ed. State University of New York-Albany; M.A., M.S.Ed., Ed.D. Northern Illinois University-DeKalb

Charles A. Nicholson III, Aviation Technology (2016)

B.S. Everglades University

Michael J. Nolan, Art (2012)

B.F.A., M.F.A. University of Arizona

Sarah O'Hara, Writing (1999)

B.S., M.A. California State University

Kelly O'Keefe, Health Information Technology (2014)

B.S., M.S. Western Illinois University

Dr. Steven Olson, Mathematics (2009)

B.A. Concordia College; Ph.D. University of Arizona

James G. Osborn, Engineering and Mathematics (1999)

B.S.Ed., B.S.M.E. University of Michigan; M.S. University of Idaho

Inoka Otero, Mathematics (2003)

B.A., M.S. University of Arizona

Bardo D. Padilla, Spanish (2004)

A.A. Arizona Western College; B.A., M.A. University of Arizona

Dr. Michael Parker, Humanities (2010)

B.A., M.A. Northern Arizona University; Ph.D. University of Arizona

Stacy D. Parker, Nursing (2016)

A.A.S. Pima Community College; B.S.N., M.S.N. Grand Canyon University

Dr. Maria Pereira, Astronomy and Physics (2014)

B.S. Imperial College of Science, Technology and Medicine (United Kingdom); M.S. University of Hawaii at Manoa; M.Phil., Ph.D. Columbia University

Dr. Taralynn W. Petrites, Sign Language (2004)

B.A. University of Arizona; M.A.Ed. University of Phoenix; Ph.D. Northcentral University

Laura A. Pieslewicz, Emergency Medical Technology (2015)

B.S. Kaplan University

Dr. Diann R. Porter, Mathematics (2006)

B.A., M.S., D.A. University of Illinois at Chicago

Dr. Mary M. Prasciunas, Archaeology (2016)

B.A. University of Arizona; M.A., Ph.D. University of Wyoming

Tanya M. Preusser, Counselor (2015)

B.A. University of Arizona; M.A. Midwestern State University

Susan M. Pritchett, Computer Aided Drafting (2001)

A.A.S. Pima Community College; A.A.S. Glendale Community College

Dr. Caroline Pyevich, Psychology (2008)

B.A. Illinois Wesleyan University; M.A., Ph.D. University of Tulsa

Dr. Michael Radloff, Education (2009)

B.S. Southern Illinois University; M.A. Chapman University; Ph.D. Capella University

Wright N. Randolph Jr., Emergency Medical Technology (2006)

A.G.S., A.A. Arizona Western College; Basic EMT Certificate, Paramedic Certificate Pima Community College

Dr. Liz Rangel Arriola, Spanish (2009)

B.A., M.A., Ph.D. University of Arizona

David Raymond, Aviation Technology (2008)

Technical Certificate, Pima Community College; B.S., M.S. Embry-Riddle Aeronautical University

Denise N. Reilly, Counselor (2016)

B.A.Ed. University of Arizona; M.Ed. Northern Arizona University

Dr. Dianna L. Repp, Anthropology (2008)

B.A. University of Arizona; M.A., Ph.D. Arizona State University

Renee Richard, Accounting (2013)

A.G.S., A.A.S. Pima Community College; B.S., M.S. University of Arizona

Donna L. Richards, Dental Hygiene (2010)

A.A.S. Union County College; B.S. The University of Medicine and Dentistry of New Jersey; M.Ed. The Pennsylvania State University

Theresa M. Riel, Mathematics (1996)

B.A., M.A. University of Arizona

Keith A. Rocci, Librarian (2015)

B.S. Arizona State University, M.A. University of Arizona; M.Ed. Northern Arizona University

Dr. Nahal Rodieck, Writing (2010)

B.A., M.A., Ph.D. University of Arizona

Monique A. Rodriguez, Librarian (2012)

B.A., M.A. University of Arizona

Elizabeth P. Rollins, Writing (2012)

B.A. Washington College; M.F.A. Goddard College

Anne Marie Rosales, Medical Laboratory Technician (2012)

B.S. University of Arizona

Eric Ross, Aviation Technology (2009)

Airframe Mechanic license, Powerplant Mechanic license Federal Aviation Administration

Dr. Carin Rubenstein, Psychology (2013)

B.A. Smith College; M.A., Ph.D. New York University

Dr. Steven J. Salmoni, Writing (2005)

B.A. Amherst College; M.A., Ph.D. State University of New York-Stony Brook

Dr. Maureen Salzer, Writing (2010)

B.A. State University of New York at Plattsburgh; M.A. Northeastern University; Ph.D. University of Arizona

Michael Sampogna, Physics (2008)

B.S. City College New York; M.S., M.S. Polytechnic University

Laura Sampson, Biology (2017)

B.S., M.S. University of Utah

Yvonne M. Sandoval, Mathematics (1992)

B.S. University of Southern Colorado; M.A. University of Arizona

Erich C. Saphir, Political Science (1997)

B.A. University of Delaware; M.A. Fordham University

Dr. Nancy Schmidt, Biology (2003)

A.B. Colgate University; M.S. University of Arizona; Ph.D. University of South Florida

Russell W. Schmidt, Respiratory Therapy (2013)

A.S. Pima Community College; B.S. University of Phoenix

Susi Schmidt, Pharmacy Technology (2009)

B.S. University of Arizona

Teddi G. Schnurr, Early Childhood Education (2013)

B.A. University of California - Irvine; M.S.W. University of Michigan; M.S. Northern Arizona University

Duke G. Schoonmaker, Biology (1992)

B.S. Northern Arizona University

Seth Schutte, Fitness and Sports Science (2015)

B.S., M.S. Montana Tech of the University of Montana

Dr. Kenneth T. Scott, Biology (2013)

A.S. Pima Community College; B.S. Anatomy; D.C. Parker College of Chiropractic

Kyley F. Segers, Mathematics (2012)

B.A., M.A.T. University of Florida

Dr. Thomas Selegue, Chemistry (2002)

B.S. Bowling Green State University; Ph.D. University of Illinois

Dr. Leta Sharp, Writing (2009)

B.A. McGill University; M.A. Northern Arizona University; Ph.D. University of Arizona

Trina A. Shartsis, Chemistry (2013)

B.S. Idaho State University; M.S. University of Nevada -Reno

Dr. Sandra Shattuck, Writing (2015)

B.A. University of Redlands; Ph.D. University of Texas at Austin

Dr. Alexander V. Shayevich, Engineering (2005)

M.S. Azerbaijan Institute of Oil and Chemistry; Ph.D. Moscow Institute of Oil and Gas

Mary F. Sibayan, Mathematics (1997)

B.A., M.S. University of Arizona; M.S.W. Arizona State University

DeLisa Y. Siddall, Counselor (2005)

B.A. John Jay College of Criminal Justice; M.A. Chapman University

Todd Slaney, Counselor (2014)

B.A. Northern Arizona University; M.A. University of Phoenix

Edward D. Smith, Mathematics (2000)

B.S. Central State University; M.S. Ohio University

Rosalia Solorzano, Sociology (1997)

M.A. University of Texas-El Paso; M.A. Webster University

Carolyn S. Sotelo, Dental Assisting Education (2013)

A.S. Westbrook College; B.S. University of Rhode Island; B.F.A. Otis College of Art and Design

Manuel Sotelo, Art (2014)

B.F.A. Otis College of Art and Design; M.B.A. University of Phoenix

Carlos D. Sotomayor, Counselor (2000)

A.G.S. Pima Community College; B.A. University of Arizona; M.A.Ed. University of Phoenix

Dr. Anthony T. Sovak, Writing (2012)

B.A. St. Thomas Aquinas College; Ph.D. State University of New York

Nancy Spaulding, Fashion Design & Clothing (2011)

B.S. University of Maine

Michael Stack, Art (2002)

B.F.A. University of Pennsylvania; M.F.A. State University of New York

Dr. Cal Stanley, Mathematics (2011)

B.S.Ed., M.S. University of Arizona; Ed.D. Pepperdine University

Dr. Theresa Stanley, Librarian (2008)

B.F.A., M.A. University of Arizona; Ed.D. Pepperdine University

David Stephenson, Automotive Technology (2003)

A.A.S. Pima Community College

Dr. Pamela Sulger, Psychology (2007)

A.A. Foothill College; B.A., M.A. San Jose State University; Ph.D. California Coast University

Dottie K. Sutherland, Hospitality, Travel and Tourism (1995)

B.A. Georgia State University; M.B.A. University of Arizona

Dr. Taliesin D. Sutton, Mathematics (2013)

B.A. University of Chicago; M.S., Ph.D. University of Wisconsin Madison

Kris Swank, Librarian (2001)

B.A. Dana College; M.L.S. University of Arizona; M.I.M. Thunderbird American Graduate School of International Management

Michael R. Talbot, Geography (1998)

B.S. Michigan State University; M.A. Western Michigan University

Dr. Karen K. Tam, Dental Hygiene (2005)

A.A.S. Phoenix College; B.A. University of Missouri-Columbia; M.S. University of Missouri-Kansas City; Ph.D. University of Arizona

Julie C. Tarr, Mathematics (1999)

B.S. Northern Kentucky University; M.A. Miami University; M.S. Louisiana State University

Hirotsune Tashima, Art (1999)

B.F.A. Osaka University of Arts; M.F.A. Alfred University

Leslie F. Taylor, German (1993)

B.A., M.A., M.A. University of Arizona

Christopher P. Theriot, Logistics and Supply Chain Management (2015)

B.S., M.Ed. Wayland Baptist University

Dr. Tatyana Thweatt, Speech (2015)

B.A. Simferopol' State University Ukraine; M.S., Ph.D. North Dakota State University

Marcos Trujillo, Sociology (2017)

B.S., M.A. Northern Arizona University

Michael S. Tveten, Biology (1992)

A.A., Lee College; B.S., M.S. Texas A. & M. University

Laura Van Etten, Writing (2007)

B.A., M.A. University of Montana

Dr. Tineke Van Zandt, Anthropology and Archaeology (2000)

A.B., Bryn Mawr College; M.A. University of Texas; Ph.D. University of Michigan

Juan A. Vinton, Mathematics (2010)

B.S. The University of Texas at San Antonio; M.S. University of Utah

Dr. Kenneth Vorndran, Writing (2001)

B.A. University of Delaware; M.A., Ph.D. University of Arizona

Robert L. Wakefield, Biology (2006)

B.A., M.A. California State University - Fullerton

Pamela A. Walter, Writing (1974)

A.B. Cedar Crest College; M.A. Seton Hall University; M.Ed. University of Arizona

Judith Watry, Writing (2002)

A.A. Pima Community College; B.A. Smith College; M.A. Northern Arizona University; M.A. Clark University

Skylar Webb, Automotive Technology (2015)

O.A. National Education Center-AZ Automotive

Dr. Lisa A. Werner, Biology (2000)

B.S., University of California-Davis; M.S., Ph.D. University of Arizona

Pollyanna Wikrent, Chemistry (2004)

B.S. University of Arizona; M.S. University of Illinois

Dr. Jennifer Wiley, Writing (2010)

B.A., M.A. San Diego State University; Ph.D. University of Arizona

David J. Williamson, Mathematics (2001)

B.S., M.A. University of Arizona

Julianna C. Wilson, History (1994)

B.A., M.A. University of Arizona

Claire Winkel, Mathematics (2008)

B.S., M.S. University of Illinois

Darryl Wong, Culinary Arts (2014)

Undergraduate Courses, University of Arizona

Dr. Megan Workman, Biology (2014)

B.A. University of Michigan - Ann Arbor; M.S., Ph.D. University of New Mexico

Margarita Youngo, History (1995)

B.A., M.A. University of Arizona

Dr. Jessica Zeitler, Spanish (2015)

B.A. Arizona State University; M.A. University of Arkansas at Fayetteville; Ph.D. University of Arizona

Dr. Charles Zhang, Mathematics (2000)

B.S. Harbin Institute of Technology; M.S. California State University; Ph.D. Duke University

Teresiana I. Zurita, Counselor (1999)

B.A., M.S. University of Arizona; M.C. University of Phoenix