Catalog 09-10

MESA COMMUNITY COLLEGE

480.461.7700 1.866.532.4983
www.mesacc.edu

STUDENT SUCCESS IS OUR PASSION. LET US HELP YOU FIND YOURS.

– Mesa Community College

I had my choice of anywhere I wanted to go for college and I'm glad I chose MCC. I think I learned a lot more here than I would have my first two years at a large university.

Rob Webb

Honors Student and 2008 Graduate
Associate in Science Degree

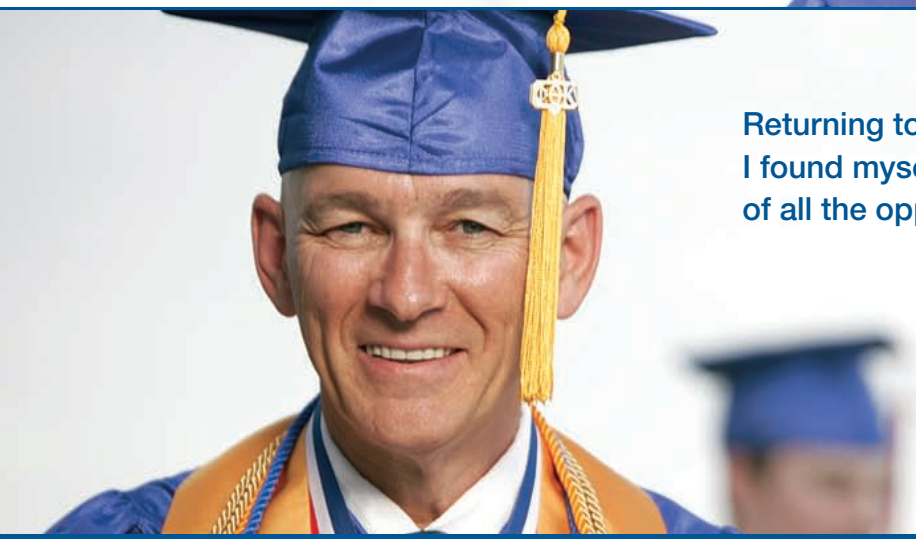
Member of Phi Theta Kappa

Start at MCC and figure out what you want to do. Your credits will transfer to almost any college you want to attend.

Sonya Hendricks

2008 Graduate
Associate in Applied Science Degree in Organizational Management,
Certificate of Completion in Project Management & Leadership

Graduated with Distinction



Returning to college after working for AT&T, I found myself more dedicated and took advantage of all the opportunities MCC had to offer.

Stephen Hill

Honors Student & 2008 Graduate
Associate in Business Management Degree

Graduated with High Distinction
Member of Phi Theta Kappa

Welcome to Mesa Community College

Thank you for choosing MCC to pursue your educational goals. I am proud of our national reputation for academic excellence and innovation. You will find that student success has and will continue to be our central focus.

We measure success by the degree to which we help change and improve students' lives. Since 1965, thousands of alumni have completed their studies here and are now successful leaders and professionals in their respective fields.

Each student comes to us with different needs and interests, so we offer a broad selection of general education and career and technical programs. Our highly-acclaimed honors and service learning programs greatly enhance teaching and learning.

As a comprehensive community college, we offer a wide range of student life and leadership opportunities to complement your classroom experiences. Programs such as student government and clubs are designed to help you develop leadership skills while getting involved in the life of the college.

In order to support your endeavors, we offer a wide variety of services – many of which are free of charge. Our diverse resources range from career services, counseling, and childcare to disability resources, veterans services and advisement. We also have a variety of financial aid and scholarship options.

I encourage you to become familiar with and utilize the many student resources available to you. Our faculty and staff are dedicated to the success of your educational goals. Whether you are a student planning to transfer to a university, preparing to enter the workforce or looking to recareer, we are here to support you.

Sincerely,

Shouan Pan, Ph.D.
President, Mesa Community College

WE MEASURE SUCCESS BY THE DEGREE TO WHICH WE HELP CHANGE AND IMPROVE STUDENTS' LIVES.

Getting Started at MCC

1. Set-up Online Student Account. Go to My.maricopa.edu

✔ Click **First Time Users Start Here** on my.maricopa.edu
✔ Follow instructions provided.

- **Login**
  ✔ Click **Login** on my.maricopa.edu
  ✔ Enter your **Maricopa Enterprise ID (MEID)**
  ✔ Enter **Password**
  ✔ Click **Sign in**
  ✔ Click **Student Center**

2. Complete a Student Information Form (application)

There are three ways you can do this:

- ***Online*** at **my.maricopa.edu**
- ***In-person:*** Fill out the Student Information Form and take it to the Admissions office at MCC Southern and Dobson Campus or to Enrollment Services at MCC Red Mountain Campus (7110 E. McKellips Rd., Mesa).
- ***By phone****:* call **480.461.7700** or **1.866.532.4983**.

3. Student Success Initiative: New-to-College Students

The Mesa Community College Student Success Program includes Placement Testing, Academic Advising, and Orientation. The Student Success Initiative is required if the following apply:

- You are "new-to-college" with no prior college credits earned
- You are enrolling in 12 or more credit hours
- You are seeking a degree, or intending to transfer to a university

Students who meet the conditions above must complete the prescribed experiences in steps 4, 5, and 9 also with an asterisk (*).

4. Take Placement Tests

You must take placement tests if you plan to enroll in English, math, reading, or English as a second language (ESL) classes.

***New-to-college students must complete all three (3) assessment tests (Reading, English, and Mathematics).**

Testing hours are:
Monday - Thursday: 8:00 AM, 11:00 AM, 2:00 PM, 5:00 PM
Friday: 11:00 AM and 2:00 PM
Testing hours may vary during semester breaks and summer.
For additional information, call **480.461.7336** or **480.654.7600,** or visit **www.mc.maricopa.edu/services/testing**

5. Meet With an Academic Advisor

Academic Advisors are available to assist you in educational goal planning, selection of appropriate coursework and guidance in the use of campus resources. You are encouraged to meet with an Academic Advisor and use the resources found on the Advisement Center web pages. For more information call **480.461.7222** at MCC Southern and Dobson Campus and **480.654.7600** at MCC Red Mountain Campus. Please visit: **www.mc.maricopa.edu/services/advisement/**

***New-to-college students must complete academic advising on campus, in-person or by phone.**

6. Register for Classes in Three Easy Ways

✔ **Online** – Visit **my.maricopa.edu**
✔ **In-Person** – In the Records Office at MCC Southern and Dobson Campus, or Enrollment Services at MCC Red Mountain Campus.
✔ **By Phone** – Call **480.461.7700** or **1.866.532.4983**. Be sure you meet the prerequisites for courses you want to register for by phone.

7. Pay Tuition and Fees

You can pay your tuition and fees or enroll in the payment plan online by visiting your student center at **www.my.maricopa.edu** under Finances>make a payment. Or pay by phone with your Visa, MasterCard, Discover Card, or American Express by calling **480.461.7400,** option #3.

Payments can be brought to Cashier Services at the MCC Southern and Dobson Campus or MCC Red Mountain Campus, or dropped in the specially marked dropbox at either campus.

8. Obtain Parking Decal and Student Identification Card

Please visit the Information Desk in the Kirk Student Center at MCC Southern and Dobson Campus or Enrollment Services at MCC Red Mountain Campus to get your Student ID. You will need your ID card to access library services, computer labs, fitness centers, tutoring, and other services at MCC. If you plan to park on campus, a parking decal can be obtained at the same locations. Please visit: **www.mc.maricopa.edu/students/life/**

9. Attend a New Student Orientation

New Student Orientation is a program that introduces students to resources needed to navigate through college. Information about student and academic resources, campus involvement, university transfer, career planning and preparation are included. New Student Orientations are held at the beginning of both the Fall and Spring semesters (August and January). Please visit our website at **www.mc.maricopa.edu/orientation**

***New-to-college students must enroll in and complete the New Student Orientation session.**

10. Tour Campus

For tours at the MCC Southern & Dobson and Red Mountain Campuses, please call Twee Cao at **480.654.7751.**

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History and Description of Mesa Community College

Mesa Community College is the largest of ten colleges that make up the Maricopa Community Colleges in the metropolitan Phoenix, Arizona area. The roots of the Maricopa Community Colleges originate with the opening of Phoenix Junior College in 1920 with an enrollment of 15 students. Phoenix Junior College was part of the Phoenix Union High School District. In 1960, the Arizona legislature passed laws that established county-wide junior college districts to be administered by the Arizona State Board of Directors for Junior Colleges and by governing boards elected by the public. Two years later, Arizona voters enthusiastically created the Maricopa County Junior College District to expand affordable college education throughout the 9200-square-mile district. To achieve this mission, the Maricopa governing board created three extensions of Phoenix College – one in northeast Phoenix, one in northwest Phoenix, and one in Mesa in an old church building at the corner of Main Street and Extension Road. In 1963, students began attending classes in the cramped quarters of the leased church building. Two years later, the Maricopa governing board transformed the Mesa extension of Phoenix College into Mesa Community College.

The change from "junior" college to "community" college is significant because it recognizes the growing and changing nature of our community's educational needs. The junior college model had focused on providing general education courses that students could transfer to universities and apply toward a baccalaureate degree. The broader community college model recognizes that citizens have a wide range of educational needs. While many do look to community colleges for general education courses, others seek career and technical training to improve their employment prospects or update skills they need in their current positions. Still other students come to the community college to seek lifelong learning opportunities for their own edification.

In the fall of 1966, Mesa Community College opened its 160-acre campus at the corner of Southern and Dobson Roads with four permanent buildings. As enrollment increased, temporary buildings housed classrooms and faculty offices and were eventually replaced by permanent buildings. Construction continues as MCC works to meet the needs of its growing community.

Our expansion has also taken us to different locations, including Downtown Center/Centennial Way and Williams Field. MCC has opened a second full-service campus – MCC at Red Mountain – in northeast Mesa at Power and McKellips Roads. This campus began at a site that formerly housed an extension of Rio Salado Community College, another of the Maricopa County Community College District (MCCCD) colleges. Three new buildings opened in fall 2001 at the MCC at Red Mountain campus. Designed to fit into their beautiful desert surroundings near Red Mountain, these buildings reflect a commitment to environmental issues at the MCC at Red Mountain campus. From those original 15 students enrolled at Phoenix Junior College, Maricopa Community Colleges now serve more than 250,000 students annually. Approximately 40% of all residents of Maricopa County have attended one or more of the Maricopa colleges. As the largest of those colleges, MCC remains dedicated to providing education of the highest quality at the most affordable cost and in the most convenient locations to the members of our community.

MCC Vision, Mission, and Values

VISION

Mesa Community College (MCC) will be a leader among community colleges, providing an innovative and intellectual learning-centered environment that is responsive, adaptable, and inclusive.

MISSION

The mission of Mesa Community College is to promote excellence in teaching and learning, preparing individuals for active citizenship in a diverse global society. The college is a community resource for transfer education, career preparation, developmental education, economic development, and continuous learning. Our ultimate purpose is to improve the quality of life in the community we serve.

VALUES

Our values are the principles, standards, and ideals that form the foundation for our actions. They are the things to which we, as a community of educators, ascribe worth – the things we treasure. Our values reveal what we strive for and give us our identity as a college.

Learning

Mesa Community College values learning and scholarship for our students, our employees, and the community. We value personal growth and provide access to diverse learning experiences in a supportive environment. We seek to continuously learn as an organization and to be responsive to our changing environment.

Excellence

Mesa Community College strives for excellence in all we do. We are committed to upholding high academic standards, to providing a quality educational environment, and to maintaining quality in all aspects of our work. We continuously seek avenues for improvement.

Inclusiveness
Mesa Community College values inclusiveness of people and ideas. We respect the dignity of each individual, expressed through fairness and just treatment for all. We value individual diversity and recognize the unique contributions of all individuals. We promote open communication and the free exchange of thoughts and ideas.

Community
Mesa Community College values a sense of community – both the community we serve and the community we create within. As students, faculty and staff, we have a civic responsibility to our community that is expressed through community involvement and volunteerism. We actively pursue collaborative partnerships with the community. We value our college community and encourage the engagement of all through participation, collaboration, and communication.

Accreditation

Mesa Community College is accredited by The Higher Learning Commission and a member of the North Central Association. Website: **www.ncahigherlearningcommission.org** Telephone: 312-263-0456

The Nursing Program is accredited by the National League for Nursing Accrediting Commission, 61 Broadway, 33rd Floor, New York, NY, 10006, and approved by the Arizona State Board of Nursing.

The MCC Evelyn H. Warren Child Development Lab and the MCC Children's Center are accredited by the National Association for the Education of Young Children (NAEYC).

The Mortuary Science Program is accredited by the American Board of Funeral Service Education, 38 Florida Avenue, Portland, ME, 04103, 207-878-6530, or online at **www.abfse.org.**

The Veterinary Technology/Animal Health Program is provisionally accredited by the American Veterinary Medical Association (all initial accreditations are provisional for five years).

The Interior Design Program (advanced certificate) is accredited by the Accreditation Commission of the Council for Interior Design Accreditation.

The Dental Hygiene and Dental Assisting Programs have Initial Accreditation through the American Dental Association's Commission on Dental Accreditation (CODA).

Assessment of Student Outcomes

Student outcomes assessment is a term used to describe the measurement and documentation of what MCC students are achieving in their studies at the college. Faculty members define the outcomes of college programs and develop measures to assess them. The program includes three primary assessment areas: general education, career and technical education, and developmental education. For students pursuing their general education studies at the college, seven areas are assessed: Written and Oral Communication, Arts and Humanities, Cultural Diversity, Information Literacy, Scientific Inquiry, Numeracy, and Problem Solving/Critical Thinking. The general education outcomes are assessed according to the following criteria:

Communication
1. Write a clear, well-organized paper using documentation and quantitative tools when appropriate.
2. Construct and deliver a clear, well-organized, verbal presentation.
3. Interact in a collaborative, synergistic manner within a small group.
4. Maintain an interpersonally effective climate within a one-to-one interchange.

Numeracy
1. Identify and extract relevant data from given mathematical situations.
2. Select known models or develop appropriate models that organize data into tables or spreadsheets, graphical representations, or symbolic/equation format.
3. Obtain correct mathematical results, and state those results with the qualifiers.
4. Use the results.

Problem Solving/Critical Thinking
1. Identify a problem or argument.
2. Isolate facts related to the problem.
3. Differentiate facts from opinions or emotional responses.
4. Ascertain the author's conclusion.
5. Generate multiple solutions to the problem.
6. Predict consequences.
7. Use evidence or sound reasoning to justify a position.

Scientific Inquiry
Demonstrate scientific inquiry skills related to:
1. Hypothesis: Distinguish between possible and improbable or impossible reasons for a problem.
2. Prediction: Distinguish between predictions that are logical or not logical based upon a problem presented.
3. Assumption: Recognize justifiable and necessary assumptions based on information presented.
4. Interpretation: Weigh evidence and decide if generalizations or conclusions based upon given data are warranted.
5. Evaluation: Distinguish between probable and improbable causes, possible and impossible reasons, and effective and ineffective action based on information presented.

Arts and Humanities

1. Demonstrate knowledge of human creations.
2. Demonstrate an awareness that different contexts and/or world views produce different human creations.
3. Demonstrate an understanding and awareness of the impact that a piece (artifact) has on the relationship and perspective of the audience.
4. Demonstrate an ability to evaluate human creations.

Information Literacy

1. Given a problem, define specific information needed to solve the problem or answer the question.
2. Locate appropriate and relevant information to match informational needs.
3. Identify and use appropriate print and/or electronic information sources.
4. Evaluate information for currency, relevancy, and reliability.
5. Use information effectively.

Cultural Diversity

1. Identify and explain diverse cultural customs, beliefs, traditions, and lifestyles.
2. Identify and explain major cultural, historical, and geographical issues that shape our perceptions.
3. Identify and explain social forces that can effect cultural change.
4. Identify biases, assumptions, and prejudices in multicultural interactions.
5. Identify ideologies, practices, and contributions that persons of diverse backgrounds bring to our multicultural world.

For students enrolled in a career or technical program, seven workplace skills are assessed: Ethics, Interpersonal Communication, Critical Thinking, Organization, Team Work, Technology Literacy, Personal and Professional Responsibilities. (See Career and Technical Programs for more information.)

Students enrolled in developmental education classes, which are designed to prepare students for college-level work, are assessed at the completion of the appropriate course sequence in English, mathematics, and reading. (See Academic Departments, Programs, and Services for more information)

For general education, the performance of groups of students who are beginning their general education program of studies is compared to that of groups who are completing general education. For career and technical programs, students who are beginning and completing specific programs leading to AAS degrees or certificates are assessed on their workplace skills. Assessments are conducted in selected classrooms during an annual spring Assessment Week. Students participating in below-100-level courses are assessed in the last of the course sequence.

Using a statistical sampling method, approximately 200 class sections are selected to participate in the assessments each spring during Assessment Week. Students enrolled in these classes are asked to take one of the assessments during one class period. Individual student scores are not reported, and a student's grade or class standing is not affected by his or her performance. It is important for students to make an honest effort to complete the assessments to the best of their ability so that the information collected is meaningful.

The Mesa Community College Student Outcomes Assessment Program provides clear evidence of student learning at the college. The assessment program has been in place for nine years.

Overall results show that completing students consistently have performed significantly better than beginning students in both general education and career and technical program assessments. When examining results across measures, students have the most difficulty with skills involving application and/or evaluation of knowledge or information.

Student participation in follow-up studies after graduation or transfer from MCC may also be requested. Students selected to participate should take seriously their participation in these assessments. The only cost to students is a small amount of time, and the benefits are improved programs and instruction. Any information obtained will be used solely in determining the effectiveness of programs and student learning and in ways that do not reflect personally on individual students.

The findings are published in an annual report each fall and are used by MCC faculty to document student success and to determine how programs can be improved. Summaries of results are posted on the assessment website: **www.mc.maricopa.edu/orp/assessment**

Community Partnerships with Mesa Community College

Mesa Community College values a sense of community – both the community we serve and the community we create within. As students, faculty and staff, we have a civic responsibility to our community that is expressed through community involvement and volunteerism. We actively pursue collaborative partnerships with the community. We value our college community and encourage the engagement of all through participation, collaboration, and communication.

ALUMNI

The MCC Alumni Association (MCCAA) is committed to serving and uniting alumni to promote the interests of MCC, its alumni, current and future students, and the community. The Office of Alumni Relations collaborates with members of the Association's board and other MCC departments to keep alumni apprised of campus and association news, provide fellowship and networking opportunities, recognize the accomplishments of MCC's alumni, and identify opportunities for alumni to reconnect with the college and get involved.

All students who earn an associate degree, certificate of completion, or complete 48 credit hours or more at MCC are considered alumni and members in the MCCAA.

Contact Alumni Relations at 480-461-7792 for additional information or visit **www.mc.maricopa.edu/alumni**

BUSINESS & INDUSTRY INSTITUTE

Mesa Community College's Business and Industry Institute (B&II) is located at the Downtown Center/145 N. Centennial Way, Fourth Floor, Mesa, 85201 (just east of the Mesa Public Library). Class offerings include training in network administration, database technologies, programming, fiber optic technologies, and organization and workplace skills. B&II programs are offered six days a week on a year-round basis.

The B&II offers degree and certificate programs for college credit through the Network Academy (NA). See Academic Departments, Programs, and Services for more information on these programs. B&II serves a diverse population of students by delivering courses that enable students to:

- Earn traditional college credit (offered as 16-week and short-term courses) through the Network Academy.
- Complete non-credit certification training in intensive one-week formats.
- Enjoy Internet-based delivery of credit and non-credit classes.

As MCC interfaces with the corporate community, B&II maintains the highest standards of education and certification preparation. With a track record of 15 years, B&II leads the way in creating world-class training solutions for individuals and corporations alike. This brings state-of-the-art technologies and current business models to B&II curricular offerings.

The B&II offers programs under the following major industry partnerships:

- Sun Microsystem Authorized Sun Education Center: Offering technology courses specific to Sun Microsystem products and services
- Cisco Networking Academy Teacher Training Center – Mountain States: Provides teacher training for Cisco Networking academies in Arizona, Colorado, New Mexico, and Utah
- Oracle Workforce Development Partner: Providing workforce training in Oracle products and services
- Sair Linux and GNU Systems
- Ascendant Systems – Security Certified Professional Training Center: Providing training and workshops in Network Security

Please call B&II Customer Service at 480-461-6100 or 1-866-886-6872, or visit **bii.mc.maricopa.edu**

CENTER FOR COMMUNITY EDUCATION

A wide array of non-credit classes, workshops, seminars, and employment preparation courses are offered through MCC's Center for Community Education. Classes are held at Mesa Community College campuses and on-line. The diverse curriculum is available to those who seek opportunities for cultural enrichment, intellectual growth, career and professional development, as well as hobbies and other special interests. These courses provide access to MCC's resources and facilities for those not enrolled in traditional credit carrying classes. Instructors are drawn throughout the East Valley, and provide contemporary content in an adult learning environment.

There are no entry requirements for Community Education classes beyond an individual's interest in a subject. There is no limit to the number of classes in which a person may enroll. Classes are published in the MCC non-credit schedule three times a year.

To receive a current schedule of non-credit classes, please call the Center for Community Education at 480-461-7493 or visit
www.mc.maricopa.edu/community/communityed/

CENTER FOR PUBLIC POLICY

Mesa Community College established the Center for Public Policy in 1992 to coordinate service-learning opportunities for students. Based on the efforts of the Center, MCC created the Center for Service-Learning in 2000 as an instructional department, and restructured the Center for Public Policy (CPP) to focus on community and governmental relations for the college, and to assist the college in building new community partnerships. Mesa Community Roundtable brings the City of Mesa, Mesa Public Schools, Mesa Chamber of Commerce, Mesa Community College, Mesa United Way, and ASU East together to discuss common concerns and potential collaboration.

East Valley Think Tank is a consortium of elementary, secondary, and post-secondary public educational institutions in eastern Maricopa County, which consult and collaborate on projects of mutual interest and concern.

The Center for Civic Participation is an effort of the Maricopa Colleges to enhance civic involvement through voter registration, discussion of issues, and civic education.

The Center for Public Policy is a community resource to address policy issues of concern to the college and its constituencies through forums, programs, and publications, and to interact on public issues on behalf of the college. **www.mc.maricopa.edu/organizations/community/cpp/**

Community partnerships with the Center for Public Policy include:

- Dwight Patterson Sports Academy to promote community, career, and economic development programs focusing on youth, education, and sports
- Changing Demographics Project to explore the implications for college programs and services of the dramatic increase in Latino population in the MCC service area
- Downtown Campus Initiative to assist a broad-based community coalition in exploring the feasibility of creating a new campus in downtown Mesa to serve the educational needs of Mesa's urban core

CENTER FOR SERVICE-LEARNING

The mission of the Center for Service-Learning is to promote excellence in teaching and learning through active service. We collaborate with the community, encourage servant leadership, promote personal growth and foster social responsibility.

The goals of The Center for Service-Learning are:

- To assist faculty with incorporating service-learning into their classes.
- To help students find appropriate placement sites for service-learning assignments or as a volunteer.
- To build working relationships with our community partners in developing reciprocal service opportunities for our students, faculty and staff.

Service-Learning opportunities are incorporated into many classes throughout the college. Interested students can also enroll in 1, 2, or 3-credit service-learning classes in any one of 25 or more academic disciplines and serve at their choice of over 300 community agencies. We also administer some special programs: AmeriCorps, America Reads and The President's Volunteer Service Awards. See the Center for Service-Learning for more information regarding these special programs. For more information, please call 480-461-7393 or visit our webpage at **www.mc.maricopa.edu/academics/servicelearning**

CHAIR ACADEMY

The mission of the Chair Academy is to promote and implement leading-edge leadership training programs to post-secondary leaders worldwide in order to advance academic and administrative leadership in an era of change.

Our Mission is...

to design and promote world-class training programs and services to advance academic and administrative leadership for post-secondary institutions world-wide in an era of change.

Our Vision is...

to advance academic and administrative leadership for post-secondary institutions globally.

Our Value Statement

We are committed to excellence and continuous improvement in providing training to organizational leaders while recognizing the needs and respecting the diversity of our clients.

For additional information about the Chair Academy programs and offerings, please visit **www.mesacc.edu/community/chair**

COMMUNITY COLLEGE NATIONAL CENTER FOR COMMUNITY ENGAGEMENT

The Community College National Center for Community Engagement (CCNCCE) is a leader in advancing programs and innovations that stimulate active participation of institutions in community engagement for the attainment of a vital citizenry. The Center serves community colleges and others in promoting and implementing service-learning and civic engagement as a means to improve teaching and learning to the ultimate benefit of students and the communities in which they live.

CCNCCE offers a complete battery of programs that provide human, financial, and academic resources primarily to community colleges that are endeavoring to develop, sustain, or improve service-learning and civic engagement programs on campuses throughout the US and its territories. Through on-site, statewide, regional, and national training and technical assistance offerings, and through direct grants to community colleges and their community partners,

CCNCCE works with thousands of community college administrators, students, and faculty to develop partnerships, service-learning courses, and many other activities to improve service-learning and civic engagement to create better communities and educational opportunities across the country. **www.mc.maricopa.edu/other/engagement**

CONTINUING EDUCATION FOR PRACTICING PROFESSIONALS

MCC provides continuing education opportunities to practicing professionals in a series of non-credit seminars available at the college. Opportunities to attain Continuing Education Units (CEU's) are currently available for practicing morticians and funeral personnel. Additional professional seminars are added to MCC's Continuing Education schedule as developed. Please call Continuing Education at 480-461-7493 for seminar availability.

DEVELOPMENT

Gifts to the college through cash, credit card, pledge, or bequests can be established for different types of scholarships or program support to benefit MCC students. Donors can designate specific criteria for scholarships, such as financial need, grade point average, academic performance, or area of interest.

Unrestricted gifts (no criteria attached) can be made to the Annual Gift Fund, which financially assists the college through scholarships for students demonstrating financial need or funding college initiatives outlined by the President and Development Advisory Council.

Gifts administered by the Maricopa Community Colleges Foundation, the College's 501 (c) (3) non-profit organization, are tax-deductible to the full extent allowed by law. The Maricopa Community Colleges Foundation receives and manages gifts from private donors for all of the Maricopa colleges.

For more information, contact the MCC Development Office at 480-461-7356 or visit
www.mesacc.edu/community/development

For more information on the Maricopa Community Colleges Foundation, please visit
www.dist.maricopa.edu/foundation/

MCC ONLINE

At MCC, the majority of distance-learning courses are offered via the Internet. Internet courses allow students to participate in class anytime from almost anywhere. While Internet courses often require more time and attention than classroom-based courses, they are ideal for students who are unable to come to campus. Internet courses cover the same material and have the same transfer values as courses offered on campus. Most courses require a text, some require special software, and some require lab work.

Unless specifically designated as an Open Entry/Self-Paced class, most MCC online learning courses adhere to a set schedule and are not self-paced. Contact the instructor to get more information about specific online learning classes.

A successful online learning student:

- Is willing and able to communicate through writing
- Is self-motivated and self-disciplined
- Seeks help and finds solutions when problems arise
- Spends 6 to 15 hours per week on each course
- Thinks critically and makes informed decisions
- Has access to a reliable computer and Internet connection
- Checks course email and website daily

It is difficult for students to do well in Internet courses if they register after the first day of classes. Register before the semester begins, and contact your instructor immediately. Information about Internet courses, how to register, how to get started, and how to contact your instructor is available on MCC's Online Learning website.
www.mc.maricopa.edu/distance

NEW FRONTIERS – SENIOR ADULT PROGRAM

Mesa Community College provides the opportunity for intellectual and cultural stimulation for people of retirement age through the college's lifelong learning programs.

New Frontiers for Lifelong Learning is a membership organization sponsored by MCC and affiliated with the EIN (Elderhostel Institute Network) and ALIROW (the Association of Learning in Retirement Organizations of the West). A wide selection of study groups, facilitated by New Frontier members, provides a limitless array of topics. The learning environment is lively and full of diversity, insight and wisdom.

Participants have the chance to explore new ideas and meet new people in a pleasant and informal atmosphere. Interactive study groups are held at Mesa Community College at Southern & Dobson, MCC at Red Mountain campus (Power and McKellips Roads) and other community locations.

In the fall and spring semesters, free lectures are offered on various afternoons at the college by MCC faculty and other speakers on a wide variety of topics. Please call 480-461-6251 for information about Senior Adult Programs at MCC. **www.newfrontiers-mesa.org**

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Academic Services/Learning Center	480-461-7678
Admissions Information	480-461-7600
Advisement and Transfer Services	480-461-7222
American Indian Center	480-461-7931
Athletic Department	480-461-7542
Bookstore	480-461-7225
Career/Re-Entry Services	480-461-7592
Cashier Services	480-461-7400
Center for Teaching and Learning	480-461-7331
Children's Center	480-461-7082
Community Education/Lifelong Learning	480-461-7493
Counseling	480-461-7588
Disability Resources and Services	480-461-7447
Enrollment Services at Red Mountain	480-654-7600
ESL Support Services	480-461-7898
Financial Aid	480-461-7441
Fitness Center	480-461-7555
Health Improvement Center	480-461-7556
Information - MCC at Red Mountain	480-654-7200
Information - MCC at Southern and Dobson	480-461-7000
International Education	480-461-7758
Library Reference Desk	480-461-7682
Lost and Found	480-461-7046
Multicultural Services	480-461-7453
Multi-Use Computer Lab	480-461-7098
Public Safety	480-461-7046
Records	480-461-7659
Registration	480-461-7700
Student Life and Leadership	480-461-7285
Testing Center Information	480-461-7336
Veterans' Services	480-461-7425
Writing Center	480-461-7513

ADVISEMENT AND TRANSFER SERVICES

Academic advisors assist students with educational goal planning, selection of appropriate coursework and guidance in the use of campus resources. The department also provides transfer information, resource materials, and appointments with visiting university representatives. New-to-college students must complete academic advising on campus, in-person or by phone. Continuing students are encouraged to meet with an advisor each semester.

For more information, please visit **www.mc.maricopa.edu/students/advisetransfer** or call **480-461-7222** at the Southern and Dobson campus and **480-654-7600** for Enrollment Services at the Red Mountain Campus.

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

ADMISSIONS AND RECRUITMENT OFFICE

The Office of Admissions and Recruitment provides informational services to students, processes applications for admission to the college and special programs, determines residency for tuition purposes, processes name changes, evaluates transcripts from other colleges and posts received transcripts, processes and verifies credit by exam and credit by evaluation, and assists students through the enrollment process. Call **480-461-7600** for more information.

College recruitment and outreach activities include high school visitation programs, campus tours, early outreach, MCC college preview days and participation in educational and career fairs. For more information, please call **480-654-7751.**

For student support services at our Red Mountain campus, contact Enrollment Services. The Office of Enrollment Services at Red Mountain provides students the opportunity to complete essential enrollment functions – admission, placement testing, academic advising, registration and tuition payment – all in a one-stop environment. Enrollment Services at Red Mountain also provides Specialized Student Services in the areas of: veteran's, financial aid, career & re-entry and disability resources. Call **480-654-7600** for more information or visit **www.mc.maricopa.edu/redmountain/**

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

ALUMNI RELATIONS

The MCC Alumni Association (MCCAA) is committed to serving and uniting alumni to promote the interests of MCC, its alumni, current and future students, and the community. The Office of Alumni Relations collaborates with members of the Association's board and other MCC departments to keep alumni apprised of campus and association news, provide fellowship and networking opportunities, recognize the accomplishments of MCC's alumni, and identify opportunities for alumni to reconnect with the college and get involved.

All students who earn an associate's degree, certificate of completion, or complete 48 credit hours or more at MCC are considered alumni and members of the MCCAA.

Contact Alumni Relations at **480-461-7792** for additional information or visit **www.mc.maricopa.edu/alumni**

AMERICAN INDIAN CENTER

The American Indian Center was established to address the needs of American Indian students and to serve as a resource on campus and within the community to promote inter-group awareness and understanding. The Center's personnel encourage a strong working relationship between Mesa Community College and tribal groups in order to minimize transition difficulties a student may encounter when leaving his/her home area.

Services provided include: academic advisement, educational planning, career advisement, enrollment, retention, club advisement, peer support, individual counseling, personal growth experiences, study groups, and participation in cultural events. The center will also aid in Tribal Scholarships. Support is offered to encourage students to complete associate's degree programs and also to continue to pursue higher educational goals.

For more information, call **480-461-7931** or visit **www.mc.maricopa.edu/students/AIC**

ASSESSMENT OF STUDENT OUTCOMES WITH STUDENT PARTICIPATION

Each spring during Assessment Week, groups of students are selected to participate in an assessment during a regular class period. Results do not affect students' standing in their course or their grade point average. Rather, overall results are used to document student learning and identify areas for program improvement. Students may also be asked to complete opinion surveys related to academic and student services. In addition, graduate and alumni surveys are gathered. Through student participation in these activities, the college is able to determine the effectiveness of a wide range of programs and services.

ATHLETICS

Intercollegiate Athletics at Mesa Community College (MCC) is an integral part of the total student experience. MCC is a member of the Arizona Community College Athletic Conference (ACCAC) and the National Junior College Athletic Association (NJCAA) **http://www.njcaa.org/**

Athletic eligibility and scholarships require that a student athlete have a high school transcript or G.E.D. on file in the Office of Student Records. Contact the Athletic Department for more information on non-high school graduates. A first-year participant must be enrolled as a full-time student (minimum of 12 credits) and maintain a 2.0 grade point average (G.P.A.). A second-year participant must be enrolled as a full-time student and have passed 24 credits with a 2.0 G.P.A. prior to the start of the second season.

A student athlete should contact the head coach or athletic director for additional information regarding eligibility and athletic scholarships. For information, call **480-461-7542**.

Women's athletics offers teams in eight intercollegiate sports: basketball, cross country, golf, soccer, softball, tennis, track and field, and volleyball. Women desiring to participate in a particular sport should contact the head coach of that sport.

Men's athletics offers eight intercollegiate sports: baseball, basketball, cross country, football, golf, soccer, tennis, and track and field. Men desiring to participate in a particular sport should contact the head coach of that sport.

ATTENDANCE

Only persons who are registered for a class at any of the Maricopa Community Colleges may attend that class. Attendance requirements are determined by the course instructor. Students who do not meet the attendance requirement as determined by the course instructor may be withdrawn. Students who fail to attend the first scheduled class meeting or to contact the instructor regarding absence before the first scheduled class meeting may be withdrawn at the option of the instructor. At the beginning of each course, the faculty member will provide students with written attendance requirements. It is the student's responsibility to consult with the instructor regarding official or unofficial absences. Absences begin to accumulate with the first scheduled class meeting. Students bear the responsibility of notifying the Office of Records/Registration or Enrollment Services at Red Mountain when they discontinue studies in a course or at the college. Please refer to Withdrawing from Classes for further information on this process.

Official absences are those which occur when students are involved in an official activity of the college (e.g., field trips, tournaments, athletic events) and present an official absence excuse form to the instructor. Absences for such events shall not count against the number of absences allowed by an instructor or department. Students who must miss a class for an official reason must obtain an official absence verification card from the Vice President for Student Affairs and present it to instructor(s) before the absence. Prior arrangements must be made with each instructor for make-up work. If prior arrangements have been made, the student will not be penalized.

Other official absences include jury duty and subpoenas. Related documentation will be required. Prior arrangements must be made with each instructor for make-up work. If prior arrangements have been made, the student will not be penalized.

In the event of the death of an immediate family member, absences for periods of up to one week will not be counted against the number of absences allowed by an instructor or department. Students should contact instructor(s) as soon as possible to arrange for make-up work. Related documentation will be required (for example, a copy of the obituary or funeral program). In specialized programs that require clinical rotations, this option may not apply.

Religious holidays provide students the right to observe major religious holidays without penalty or reprisal by any administrator, faculty member, or employee of the Maricopa Community Colleges. Absence for such holidays shall not count against the number of absences allowed by an instructor or department.

At least one week before the holiday, students shall submit to their instructor(s) a written statement which includes both the date of the religious holiday and the reason why class attendance is impossible. Prior arrangements must be made with each instructor for make-up work. If prior arrangements have been made, the student will not be penalized.

Class guests can be considered after consulting with your professor before you bring the visitor to class. Children (younger than 18) may not attend any class unless they are officially registered for the class. Children will not be allowed on campus unless participating in an authorized college program or under the supervision of an adult.

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

BOOKSTORE

The Bookstore carries everything to make the most of your college experience: used textbooks, school supplies, reference books, general reading books, MCC apparel and gifts, and academically priced software. Shop in-store and online at **www.mesa.bkstr.com**

The MCC Bookstores are Apple Authorized Dealers. Stop by for everyday student and faculty discounts on Apple computers and accessories (valid school ID required).

MCC Bookstore at Southern and Dobson **480-461-7225**
MCC Bookstore at Red Mountain **480-654-7696**

CAREER SERVICES

Career Services offers a variety of resources and assistance to those making decisions related to career and educational planning as well as employment and job searches. Services include computerized career guidance, a virtual Career Center at **www.mesacc.edu/students/career**, current labor market information, guidance on resume preparation, interviewing techniques, internship opportunities, and job search strategies. In addition, job listings are available online through the Maricopa Career Network at **http://www.mcmaricopa.jobing.com**

For more information on career services, call **480-461-7592** or visit **www.mesacc.edu/students/career**

CASHIER SERVICES/BURSAR OFFICE

The Cashier/Bursar Office is responsible for student billing and revenue collection. In addition to collecting and posting payments on students' accounts, the Cashier/Bursar Office oversees monthly tuition payment plans, financial aid refunds, and the collection of past due tuition. It is important for students to know their payment deadline dates and to familiarize themselves with the refund policy. The refund policy can be found by visiting **http://www.maricopa.edu/publicstewardship/governance/adminregs/studenys/2_2php#refund.** For additional information about services call **480-461-7400** or visit **http://www.mc.maricopa.edu/students/cashiers/index.html.**

CHILDREN'S CENTER

The Children's Center at Southern and Dobson provides quality child care for the children of MCC students and employees. The Center is licensed by the Arizona Department of Health Services to provide care for children three years (must be potty-trained) to twelve years of age. The Children's Center offers a variety of experiences in a fun environment for preschool and older children.

The center has a contract with the Department of Economic Security (DES) for students who are DES-eligible for child care subsidy. The Children's Center is accredited by the National Association for the Education of Young Children. For more information on child care services, call **480-461-7082** or visit **www.mc.maricopa.edu/children**

CLUBS AND ORGANIZATIONS

Clubs and organizations are set up to enhance the learning experience at Mesa Community College. Students may interact with peers at leadership programs, on educational field trips, during meetings, and at various other events.

Clubs are an important and vital component of the total educational experience. Students may participate in programs that enhance their occupational training or social activities and reflect special interests including cultural events, community service projects, and forums dealing with today's issues. Students may join a club at any time by contacting the listed advisor or signing up during club-sponsored events. For additional questions, please contact the Office of Student Life and Leadership at **480-461-7285** or for the Red Mountain campus call **480-654-7759**.

Active clubs are listed at **http://www.mc.maricopa.edu/students/life/clubs**

COMPUTER LAB FOR MULTI-USE

The multi-use computer lab requires that students must be currently enrolled in a computer-based class and have a current MCC ID card properly bar coded to access the lab. For more information please call **480-461-7098**. The Multi-Use Computer Lab is located just northeast of the clock tower in the center of campus.

Fall and Spring Hours:

Monday - Thursday	7:00 AM - 10:20 PM
Friday	7:00 AM - 8:20 PM
Saturday	7:00 AM - 4:20 PM

All computer lab equipment is available on a first-come-first-served basis.

1. Help us maintain a library-like atmosphere by keeping noise levels to a minimum.
2. Turn off beepers and cell phones. Hold quiet conversations.
3. Conserve paper and toner! Limit yourself to 10 copies of a document and refrain from printing large jobs, especially heavily graphical websites.
4. Don't bring any food or drinks into the lab. This includes leaving drinks on the tables and filing cabinets by the doors. Keep it all outside. No exceptions.
5. Please ask your guests to wait in the student lounge. Guests are not allowed in the lab. Only registered MCC students are permitted inside the lab. This includes children.
6. Online games or web-based chat rooms tend to be disruptive in a learning environment. Please refrain from using these resources on the computers.
7. Group projects need to be scheduled with computer lab if space is available.
8. Never install software on any of the computers.
9. Practice good desktop housekeeping. Close all programs you've opened. If you've changed the desktop, please put the settings back to the lab defaults when you leave.

COUNSELING

The Counseling Department offers students a variety of services to help them address personal, social, educational, and career concerns. Through the department's support and guidance, students are empowered to complete educational and personal endeavors successfully. Academic success, personal well-being, and emotional well-being are interrelated. Students are invited to take advantage of free, confidential services offered to help them achieve their full potential.

Students are best served through an appointment system to arrange for quality personalized sessions. In crises situations, no appointment is necessary.

Southern and Dobson Campus
Counseling Center
Building 36
480-461-7588

Red Mountain Campus
Palo Verde Building
Office 212
480-654-7210

Services provided by the Counseling Department include:

- Student Opportunities for Success Workshops (SOS)
- First-Year Experience Programs and Workshops
- Math Avoidance Reduction Activities
- Academic Counseling
- Career Counseling
- Academic and Behavioral Interventions
- Conflict Resolution
- Crisis Intervention
- Community Resource Counseling
- Substance Abuse Prevention
- Life Skills Coaching
- Individual and Group Counseling
- Classroom Instruction
- Personal counseling to enhance study experiences
- Volunteerism programs that create supportive relationships among students
- Special events, seminars, workshops, and programs to promote personal safety and well-being, and enhance peer support

DEVELOPMENTAL EDUCATION

MCC is committed to supporting and promoting student success in a variety of ways. Students who may not be prepared for college-level work can participate in developmental courses (those numbered below the 100-level) in mathematics, English, and reading. These courses are designed to provide students with the review or skills development needed to engage in college-level coursework.

Free tutoring is also available in mathematics, English, and reading. For specific details, contact the department in which you want to take developmental courses or the Academic Skills Center **480-461-7989.**

DISABILITY RESOURCES AND SERVICES

The Office of Disability Resources and Services (DRS) provide assistance to students with disabilities, including those with learning, physical, psychological, and other disabilities. Services include advisement, registration, academic accommodations, and coordination with campus and community services. For more information, call our Southern and Dobson campus at **480-461-7447** or fax **480-461-7907**. For DRS information at our Red Mountain campus, please call **480-654-7771**. **www.mc.maricopa.edu/services/disability**

Some of the services offered, depending upon individual need, include the following: scribes and note takers, interpreters, specialized adaptive equipment, emergency wheelchair loan, classroom aides, special testing arrangements, community referral, guidance advisement and registration assistance. To receive services and accommodations through Disability Resources and Services, students need to provide documentation stating a diagnosis or disability. This documentation must be obtained from a licensed psychologist, psychiatrist, or medical doctor and printed on official letterhead of that person's office. The documentation is submitted to Disability Resources and Services. The documentation is confidential and will be used for the sole purpose of determining which accommodations are appropriate. Please call **480-461-7447,** fax **480-461-7907,** or visit **www.mc.maricopa.edu/services/disability**

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

The Adaptive Lab, located on the first floor of the Paul A. Elsner Library on the Southern and Dobson campus, is a unit of the MCC Disability Resources & Services Department. The Lab provides ADA compliant computers for access to information and resources needed by students with disabilities. The area's equipment and software includes screen magnification on large screen monitors, voice recognition software, synthesized voice screen readers, software and equipment to convert text to electronic formats and Braille. In addition to the workstations in this lab, several workstations throughout the building have adjustable height workstations. Please call **480-461-7447** or fax **480-461-7907.**

Disability parking spaces are available and designated in all parking lots on campus. In addition, wider spaces for loading and unloading from vans are available in several parking lots. Please note that students with disabilities with a properly identified vehicle may park in any faculty or staff space as well as in those designated as handicapped areas. Special parking permits and information on location of special parking areas are available through Disability Resources and Services. Students whose impairments are not obvious may be required to provide substantiation from a physician of the need for disabled parking privileges. For more information, please visit **www.mc.maricopa.edu/services/disability/**

DISCIPLINARY STANDARDS

In developing responsible student conduct, the Maricopa Community Colleges prefer counseling, guidance, admonition, and example. However, when these means fail to resolve problems of student conduct and responsibility, appropriate disciplinary procedures will be followed. Misconduct for which students are subject to disciplinary action falls into the general areas of: cheating, plagiarism, excessive absences, actions or verbal statements that threaten the educational process, violation of Arizona laws and/or college regulations and policies, and inappropriate use of computer resources. In addition, a faculty member may remove a student from a class meeting for disciplinary reasons.

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

ESL SUPPORT SERVICES

ESL (English as a Second Language) Support Services provides informational services to prospective students who wish to enroll in ESL courses. The office assists students through the enrollment process by providing services for admission to the college, academic advisement, and course registration for ESL courses. ESL Support Services is located in the Administration Building #42 at the Southern and Dobson campus. Please call **480-461-7898** for additional information. For assistance in Spanish, please call **480-461-7455**.

FINANCIAL AID SERVICES

Students who are attending Mesa Community College and who meet the federal requirements of an eligible student for financial aid may apply for the following types of financial assistance: Grants, Loans, and Work-Study. To apply for financial aid, students must complete a FREE Application for Federal Student Aid available at **www.fafsa.ed.gov.** Please call **480-461-4441** or visit our website **www.mc.maricopa.edu/finaid**

Students receiving federal financial aid have specific requirements for academic progress that are applied differently than scholastic standards. Specific information is available at The Office of Student Financial Services.

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

GED EXAMS

(See Testing Center)

GRADUATION

Students must meet all requirements for graduation. Graduation requires a minimum grade point average. Some specific programs have higher grade requirements. It is the student's responsibility to be aware of these program requirements.

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

Graduation with Honors is possible when after all courses used to fulfill graduation requirements, including courses from other accredited institutions, are entered in the grade point average calculation. Students who have the following grade point average will graduate with the following designations:

3.5 to 3.69	With Distinction
3.70 to 3.89	With High Distinction
3.90 to 4.0	With Highest Distinction

GRIEVANCES

Instructional Grievance Process (AR. 2.3.5 & Appendix S-6) A student who feels that he or she has been treated unfairly or unjustly by a faculty member with regard to an academic process such as grading, testing, or assignments, has the right to appeal according to the approved procedures. The appeal process for grades expires one year from the date the grade was issued.

Non-Instructional (Outside the Classroom) Complaint Resolution Process A student who feels that he or she has been treated unfairly or unjustly by any employee with regard to a non-instructional process such as a student or administrative service, has the right to file a formal and written complaint according to the approved procedures.

Nondiscrimination Policy (AR 2.4.2) Maricopa will not discriminate, nor tolerate discrimination, against any applicant or employee because of race, color, religion, gender, sexual orientation, national origin, age, disability, or veteran status. Additionally, it is the policy of the Maricopa Community Colleges to provide an environment for each job applicant and employee that is free from sexual harassment, as well as harassment and intimidation on account of an individual's race, color, religion, gender, sexual orientation, national origin, age, disability, or veteran status. For complete policy and procedure see the MCC catalog, AR 2.4.2, 2.4.3, 2.4.4, & 5.1.8-17.

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section section AR 2.3.5 & Appendix S-6 of this catalog.

HEALTH IMPROVEMENT CENTER

The Health Improvement Center (HIC) at the Southern and Dobson campus is designed to provide equipment, instruction, and individualized exercise programs. The HIC offers extensive opportunities for weight training through the use of free weights and Cybex equipment. The HIC also provides personalized programs for physically challenged students. For more information, call the Health Improvement Center at **480-461-7556**.

HONORS

The Honors Program at Mesa Community College offers a unique and challenging educational opportunity for our gifted and talented students. Honors courses are offered in more than 20 curriculum areas on over 85 sections per semester. MCC's Honors Program provides an increasing opportunity for our students to participate in a challenging environment with small classes, one-on-one mentoring from faculty, and increased interaction with other gifted students.

The Honors Program provides funds to help defray the costs of attending college. The Presidential Scholarship currently provides funds to cover 15 credit hours of tuition per semester to the top 15% of the graduating class from any Maricopa County high school, for up to four consecutive semesters. This is an opportunity for recent high school graduates who are willing to make a commitment to their community and their own future.

Students with at least a 3.25 grade point average and 12 cumulative semester credit hours from the Maricopa Community Colleges may qualify for fee awards of up to $325.00 each semester. These students will be identified as Honors Students and will be eligible to take honors classes as long as they maintain a minimum 3.25 GPA.

A few other scholarships are distributed by the Honors Department.

The Honors Office is located in the Social/Cultural Science Building on the south end of the Southern and Dobson campus. Honors students may register for classes at this location. Call for the registration schedule at **480-461-7079**. The Honors Co-Coordinators are: Betsy Hertzler at **480-461-7583** and Doug Conway at **480-461-7067**. For more information visit our website at **www.mc.maricopa.edu/honors**

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

Phi Theta Kappa is the International Honor Society of the Two-Year Colleges.

"The purpose of Phi Theta Kappa shall be to recognize and encourage scholarship among two-year college students. To achieve this purpose, Phi Theta Kappa shall provide opportunity for the development of leadership and service, for an intellectual climate for exchange of ideas and ideals, for lively fellowship for scholars, and for stimulation of interest in continuing academic excellence.

Phi Theta Kappa's mission is two-fold: 1) recognize and encourage the academic achievement of two-year college students and (2) provide opportunities for individual growth and development through participation in honors, leadership, service and fellowship programming. For more information go to **www.PTK.org** or call **480-461-7393.**

HOUSING/LIVING ACCOMMODATIONS

Mesa Community College has no on-campus housing. All housing arrangements are the responsibility of the individual student. The Office of Student Life and Leadership provides a free housing directory of local apartments and also provides a listing of roommates. The Housing Guide and Directory are available only to current Mesa Community College students. To view the Housing Guide, please visit **www.mc.maricopa.edu/students/pdfs/housing_guide.pdf**

Students can also view current listings for rentals and roommates posted by other students. Listings are available in the Office of Student Life and Leadership in the Kirk Student Center at the Southern and Dobson location or in the Mesquite Building at the Red Mountain campus. For more information, please call **480-461-7285** or **480-654-7759** at the Red Mountain campus.

INTERNATIONAL EDUCATION

The mission of the International Education (IE) Office is to foster global understanding by providing support services and programming that enhance the international efforts of Mesa Community College. The IE Office offers services for international students and scholars, works with Education Abroad programs, provides cross-cultural training, and serves as a resource for campus international and intercultural initiatives. Please visit our website at: **http://www.mc.maricopa.edu/international/international**

The International Education Office provides the following services to all current and prospective students who need assistance: academic and immigration advising, English as a Second Language courses, health insurance, housing, on-campus employment, social security number, income tax filing, and university transfer. The office provides support to student clubs such as the International Students Association (ISA) and Asian-Pacific Islander Coalition (A.P.I.C.) and organizes cultural activities to enhance the cross-cultural understanding among the native and international students.

Education Abroad The International Education Office offers a variety of study abroad programs in different worldwide countries. These exciting programs are developed and led by our faculty, and provide a great opportunity to learn and travel at the same time. As a student, you can earn transferable college credit while living and experiencing a foreign culture. The Coordinator of study abroad is here to assist you from the application process, scholarship and financial aid, to departure. All programs require applications and have eligibility requirements. Those forms are available in the International Education Office, online under each program, or on our website at **http://www.mc.maricopa.edu/international/studyabroad/**. For additional information, please call **480-461-7753**, visit our office (Building 41), or contact us at **ie@mcmail.maricopa.edu**

LIBRARY AND HIGH TECHNOLOGY COMPLEX

The Paul A. Elsner and Red Mountain Libraries support research and learning activities on both campuses by providing full service libraries, computer commons, writing centers, and learning enhancement centers that provide tutoring services.

The library collections include print and electronic resources. Web-based resources include the Online Public Access Catalog, which lists the holdings of all college libraries in the Maricopa Community Colleges District, electronic books, numerous periodical and reference databases, and online reference assistance.

In-house reference services offer individual, personalized assistance, and classroom instruction in library research skills. Faculty librarians are available for consultation during the libraries' scheduled hours.

Materials may be checked out at the library circulation desk. Included are materials that instructors have placed on reserve for short-term circulation, interlibrary loan materials obtained from other libraries, and materials from various special collections. A valid student identification card is required for checking out materials. Loan periods vary from three weeks for general circulation materials to three-day, overnight, or one-hour use for reserve materials. For convenience, an outside book drop is available for returning materials when the Library is closed or during vacation periods.

Small group study rooms are available. The library's Southwest Studies Reading Room, located on the third floor of the Paul A. Elsner Library, houses the Southwest Collection and provides a peaceful and beautiful study space.

The Elsner Library also provides academic support for students using a variety of methods and technologies:

Computer work stations are available on both the first and the second floors of the Paul A. Elsner Library on the Dobson and Southern campus. In these work stations, students can access the Online Public Access Catalog (OPAC) which houses the collection of all Maricopa Community College Libraries as well as research data bases, the Internet, and college email.

Software is accessible on the first floor of the Paul A. Elsner Library, and it can support coursework. Students can find programs in Anthropology, ESL, Math, Nursing, Physics, Reading, Spanish, and other subjects.

Learning Enhancement Center (Tutoring and Other Academic Support Services)

The Learning Enhancement Center (LEC), located on the first floor of the Paul A. Elsner Library, provides free tutoring in most subjects and other academic support services to help MCC students succeed and excel in their coursework. The Learning Enhancement Center provides one-on-one and group tutoring with professional and peer tutors, study skill workshops, computer-assisted instruction, and study groups. Tutoring is available by appointment or on a drop-in basis at several locations, including the Elsner Library; the Music Building (Building 43); the Math/Science Learning Center/CSC Center (Building 7); the Physical Science Building Center (Building 8); and the PIRC Lab (Building 42) on additional tutoring and computer-assisted instruction for students taking Communication, English, English-as-a-Second-Language, and Reading courses below 100-level.

On the Red Mountain Campus, the Learning Enhancement Center is located on the first floor of the Desert Willow Building. For LEC information at Red Mountain, call **480-654-7735.**

Evening and Saturday hours are available at some locations. Online tutoring in mathematics and some world languages is also available from the Online Tutoring link on our webpage. Students are invited to explore the LEC website and learn more about our services. Hours of operation are posted at each location and on the website.

Students who wish to use tutoring services or ask questions about tutoring are welcome to stop by the Learning Enhancement Center. To pose a question by email, they can go to the Ask a Tutor link on our website.

For more information on services, call **480-461-7678** or visit **www.mc.maricopa.edu/library/LE**

LOST AND FOUND

(See College Safety)

MEDIA SERVICES

Media Services is located in the north wing of the Academic Support Building. The center provides video and DVD copies of theater productions, lectures, special events and some class materials for students for a fee. In addition, students may view programs from the academic video collection in the library. Titles of available videos can be obtained from the library on-line public catalog.

If media equipment is needed for a student presentation in the classroom, your instructor must request an AV equipment delivery from the Media Center. This equipment includes, but is not limited to, VHS/DVD players, computers, display devices, flip charts, overhead projectors and audio equipment. To order equipment, your instructor must call **480-461-7678** at the Southern and Dobson Campus, or **480-654-7705** at the Red Mountain Campus at least 24 hours before your class presentation. Both centers are open from 7:00 a.m. to 10:00 p.m. Monday through Thursday and 7:00 a.m. to 4:00 p.m. on Friday.

MULTICULTURAL AND STUDENT SUPPORT SERVICES

The Multicultural Services office works collaboratively with other support services, academic departments and community groups to provide retention services and programs for historically under-represented groups. The department provides such services as academic advisement, individual education plans, mentoring, leadership training, and cultural events. For more information call **480-461-7453** or visit **www.mc.maricopa.edu/services/multicultural**

PARKING

(See College Safety Department and/or Disability Resources)

Parking permits may be obtained in the Office of Student Life and Leadership located in the Kirk Center or Enrollment Services at the Red Mountain campus. For your convenience, the parking permit form can also be downloaded from the Student Life website at **www.mc.maricopa.edu/students/life/pdfs/permit.pdf** prior to your visit to campus. Completed form must be submitted to The Office of Student Life and Leadership in the Kirk Student Center or Enrollment Services at the Red Mountain campus. A student must have their enrollment verified and produce a valid photo ID, such as a valid driver's license or other school ID. There is no charge for the permit.

PETITIONS

The guidelines and approval to circulate petitions may be obtained in the Office of Student Life and Leadership in the Kirk Center or in the Mesquite Building at the Red Mountain campus. Reservation form and information can be found on the Student Life website at **www.mc.maricopa.edu/students/life** or call **480-461-7285.**

PUBLIC SAFETY DEPARTMENT

The Public Safety Department facilitates the college mission of promoting excellence in teaching and learning by providing a safe and secure campus environment.

In compliance with federal law, MCC Public Safety compiles and reports annual crime statistics to the US Department of Education. Those statistics are available at any time from our office or may be accessed on our website at **www.mc.maricopa.edu/collegesafety**

Public Safety is staffed by state-accredited police officers and civilian security personnel. The office is open 24 hours a day, seven days a week. All emergency matters should be directed to the Public Safety Department. For assistance in an emergency, call **480-461-7777** at MCC at Southern and Dobson, or **480-654-7444** for MCC at Red Mountain.

Proper identification may be requested by authorized public safety personnel, should the need arise. Students failing or refusing to identify themselves properly:

- Will be asked to leave the campus (if conduct or behavior warrants such action)
- Will be reported to the Dean of Student Affairs

Securing personal property, including motor vehicles, bicycles, mopeds, and motorcycles is the student's responsibility. Mesa Community College assumes no responsibility for damage to a motor vehicle or for any loss while vehicles are parked or operated on or near the campus. Motorcycles and mopeds can be parked only on crossbars. Bicycles must be parked in existing bike racks only. Mopeds, bicycles, and/or motorcycles that are found chained or affixed to trees, buildings, or light posts are subject to removal. They will be secured in the Public Safety Office. Owners will be responsible for the cost of the lock or chain cut.

Firearms, explosives, knives, or instruments that can be considered dangerous weapons are prohibited on campus. Only certified police officers are permitted to carry firearms on campus. All persons desiring to bring firearms to campus for classroom demonstrations or any other academic reason are required to obtain permission first from the Public Safety Office and bring them to the Public Safety Office for examination prior to the demonstration.

Alcohol and illegal drugs are prohibited on campus.

Smoking is permitted in authorized areas only. Students failing to follow the smoking regulation after an appropriate warning will be reported to the Dean of Student Affairs.

Any accidents on campus should be reported to the Public Safety Office. Students can obtain an accident report from the Public Safety Office.

Security escorts are provided to and from parking lots when requested.

Minor vehicle assistance such as dead batteries, is rendered to motorists with disabled cars.

Lost and Found is located in the Public Safety Office. Lost and found items and inquiries should be directed to this office. MCC Public Safety is located at the west end of the Social/Cultural Science Building at the Southern and Dobson campus, and in the Ironwood Building at MCC at Red Mountain.

The campuses are normally closed between 11:00 PM and 6:00 AM daily. The Public Safety Office should be notified of any planned activity during those hours.

College traffic/parking regulations are under the jurisdiction of the college administration. Regulations apply to all members of the college community.

- Maximum speed limit on campus is 15 miles per hour.
- Students, faculty, and staff members who operate motor vehicles on campus must register their vehicles with the Public Safety Office or Student Services and display a decal in accordance with current regulations. Registration is free of charge. Employees must register their vehicles in the Personnel Office. Decals remain in effect for five years from the semester of issue.
- Stop signs, pavement arrows, right-turn-only signs, and other traffic control devices must be observed and complied with. Vehicles must stop at marked crosswalks to yield to pedestrian traffic within the crosswalks.
- Persons driving on campus must follow directions given by Public Safety officers and furnish student or other identification when requested.
- Vehicles may be parked only in those spaces designated for their particular type of sticker.
  - Students may park in any marked parking space except those marked Employee, Handicapped, Maintenance, No Parking, or with a yellow or red curb.
  - Faculty and staff may park in any marked space including those marked Employee, but not in those marked Handicapped, No Parking, Maintenance, or with a red or yellow curb.
  - Persons having a Handicapped sticker on their vehicle may use any marked space on the campus, including those marked Handicapped. Vehicles having a Handicapped permit may not park on red curbs.
  - No vehicle other than an emergency vehicle may be parked along red curbs or in striped areas. These are fire hazard and safety zones, and violators may be towed away without warning.
  - No vehicle may be parked in driveways where signs indicate No Parking or in a place not specifically marked for parking.
  - Visitors may use visitor parking or any student parking space on a temporary basis.
  - Backing into angled parking places is not permitted.
  - Skateboards, roller skates, rollerblades, and other similar devices shall not be ridden on the campus.
  - Vehicles parked on campus for longer than 72 hours will be towed at the owner's expense.

For more information on MCC parking and traffic policies, visit **www.dist.maricopa.edu/gvpolicy/adminregs/students/**

Vehicle registration Each student who owns or drives a motor vehicle on campus is required to register it and any others that may be parked on campus. Students who purchase or trade a vehicle after the regular registration period must register the new vehicle immediately, obtain a new decal, and notify Public Safety of the sale of the former vehicle. Temporary parking decals are available in the Public Safety Office for rented or borrowed vehicles.

Violation of these regulations may result in a citation and fine. In the case of unsafe and/or repeated parking violations, vehicles may be towed at the owner's expense. All monetary fines shall be paid to the college cashier in the Fiscal Office. Payment may be made in person or by mail. Failure to pay or adjudicate a citation within 15 working days of issue date will result in the fine being doubled. In order to insure due process, fines may be appealed to the hearing officer in the Public Safety Office at MCC at Southern and Dobson campus.

Students with unpaid fines will not be able to obtain their transcripts or register for classes. Unpaid fines may be collected via the Arizona Department of Revenue Debt Setoff Program and/or sent to a collection agency. Citations will be enforced for both students and employees. MCC assumes no responsibility for damage to a motor vehicle or for any loss while vehicles are parked or operated on or near the campus.

For more information, visit
www.mc.maricopa.edu/other/publicsafety/

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

RECORDS AND REGISTRATION

The Office of Records and Registration maintains the official college transcripts for all students, coordinates and assists in the registration process, provides enrollment verification, determines graduation eligibility, establishes student athletic eligibility, and implements the probation and extended probation provision of the academic standards policies. For more information, call **480-461-7659** or visit **www.mc.maricopa.edu/services/records_registration**

Transcripts are issued upon written request only. Students who wish to transfer to other institutions of higher education, including other Maricopa Community Colleges, must request their transcripts be sent from the Records Office. Mesa Community College (MCC) will not automatically send transcripts, nor will a university request them for the student. It is recommended that the student maintain an unofficial copy of their transcripts for their records. There is no fee for an unofficial transcript. A $5.00 fee is required for all official transcripts. Transcripts will be sent upon verification of payment by Cashier Services.

Payment Options

- Pay the fee at the Cashier's Office on campus, building 42 cash, check, money order, credit card or debit card.
- Pay online when processing your online request (credit card or debit card).
- Mail a check or money order payable to Mesa Community College with your written and signed request.
- Call the Cashier's Office and pay over the phone 480-461-7400 (credit card or debit card).

There are Four Ways to Request Transcripts

1. my.maricopa.edu
2. In Person: Go to the Cashier's Office and fill out the transcript request form. You must have a photo ID to request an official or unofficial transcript.
3. United States Postal Service (Mail):
   Mesa Community College Records Office
   Attn. Transcripts
   1833 West Southern Ave.
   Mesa, AZ 85202
   Mail a written and signed request or transcript request form, including full name, social security number, date of birth, telephone number, dates of attendance at MCC, official or unofficial transcript request, name and address of institution where the transcript needs to be sent, sign and date the letter, $5.00 fee. You may pay by check, credit card or money order.
4. FAX: Fax # 480-461-7255. Be sure to include all the same information as in the mailed request.

Official transcripts will not be issued to students having outstanding debts to any of the Maricopa Community Colleges. For further information, visit
www.mc.maricopa.edu/services/records_registration

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

RE-ENTRY SERVICES

Re-Entry Services offers support services to assist nontraditional returning students with the registration process, academic planning, career planning, and adjustment to campus life. Re-entry advisement is available by appointment. For more information, call **480-461-7592** or visit **www.mesacc.edu/students/reentry**

REFUNDS

Students who officially withdraw from credit classes within the withdrawal deadlines will receive 100% refund for tuition, class and registration processing fees. It is the student's responsibility to know and adhere to payment deadlines for each class. Payment due dates vary by class. A student may view their due dates online in the Student Services Center found at **www.my.maricopa.edu.**

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

SCHOLARSHIPS

Mesa Community College offers a variety of scholarships for new and continuing students. Scholarships are not linked to financial aid and require separate applications. Information, applications, resources, and helpful hints for scholarships are available in the Student Financial Services Office, which is located in the Student Services Village in the center of campus on the east side of building 37. Also visit **www.mc.maricopa.edu/finaid/**

Additional scholarships are available at several departments on campus. In addition, private community organizations and Native American Tribes offer scholarships.

The Maricopa Colleges Foundation scholarship application can be accessed online at
www.dist.maricopa.edu/foundation/

SERVICE-LEARNING

The Center for Service-Learning provides students with educational opportunities in community service through placement in non-profit organizations, government agencies, educational entities, civic organizations, and citizen advocacy groups. The Center also helps identify community needs by building partnerships with the community, as well as providing assistance to faculty who are interested in developing service-learning components in their courses.

Service-learning opportunities, which integrate community service with academic curriculum, are part of many courses throughout the college. Interested students can also enroll in a 1, 2, or 3-credit independent, open-entry/open-exit service-learning class in any one of 28 different academic departments and serve their choice of over 300+ community partners. These individualized courses require a commitment of 50 contact hours per credit, reflection activities, and other course requirements.

Before enrolling in a service-learning class, students must receive the required orientation and submit an application to the Center for Service-Learning. For more information, call **480-461-7393** or visit **www.mc.maricopa.edu/services/servicelearning/**

SMOKE-FREE POLICY

Smoking at all MCC campuses is restricted to designated locations only. Smoking is not allowed on walkways or any other common areas. For more information visit **ohs@mcmail.maricopa.edu** or **http://www.mc.maricopa.employees/programs/smoking.html**

STUDENT ACTIVITIES AND EVENTS

College activities are an important part of any student's college experience, regardless of age or background. These activities provide an opportunity for students to interact socially, develop leadership skills, and gain greater understanding of other cultures.

Student Life and Leadership All MCC students are welcome to participate in the diverse activities offered on campus during the year. MCC activities appeal to a variety of interests from theatre to student clubs. It is not unusual during the year to hear free live music performed on campus, explore different cultures during the various cultural days, or enjoy social activities at either MCC campus. Membership in some organizations is competitive; others by invitation, but the majority are open to any student who is interested. Students interested in becoming a part of any MCC activity may visit the Office of Student Life in the Kirk Student Center at MCC at Southern and Dobson, or in the Mesquite Building at MCC at Red Mountain campus, where a comprehensive listing is available. Services include: housing information, student identification cards, student health insurance information, volunteer projects, parking permits, bus schedules, child care information, food service, and general information.

For more information about services offered by The Office of Student Life and Leadership, please visit **www.mc.maricopa.edu/students/life**

Leadership Opportunities The Office of Student Life and Leadership offers various opportunities for leadership development for currently enrolled MCC students. Opportunities include a variety of one day, weekend and week long leadership retreats and programs. For more information, contact The Office of Student Life and Leadership in the Kirk Student Center or the Mesquite Building at the Red Mountain campus. Information on various leadership training opportunities can also be found at **www.mc.maricopa.edu/students/life/opp** or call **480-461-7285.**

Student Government (ASMCC) The student body elects the Associated Students of MCC (ASMCC) Executive Board each spring. The ASMCC officers work to serve the needs and interests of MCC students by promoting and maintaining a democratic form of government. Commissioners are appointed by the Executive Board and together form the ASMCC Cabinet. ASMCC strives to work with faculty, staff, students, and administration to accomplish this goal. ASMCC represents the student body on various college committees. They also plan activities to meet the intellectual and social needs of MCC students.

The ASMCC Senate includes the ASMCC Cabinet and a voting representative from each recognized active MCC club. The Senate meets biweekly, and all MCC students are invited to attend. Please call the Office of Student Life and Leadership for more details at **480-461-7285** for MCC at Southern and Dobson, or **480-654-7759** for MCC at Red Mountain. The ASMCC office is located in the Office of Student Life and Leadership in the Kirk Student Center.

To participate or get more information, please call **480-461-7278** or visit **www.mc.maricopa.edu/students/life/asmcc**

Dance In the MCC Dance Program, a student can choose from a variety of one-credit dance movement classes such as Ballet, Ballet Folklorico, Tap, Jazz, Modern, Hip Hop, Belly Dancing, Salsa, Swing, Tango, West African, and Scottish Highland dance. MCC also offers three-credit dance humanities lecture courses, such as Introduction to Dance and World Dance Perspectives. Choreography and Dance for Children classes are also available for three credits as lecture/movement classes. The MCC Dance Program gives experienced dance students an opportunity to perform in a formal dance production each semester. Non-audition classes are Dance Performance and Tap Dance Performance. Membership in the MCC Dance Company is by audition and requires Tuesday/Thursday 12:00-3:00 PM rehearsals. For more information, please contact Tina Rangel at **480-461-7597**, or email **trangel@mail.mc.maricopa.edu**

Music Opportunities for the pursuit of musical interest may be found in the A Cappella Choir, Madrigal Singers, Music Theatre Orchestra and Vocal Chamber Workshop, Instrumental Ensembles, Band and Jazz Ensemble. Recitals, competitions, and public appearances are made by vocal and instrumental soloists. Any MCC student is eligible for admission through audition. Consult the college schedule, or call the Music Department Office for audition dates at **480-461-7577**.

Intercollegiate sports at Mesa Community College are an integral part of the total student activity program. MCC is a member of the Arizona Community College Athletic Conference (ACCAC) and the National Junior College Athletic Association (NJCAA). The thirteen colleges that participate in the conference are: Arizona Western, Yuma; Central Arizona, Coolidge; Cochise, Douglas; Chandler-Gilbert Community College, Chandler; Eastern Arizona, Thatcher; Glendale Community College, Glendale; Mesa Community College, Mesa; Paradise Valley Community College, Phoenix; Phoenix Community College, Phoenix; Pima Community College, Tucson; Scottsdale Community College, Scottsdale; South Mountain Community College, Phoenix; Yavapai, Prescott; and Northland Pioneer, Holbrook.

Students desiring to participate in athletics should contact the head coach or the athletic director prior to the start of the season. Student athletes must conform to the eligibility rules established by the NJCAA, ACCAC, and the Maricopa Community Colleges.

The men's athletic program includes:
Fall: Basketball, Cross Country, Football, Soccer
Spring: Baseball, Golf, Tennis, Track/Field

The women's athletic program includes:
Fall: Basketball, Cross Country, Volleyball, Soccer
Spring: Softball, Tennis, Track/Field, Golf

Please visit **www.mc.maricopa.edu/services/athletics/**

STUDENT IDENTIFICATION (ID) CARD

All new students will be provided identification cards upon registration at no charge, with verification of enrollment and a valid photo ID, such as a driver's license or another school ID. This is a permanent MCC ID that provides access to college services and activities. Replacements will be provided for a $5.00 fee. Student IDs are available at the Office of Student Life and Leadership, located in the Kirk Center or in Enrollment Services at the Red Mountain campus. For information about Student ID cards, please call **480-461-7285** or **480-654-7600** at the Red Mountain campus.

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

STUDENT INSURANCE

Every registered MCC student who is enrolled in an approved credit and/or non-credit class or is engaged in school-sponsored, supervised, approved, and calendared activities in a college of the Maricopa County Community Colleges District is covered during the policy term. This plan applies only to college-related accidents. The student is automatically insured, and the cost is covered in the campus activity fee. Information on filing a claim, detailed brochures, and medical insurance information is available in the lobby of the Kirk Student Center and from the Dean of Student Affairs office located on the top floor of the Kirk Student Center at MCC at Southern and Dobson or in the Office of Student Life and Leadership in the Mesquite Building at the Red Mountain campus.

MCC students are also eligible to purchase an injury and sickness insurance plan for themselves and their family. Brochures can be obtained in the Office of Student Life in the Kirk Student Center or in the Mesquite Building at the Red Mountain campus. You can also view the brochure or enroll online at **www.renstudent.com/mcccd**. For more information, please call **480-461-7285** or **480-654-7759** at the Red Mountain campus.

TECHNOLOGY SUPPORT

Technology support services are available to students, faculty, and staff for technology related questions and assistance. Technology Support Services staff members assist students with use of their college email accounts. Students and employees are encouraged to call Technology Support Services if they have questions or need help with:

- Creating their email account
- Using their email account
- Resetting email passwords
- Configuration of email clients
- Sending/receiving/reading email not related to other ISPs (Internet Service Provider)
- Accessing the MCC website
- General questions about email
- Browser usage

Assistance is available via the Internet on the Technology Support Services website at **www.mc.maricopa.edu/its/tss** or by email at **tss@mcmail.maricopa.edu** or by phone at **480-461-7217**.

TESTING CENTER/PLACEMENT TESTING

Placement testing is required for students enrolling in English, English as a second language (ESL), math and reading courses. Placement testing is recommended for students enrolling in more than seven (7) credit hours, or concurrently enrolled in high school and college at the same time. Placement testing is offered at both our Southern and Dobson and Red Mountain campuses. Allow two hours for New Student Placement Testing Photo ID is required for all testing services. Sample questions are available at our website: **www.mc.maricopa.edu/testing**

The Placement Test Block Series is given at set times at both MCC at Southern and Dobson and MCC at Red Mountain:

Monday - Thursday	8:00 AM, 11:00 AM, 2:00 PM, 5:00 PM
Friday	11:00 AM, 2:00 PM

Arrive 15 minutes early, and allow 2 hours for the test series.

Bring a photo ID and a pencil to the testing center, Building 38A at the Dobson and Southern campus or Mesquite Building at the Red Mountain campus.

Students are required to submit a Student Information Form for admission before taking the placement test. The application can be completed online at **my.maricopa.edu**.

Red Mountain	480-654-7600
Southern and Dobson	480-461-7336

New-to-college students must complete all three (3) assessment tests (Reading, English, and Mathematics).

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

GED pre-registration for the High School Equivalency Test is available at MCC at Southern and Dobson Monday through Thursday from 8:00 AM to 6:00 PM. The High School Equivalency exam is administered by appointment only. This is a community service available to anyone who is 16 years of age or older. Persons under 18 years of age require additional documentation. Photo identification is required and a fee is charged. The GED exam is available in English, Spanish, and large print editions. Special accommodations may be approved for people with physical and learning disabilities. The GED Testing Center is located at the Dobson and Southern location, building 38A on the east side of campus. Certificates of Equivalency are issued by the State Department of Public Education. Please call **480-461-7480** for more information.

Student make-up exams are available for students who miss an exam due to illness, schedule conflicts, personal circumstances, or the need for special accommodations. Students should work with their instructors to see if this is a viable option and to make arrangements to use this service.

Photo identification is required for make-up exams. Exams can be taken:

Monday-Thursday	8:00 AM – 6:00 PM
Friday	10:00 AM – 4:00 PM

Private testing rooms, visual enlargers, and other services are available for students with special needs.

THEATRE ARTS

Several dramatic productions are staged at MCC during the year. Auditions for each production are open to all students in the college, whether or not they are enrolled in theatre classes. Audition dates and times will be posted around the Theatre Outback at the south end of campus and are also available through the Theatre Office and web page. Production rehearsals are usually held in the evenings, although some afternoon rehearsals may be required. All rehearsals are at the discretion of the director. Students interested in working on productions (acting, stage construction, lighting, costuming, make-up, etc.) should contact the Theatre Office at **480-461-7170** or the Director at the time of the auditions.

The Stagedoor Players is the student theatre club at MCC. It is devoted to developing, promoting, and publicizing the theatre events at the college. Membership is attained by working on the Theatre Department productions. All students are invited to participate. For more information, call Lyn Dutson, Kara Thomson, or Marisa Estrada in the Theatre Department or visit **www.mc.maricopa.edu/dept/d55/thp/**

To watch a variety of MCC plays, season tickets are available. Regular ticket prices are:

MCC students	$7.00
Seniors	$8.00
Faculty/Staff	$10.00
General Public	$12.00

Children under 5 not allowed

TRAVEL FOR STUDENTS

As a college-sanctioned activity, students participating in group travel are required to abide by set policies and procedures. Some of the regulations for students on college-sponsored trips are listed below. All participating students will be required to adhere to established policies and procedures.

- Participants must complete all required college travel forms before taking a college-sponsored trip and in some cases attend required orientations. Please contact the Office of Student Life and Leadership for required forms.
- All students officially representing the college are required to travel to and from the travel site with the college group to which they belong.
- The registered occupants of hotel rooms are financially responsible for any damage or theft that occurs in their respective rooms. Such occupants are also responsible for charges against their room, such as telephone calls, internet services, etc.

- All attendees are required to participate in each activity listed on the daily agenda. No deviations to the schedule will be made by students without the approval of their advisor(s).
- Participants are expected to conduct themselves in a manner which:
  - Reflects positively on themselves, the club/organization/team, the college, and the district
  - Reflects commitment to integrity in personal, social, and academic involvements
  - Is respectful of others and worthy of respect from others
- The use of non-prescription drugs and/or alcohol is strictly forbidden according to the policies of the MCCCD. Students are expected not only to refrain from consumption of alcohol and/or drugs, but also to actively discourage others from consumption of these substances.
- Any student violating these travel regulations and/or the student code of conduct may be sent home and may be required to reimburse the college for the full cost of the trip and may result in disciplinary action.

Additional information on student travel is available from the Office of Student Life and Leadership and the Dean of Student Affairs.

TUTORING

(See Library and High Technology Complex)

VETERANS' SERVICES

The Veterans' Services office assists qualified students with veteran/dependant educational benefits. Veterans' benefits are available to veterans and children or spouses of deceased or 100% permanently disabled veterans. To secure benefits, the student must apply through the Veterans, Services office.

The Veterans' Services office provides one-stop enrollment service. A veteran/dependant of a veteran has an opportunity to receive academic advisement, course registration, and assistance with financial aid. Please visit our office and complete the veterans'/dependant packet today. For more information call MCC at Southern and Dobson **480-461-7425** or MCC at Red Mountain **480-654-7600**. **www.mc.maricopa.edu/veterans**

For more information published by the Maricopa Community College District on this topic, please see the "MCCCD Policies and Procedures" section of this catalog.

THE WRITING CENTER

The Writing Center provides free tutoring by faculty for any class-related writing assignment and offers one credit classes in spelling, vocabulary improvement, grammar, and mechanics. Students can also use computers and word processing software. The Writing Center, located on the ground floor of the Paul A. Elsner library, is open from 8:00 AM to 8:00 PM, Monday through Thursday, and from 8:00 AM to 4:00 PM on Friday. Appointments are required for tutoring; no appointments are needed to use the computers, which are available on a first-come/first-served basis.

For more information or to schedule an appointment, call **480-461-7513** or visit **www.mc.maricopa.edu/dept/d13/eng/Writcter/WritingCenter.htm**

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At MCC, you can choose from a wide variety of academic disciplines and career/technical programs to pursue your educational and professional goals. This section gives you an overview of the many departments and programs available at MCC to support you in reaching your goals. Departments and programs are listed alphabetically.

Contact Phone Numbers

ADMINISTRATION

Dr. Shouan Pan, President 480-461-7300
Dr. James Mabry – Vice President of Academic Affairs 480-461-7325
Mr. Kurt Conover – Vice President of Administrative Services (Acting) 480-461-7410
Dr. Patricia Cardenas-Adame – Vice President of Student Affairs. 480-461-7104
Dr. Rodney Holmes – Provost (Acting). 480-461-6229
Ms. Carol Achs – Dean of Instruction 480-461-7742
Dr. Shereen Lerner – Dean of Instruction (Acting) 480-461-7306
Mr. Lawrence D. Thacker – Dean of Instruction 480-461-7124
Ms. Jo Wilson – Dean of Instruction, Red Mountain 480-654-7700
Ms. Joni Grover – Dean of Student Affairs, Red Mountain 480-654-7702
Dr. Sonya Pearson – Dean of Student Affairs. 480-461-7932
Ms. Kathleen Perales – Dean of Student Affairs 480-461-7932

Administration of Justice Studies

Ellyn Ness, Chairperson: 480-461-7050
Building SC 14
www.mc.maricopa.edu/dept/d52/ajs/

The Administration of Justice programs prepare students for careers in all phases of criminal justice. Students can choose from a variety of courses and programs in:

- Administration of Justice Studies
- Police Science
- Judicial Studies
- Victimology
- Forensic Investigation
- Legal Studies

For specific degree and certificate requirements, see **Career and Technical Programs**.

Advisement

Students who plan to major in any of the justice studies programs are strongly encouraged to meet with an AJS advisor. AJS advisors are familiar with career-entry requirements and can guide students in making appropriate decisions concerning the correct course of study.

All residential faculty in the AJS program actively participate in faculty advisement for AJS majors. Students may contact the AJS Program office at 480-471-7080 or email ajs@mcmail.maricopa.edu to schedule an advisement appointment or request a packet of information.

Carrying Concealed Weapon (CCW) Class

AJS151 Firearms I is offered for those interested in obtaining a concealed weapon permit or who would like to attend an introductory course on firearm safety and use. Classes are offered on weekends (all day Saturday and Sunday) with qualifying held at local firearm ranges. The course carries one college credit and is more affordably priced than other similar classes offered in the community.

Note: The class is open to all students 18 or older, but you must be at least 21 years old to be eligible for the CCW permit.

Internships

Options for hands-on learning and experiences in the field are available through the internship program.

African-American Studies

Mona Scott, Acting Chairperson: 480-461-7060
Building SC 14

African-American Studies is one of the disciplines within the Cultural Science Department. Courses offered include:

AFR110	Introduction to African-American Studies
AFR202	Ethnic Relations in the United States
AFR203	African-American History: The Slavery Experience
AFR204	African-American History: Reconstruction to the Present

Agriculture

Suean Stewart, Program Director of Agriculture: 480-461-7125
Building TC 50
http://mc.maricopa.edu/dept2/agribusiness/

The Agriculture program prepares students for careers in all phases of agricultural and horticultural production and management. Students can choose from a variety of courses and programs in:

- Agribusiness
- Pest Management
- Urban Horticulture

For specific details about these programs, see **Career and Technical Programs.**

While less than 5% of jobs in agriculture are farming, there are many career options in agriculture and horticulture across the US and internationally. Further, there are many opportunities for independent business owners in these fields as well as opportunities with local, state, and federal government agencies.

As part of the Agriculture and Technology Department, the program maintains labs and equipment to provide both knowledge and hands-on skills. There is a five-acre land laboratory on the southeast corner of the MCC at Southern and Dobson campus, which includes a greenhouse, shade house, animal shelter, citrus orchard, deciduous fruit orchard, grape vineyard, experimental turf plots, putting green, AZMET weather station, and a crop field. Laboratory facilities include a soils lab, tissue culture lab, and computer lab for use by agriculture students.

The program supports student success in several ways. Students can schedule one hour per week free tutoring in one or more courses. Each student works with faculty to write an individual education plan laying out semester-by-semester coursework. Students are tracked through graduation and beyond, and faculty advise students who wish to transfer to university programs.

The Horticulture program is sanctioned by the Arizona Landscape Contractors' Association, the Arizona Nursery Association, and the Arizona Federation of Garden Clubs.

The industry members provide internship opportunities.

Horticulture students take an annual southern California tour in spring, funded by plant sales and other fundraising opportunities. Students design and install landscaping projects on campus including water features in the Student Advisement area. Students also assist with career-related events at ASU Polytechnic.

The Arizona Nursery Association, the Arizona Landscape Contractors' Association, and the Arizona Federation of Garden Clubs provide scholarships to support MCC students. Contact the program office for applications and details.

American Indian Studies

Mona Scott, Acting Chairperson: 480-461-7060
Building SC 14

American Indian Studies is one of the disciplines within the Cultural Science Department. Courses offered include:

AIS101	Survey of American Indian Issues
AIS110	Navajo Government
AIS140	American Indian History
AIS141	Sovereign Indian Nations
AIS213	American Indian Religious

American Sign Language

See World Languages

Anthropology

Mona Scott, Acting Chairperson: 480-461-7060
Building SC 14
www.mc.maricopa.edu/dept/d10/asb

Anthropology includes archaeology, biological anthropology, forensics, cultural anthropology, and linguistics. Anthropology faculty and students are engaged in the active use of technology in the classroom, service-learning and internships, field trips, guest speakers, educational visits to schools, field work, and study abroad and international programs. In addition to traditional anthropology course offerings, we have courses in forensics, museum study, field archaeology and laboratory methods.

Academic advisement for students planning to major in anthropology is provided by anthropology faculty.

If You Plan to Major in Anthropology

Anthropology prepares students for excellent jobs and opens doors to various career paths: the course of study provides global information and thinking skills critical to succeeding in the 21st century in business, research, teaching, advocacy, and public service. Anthropologists are strongly represented in every aspect of the academic, public, non-profit, and corporate sectors (e.g., research institutes, museums, international business, corporate research, health, and cultural resource management). Many positions in these fields are open to people with BA degrees.

The three public Arizona universities all require the following courses for the anthropology major:

ASB102	Introduction to Cultural and Social Anthropology
ASM104	Bones, Stones, and Human Evolution
ASB222	Buried Cities and Lost Tribes: Old World
	OR
ASB223	Buried Cities and Lost Tribes: New World

Depending on the university you plan to transfer to, the following courses may also be recommended:

ASB202	Ethnic Minorities in the United States
ASB211	Women in Other Cultures
ASB214	Magic, Witchcraft, and Healing: An Introduction to Comparative Religion
ASB 220	Anthropology Goes to the Movies
ASB230	Principles of Archaeology
ASB231	Archeological Field Methods
ASB245	Indians of the Southwest
ASB252	Anthropology of Sport
ASM265	Laboratory Methods in Archaeology
ASM 275	Introduction to Forensic Anthropology

Arabic

See World Languages

Architecture

Janice Pierson, Chairperson: 480-461-7724
Merzhad Khorsandi, Program Director: 480-461-7257
Building TC 50
www.mc.maricopa.edu/dept2/architecture/

Mesa Community College offers three tracks of study as part of the AAS degree in Architecture along with five certificates. The three tracks are Design, Drafting, and Urban Development. The five certificates are: Computer Aided Design & Drafting (CADD: Level I), Architecture Residential Drafting (CADD: Level II), Architecture Commercial Drafting (CADD: Level II), Architectural Detailing (CADD: Level III), and Architectural CADD (CADD: Level III). All student advising is conducted by the faculty in the program area during faculty office hours or by appointment. All three tracks are transferable to ASU East with many courses transferable to the Architecture program at ASU Main. The program is committed to student success and offers the following lab services to support student learning.

1. TC102 is a multi-station combination drafting and computer lab for courses such as Intro to Environmental Design, Design Foundation, and Residential & Commercial Drafting. Coursework includes manual architectural drafting for residential and commercial application, building construction methods, materials, and equipment, and survey of design through historical evaluation of built environments and the works of well-known architects. Open lab hours are posted.
2. TC108 is a multi-use computer lab used mainly for various computer-aided design and drafting courses utilizing software that is current within the architecture and construction industry. Open lab hours are posted.

Internship and service learning courses are available to students who are interested in getting training in the architecture and construction industry. Students can gain work experience in private or public firms and agencies toward achieving their professional goals.

For specific details about this program, see **Career and Technical Programs.**

Art

Sarah Capawana, Chairperson: 480-461-7524
Building AC 30
www.mc.maricopa.edu/dept/d04/art

The mission of the Art Department is to support a learning environment that encourages visual literacy, promotes the aesthetics of cultural diversity, enhances the quality of life, and provides our students with the opportunity to develop the skills and techniques necessary to be successful in the field of art.

The Art Department offers courses and programs in:

- Art (ART)
- Art History (ARH)
- Digital Arts (ART and MMT)

The Art Department hosts a variety of annual activities for our students and the public. Our Student Art Exhibition showcases more than 200 student artworks. The art faculty display their work every fall semester in the Faculty Art Exhibition. Empty Bowls is an annual fundraiser organized by ceramics faculty and students, which raises money for local food banks. Workshops and lectures are presented by visiting artists.

The Art Department reserves the right to use artwork produced by students for promotional purposes.

If You Plan to Major in Art

It is recommended that students planning to transfer as art majors to a four-year college or university take a planned set of courses leading to an Associate in Arts, Fine Arts. The AA-FA is a general degree that includes special requirements enabling art majors to graduate from MCC after earning 63 credit hours. The basic studio art courses required for most art majors planning to transfer to a four-year institution include:

ARH101	Prehistoric Through Gothic Art
ARH102	Renaissance Through Contemporary Art
ART111	Drawing 1
ART112	Two Dimensional Design
ART113	Color
ART115	Three Dimensional Design

Students planning to specialize or major in the following areas of art should take the following classes in addition to the foundation courses:
Ceramics – Ceramics I
Photography – Photography I
Painting – Painting I
Art Education – Painting I and Photography I
Art History – ARH101 and ARH102

Please consult an academic advisor and a college or university catalog to assure compliance with the specific requirements of the institution where you want to transfer.

The Art Department offers the Associate of Applied Science (AAS) and Certificate of Completion (CCL) in the following areas of specialty:

- Digital Photography
- Digital Illustration
- Graphic Design
- Web Design

See **Career and Technical Programs** for more information on the Digital Arts degree.

Our Art programs are continually updated. Please check our website at: **www.mc.maricopa.edu/dept/d04/art** for the most recent information.

Astronomy

Mike Sims, Chairperson: 480-461-7015
Building PS
www.mc.maricopa.edu/dept/d43/ast/index.html

Astronomy is one of the disciplines of the Physical Science Department. For more information on the department, see **Physical Science.**

Astronomy classes appeal to those who are considering majoring in one of the physical sciences or who simply want to expand their knowledge in this field.

If You Plan to Major in Astronomy

Public Arizona universities offer baccalaureate programs to those who wish to major in astronomy:

NAU	BS	Astronomy
NAU	Merged BS	Physics and Astronomy
UA	BS	Astronomy
ASU	BS	Earth and Space Exploration
ASU	BS	Physics with Astronomy Emphasis

These universities require or accept the following courses for astronomy majors:

MAT231	Calculus with Analytic Geometry II
MAT241	Calculus with Analytic Geometry III
PHY121	University Physics I
PHY131	University Physics II

Automated Manufacturing

See Electromechanical Automation or Manufacturing

Automotive Performance

Joe Rauscher, Program Director:
480-461-7136
Building TC 50
http://mc.maricopa.edu/dept2/automotive/

Automotive Performance is designed to prepare students to be automotive technicians. Emphasis is placed on developing good diagnostic skills. Graduates will possess a minimum of entry level skills. Graduates will be able to pass the national ASE Certification Tests upon completion of the coursework. This will supply the graduate with marketable skills to enter the job market. The program is designed to provide "hands-on" experience in a "live" working environment similar to the service industry. In addition to the degree program, five certificate programs are also available. These include: Engine Performance and Diagnosis, Air Conditioning, Brakes, Alignment, Suspension and Steering, Transmissions and Power Trains, and Automotive Electrical Systems.

For specific details about this program, see **Career and Technical Programs.**

Biology

See Life Science

Business and Information Systems

Dr. Linda D. Collins, Chairperson: 480-461-7077
Building BP 43A
www.mc.maricopa.edu/dept/d07/

The emphasis of Business and Information Systems is to provide quality academic coursework, for competency and application-based learning utilizing state-of-the-art technologies to prepare students with marketable skills that are responsive to the current needs of a variety of workplace settings, and to prepare students to transfer to a four-year university.

The Business area of the department offers courses in:
- Accounting (ACC)
- Entrepreneurial Studies
- General Business (GBS)
- Hotel and Restaurant Management (HRM)
- International Business (IBS)
- Management (MGT)
- Marketing (MKT)
- Real Estate (REA)
- Total Quality Management (TQM)
- Small Business Management (SBS)

The department also offers courses in Computer Information Systems (CIS), Business and Personal Computers (BPC), Fashion Merchandising and Design (TEC), and Office Automation Systems (OAS). See **Computer Information Systems, Fashion Merchandising and Design, and Network Academy** for details on these courses.

Please see **Network Academy** for information on courses, certificates, and degrees in network administration and security. For additional information on the Network Academy, visit bii.mc.maricopa.edu

Faculty advisement is available by appointment and drop-in. Faculty advisors are also available in the Multiuse Lab in BA1S the week prior to classes starting each semester.

The department has computer labs available for student use at the following campuses:

MCC at Southern and Dobson Multi-use Lab (BA1S)
Just north of the Clock Tower
Operating hours during the Fall and Spring semesters are:

Monday through Thursday	7:00 AM – 10:20 PM
Friday	7:00 AM – 8:20 PM
Saturday	7:00 AM – 4:20 PM

Hours vary during holidays and summer. For holiday and summer hours, please visit the lab for current information. All labs are closed on Sunday.

MCC at Red Mountain Library/Information Commons, Second Floor

Operating hours during the Fall and Spring semesters are:

Monday through Thursday	7:30 AM – 9:30 PM
Friday	7:30 AM – 5:00 PM
Saturday	10:00 AM – 2:00 PM

Business and Personal Computers

See Computer Information Systems

Chemistry

Mike Sims, Chairperson: 480-461-7015
Building PS 8
www.mc.maricopa.edu/dept/d43/chm/

Chemistry is one of the disciplines in the Physical Science Department. For more information, see **Physical Science.**

Chemistry courses are offered for those who want to fulfill their general education requirements, pursue healthcare and scientific majors, and expand their knowledge of this field.

If You Plan to Major in Chemistry

The three public Arizona universities offer a variety of baccalaureate programs for students who wish to major in chemistry:

ASU	BA	Chemistry
ASU	BS	Chemistry
ASU	BSC	Chemistry: Biochemistry Emphasis
ASU	BS	Biochemistry
NAU	BS	Chemistry
NAU	BS	Chemistry (with emphases)
NAU	BS	Environmental Chemistry
NAU	BS	Geochemistry
UA	BA	Chemistry*
UA	BS	Chemistry

*May be satisfied by an Associate in Science (AS) pathway. See **Associate Degrees and Certificate Programs** for more information.

These universities all require or accept the following courses for chemistry majors:

MAT220	Analytic Geometry and Calculus I
	OR
MAT221	Calculus with Analytic Geometry I
MAT220	Analytic Geometry and Calculus II
	OR
MAT231	Calculus with Analytic Geometry II
CHM151 and CHM151LL	General Chemistry I and lab

CHM152 and CHM152LL	General Chemistry II and lab
	OR
CHM235 and CHM235LL	General Organic Chemistry I and lab AND
CHM236 and CHM236LL	General Organic Chemistry IIA and lab
	OR
PHY121	University Physics I
PHY131	University Physics II

Chicana/Chicano Studies

Mona Scott, Acting Chairperson: 480-461-7060
Building SC 14

Chicana/Chicano Studies is one of the disciplines within the Cultural Science Department. Courses offered include:

CCS101	Chicana and Chicano Studies
CCS111	Introduction to Chicana and Chicano Culture
CCS211	Chicano Culture and Health

Child and Family Studies

See Education Studies

Chinese

See World Languages

Communication

Susan Olson, Chairperson: 480-461-7793
Building AC 30
www.mc.maricopa.edu/dept/d55/com/

Communication skills are essential to initial job placement and promotion. Presentational, interpersonal, and teamwork skills top the list of competencies employers desire in their workforce. The study of Communication builds positive relationships with clients, patients, and customers as well as family and friends.

Communication faculty are dedicated teaching professionals with backgrounds in business management, business consulting, performance, rhetoric, and teaming. They use the latest technology and instructional methods to bring their students quality instruction in theory and practice.

Due to the sophistication of the concepts and the textbooks used, students enrolling in courses numbered 100 or above should have placement scores that would place them into ENG101 and CRE101. Students must also satisfy course prerequisites.

The department is committed to student success, and faculty members are available for one-on-one assistance and advisement.

The department also offers courses designed for English Language Learners (ELL). An informal lab is available for students enrolled in COM080 Conversation Circles, COM120 Pronunciation of American Speech, and COM221 Oral Fluency in American Speech. Students can work with software that helps fine tune their production of American English sounds.

The department offers a course entitled Basic Oral Communication Skills to prepare developmental students to be more successful in the courses numbered 100-level and above.

Certificates

Speech Communication offers three certificates in Communication:

- Communication Skills for Non-Native English Speakers
- Oral Communication Fluency for Non-Native English Speakers
- Communication Competence in the Workplace

The Communication Department is affiliated with the National Communication Association, the Arizona Communication Association as well as Sigma Chi Eta, the undergraduate honor society for Communication majors.

The department sponsors symposiums featuring Careers in Communication, during which communication professionals speak to majors on pathways to careers in Communication. In addition, the Communication Activities program includes an intramural speech contest each semester entitled The Big Speak Out. In this contest, students from the various public speaking classes compete with each other to enable them to experience public speaking activities outside of the traditional classroom. The competition is judged and feedback is provided by faculty members from throughout the college as well as notable speakers from the community.

If You Plan to Major in Communication

All three Arizona public universities offer bachelor degree programs in this field:

ASU	BA	Communication
ASU West	BA/BS	Communication Studies
NAU	BA/BS	Speech Communication
UA	BA	Communication

The three public Arizona universities all require the following courses for the communication major:

COM100	Introduction to Human Communication
COM207	Introduction to Communication Inquiry
COM225	Public Speaking

Depending on the university to which you plan to transfer, the following courses may also be recommended:

COM110 Interpersonal Communication
COM207 Introduction to Communication Inquiry
COM222 Argumentation
COM230 Small Group Communication
COM241 Performance of Literature
COM250 Introduction to Organizational Communication
COM259 Communication in Business and Professions*
COM263 Intercultural Communication
COM271 Voice and Diction

- For non-communication majors. COM259 meets the business requirement for accounting majors, media arts, and other disciplines.

Computer Information Systems

Dr. Linda D. Collins, Chairperson: 480-461-7077
Building BP 43A
www.mc.maricopa.edu/dept/d07/

Computer Information Systems, Business Personal Computers, and Office Automation Systems are disciplines within the Department of Business. For more information on the department, see **Business Administration** or the departmental website at **http://www.mc.maricopa.edu/dept/d07**

The Business and Personal Computers and Computer Information Systems area of the department offers certificates, degrees, and courses in:

- Computer Information Systems (CIS), such as Introduction to Computer Information Systems including CIS105, which is a transfer course to the Arizona Universities, introduction to electronic game technology, programming, web technology, and a variety of software applications
- Business and Personal Computers (BPC), including BPC110, Computer Usage and Applications which satisfies the CS requirement at ASU, and a variety of BPC and OAS classes related to keyboarding and applications
- Office Automated Systems (OAS) including Business English and Typing.

The department is an Authorized Microsoft Office Specialist, IC3, and CIW Testing Facility.

Please see **Network Academy** for information on courses, certificates, and degrees in network administration and security. For additional information, visit bii.mc.maricopa.edu

Faculty advisement is available by appointment and drop-in. Faculty advisors are also available in the Multiuse Lab in BA1S the week prior to classes starting each semester.

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MCC at Red Mountain Library/Information Commons, Second Floor
Operating hours during the Fall and Spring semesters are:

Monday through Thursday	7:30 AM – 9:30 PM
Friday	7:30 AM – 5:00 PM
Saturday	10:00 AM – 2:00 PM

Computer Science

Chuy Carreon, Chairperson: 480-461-7728
Building MC 5
www.mc.maricopa.edu/dept/d25/

The Mathematics/Computer Science department offers courses and programs in mathematics (MAT) and computer programming and system analysis (CSC). You can take all of the courses required for the first two years of any public Arizona university math or computer science program through this department.

Courses are offered in traditional classroom settings, at different campuses and sites, and in flexible formats such as distance learning. The Math/Computer Science Department offers faculty advisement on a drop-in basis for those planning to major in math or computer science.

Scholarships for math and computer science students are offered through Computer Science, Engineering, and Mathematics Scholarships (CSEMS) and MESA/AIMS (Activities Integrating Mathematics and Science). Contact the department office for details about these scholarship opportunities.

If You Plan to Major in Computer Science

There are many academic and professional opportunities open to those who study computer science. Public universities in Arizona offer a variety of bachelor's degree programs in this field:

ASU	BS	Computer Science (Engineering and Applied Sciences)
NAU	BS	Computer Science and Engineering
UA	BS	Computer Science

If you are planning to pursue a bachelor's degree in computer science at a public Arizona university, you can follow the Associate in Science degree pathway, which requires a total of 60-64 credits. The AS degree transfers as a block (in other words, your transcript will not be evaluated one course at a time for admission to the university) without loss of credit and satisfies Arizona university admission requirements.

If you are planning to transfer to an out-of-state university to complete your bachelor's degree, contact an academic advisor for help in choosing the best courses for your needs.

The pre-professional program will require selecting from the following courses. You should consult with the university that you are planning on attending for their exact requirements.

CSC100	Introduction to Computer Science for Non-Computer Majors
CSC110	Introduction to Computer Science for Majors
CSC120	Digital Design Fundamentals
CSC205	Object Oriented Programming and Data Structures
CSC230	Computer Organization and Assembly Language
MAT220	Calculus with Analytic Geometry I
MAT227	Discrete Mathematical Structures
MAT231	Calculus with Analytic Geometry II
MAT241	Calculus with Analytic Geometry III

Construction

Janice Pierson, Chairperson: 480-461-7724
Merzhad Khorsandi, Program Director: 480-461-7257
Building TC 50
www.mc.maricopa.edu/dept2/construction/

Mesa Community College offers three tracks of study as part of the AAS degree in Construction along with seven certificates. The three tracks are Construction Drafting, Construction Inspection, and Construction Management. The seven certificates are: Computer Aided Design & Drafting (CADD: Level I), Surveying & Civil Drafting (CADD: Level II), Construction Drafting (CADD: Level III), Home Inspection, Building Inspection, Plan Review, and Pre-Contractor Licensing. All student advising is conducted by the faculty in the program area during faculty office hours or by appointment. Many courses are transferable to ASU and NAU. Specifically, we offer all the courses for the first two years of the Construction Management Program at the Del Webb School of Construction at ASU. The program is committed to student success and offers the following lab services to support student learning.

1. TC102 is a multi-station combination drafting and computer lab for courses such as Intro to Environmental Design, Design Foundation, and Residential & Commercial Drafting. Coursework includes manual architectural drafting for residential and commercial application, building construction methods, materials, and equipment, and survey of design through historical evaluation of built environments and the works of well-known architects. Open lab hours are posted.
2. TC108 is a multi-use computer lab used mainly for various computer-aided design and drafting courses utilizing software that is current within the architecture and construction industry. Open lab hours are posted.

Internship and service learning courses are available to students who are interested in getting training in the construction industry. Students can gain work experience in private or public firms and agencies toward achieving their professional goals.

For specific details about this program, see **Career and Technical Programs.**

Counseling

Karen Hardin, Chairperson: 480-461-7588
Student Services Complex
www.mc.maricopa.edu/dept/d09/

The Counseling Department supports student success in a number of ways:

Courses designed to help students identify their personal and academic strengths, interests, and goals including:
-Advancing Academic Achievements (AAA)
-Chemical Dependency (CHD)
-Counseling and Personal Development (CPD)

Course offered through the Counseling Department are transferable to other colleges and universities, depending on the programs and policies of the transfer institution. For transfer status of courses to Arizona universities consult the course equivalency guide at: az.transfer.org/cas/students.

Culinary Studies

Bill Collins, Program Director: 480-461-7775
Building SC 14
http://mc.maricopa.edu/dept2/culinary/

The Culinary Studies program is offering a unique program – you can take a single class to polish your culinary skills or you may take a program which will provide you the opportunity to earn a certificate of completion or even an AAS degree in Culinary Studies.

Culinary students develop skills in all facets of the food service industry. Training is provided in culinary arts (quantity cooking), commercial baking and dining room and banquet service through a hands-on approach.

For specific details about this program, see **Career and Technical Programs**.

Cultural Science

Mona Scott, Acting Chairperson: 480-461-7060
Building SC 14
www.mc.maricopa.edu/dept/d10/index

The Cultural Science Department includes five disciplines:
- Anthropology
- Ethnic Studies (American Indian Studies, African American Studies, Chicano Studies)
- Geography
- Social Work
- Sociology

Look for more information about these programs under their individual sections.

The Cultural Science Department coordinates Ethnic Studies coursework in American Indian Studies, African American Studies, and Chicano Studies, an academic certificate in African American Studies, and is in the process of developing certificates for the other two disciplines. All courses offered in these areas transfer to the universities.

The department also coordinates a study abroad program in China and participates in programs in Ireland and Mexico.

The department coordinates an Academic Certificate (AC) in Global Citizenship that enhances students' understanding of the world around them and current social issues such as economic and social justice, human and civil rights, world and regional conflicts, environmental degradation, cultural diversity, and political change. Through a combination of coursework and experiential learning, students develop skills in critical thinking, inquiry, and discourse while becoming more informed, socially responsible, and engaged citizens of their communities, country, and world. The certificate includes specialized tracks in the impact of diverse cultures on American life: Impact of Diverse Cultures on American Life; Political and Economic Interdependence of the International Community; Global Study of Cultures, Religions, and Values; Regional Study of Cultures, Religions, and Values; and Science, Technology, and the World. See **Graduation Requirements** for more information on program requirements, or contact the department office for more information.

Dance

Ann Stine, Chairperson: 480-461-7551
astine@mesacc.edu
Tina Rangel, Program Director: 480-461-7595
trangel@mesacc.edu
Building ES 9
www.mc.maricopa.edu/dance

The Dance program at Mesa Community College offers a 2 year Associates Degree for students interested in pursuing a career in dance. The program offers lecture, Dance Humanities courses (DAH prefix), technique and performance classes (DAN prefix) in a variety of styles and levels. Students may choose to use their Associates Degree in Dance to help them prepare for careers in the entertainment industry working in professional dance productions. Students may use their degree for careers as choreographers and teachers for dance studios, community programs and/or in the private sector. Classes may transfer to a four year university or private college, such as Ottawa University.

Students must be high school age to enroll in dance classes.

Degree offered:
Associate of Arts, Fine Arts-Dance (AFFA)

The AFFA Degree transfers to Ottawa University for the Bachelor of Arts Degree-Dance with Secondary Certification.

If you plan to major in Dance or Dance Education, the following are transfer courses for ASU and/or U of A:

DAH100(3)	Introduction to Dance
DAH201(3)	World Dance Perspectives
DAN115AA	Contemporary Dance Trends: Hip Hop
DAN120AB	Flamenco
DAN120AK	Capoeira
DAN120AE	Middle Eastern (Belly) Dancing
DAN125AC	Latin Ballroom
DAN129/130	Musical Theatre Dance I/II
DAN131/134/231/234	Ballet I/II/III/IV
DAN132/135/232/235	Modern Dance I/II/III/IV
DAN133/136/233/236	Modern Jazz Dance I/II/III/IV
DAN140/145	Tap Dance I/II
DAN141	Dance Workshop
DAN146	Tap Dance Ensemble
DAN150/155/250/255	Dance Performance I/II/III/IV
DAN210	Dance Production
DAN221/222	Rhythmic Theory for Dance I/II
DAN264/265	Choreography I/II

See **Physical Education and Exercise Science**

Dental

Phebe Bilitz, Program Director:
480-654-7772
Red Mountain
www.mc.maricopa.edu/dept/d11/dental/

The Dental Hygiene program prepares students to work in collaboration with dentists in a variety of settings to improve the oral and general health of the public. The program is accredited by the Commission on Dental Accreditation of the American Dental Association. Successful students are awarded an Associate in Applied Science Degree and are eligible to take the necessary board exams to gain a dental hygiene license in any of the 50 states. Students may transfer to a university and complete a bachelor degree in Dental Hygiene.

Prerequisite courses and an application are required for admittance to the program. Prerequisite courses are listed on the website and include core courses required for an AAS degree as well as BIO201, BIO202 and BIO205, and CHM138 with a lab. All prerequisite courses must be completed before the application is submitted. Applications can be found on the dental hygiene website listed above.

Classes are scheduled at Red Mountain Campus in the afternoon. Clinics are scheduled at the state-of-the-art facility of the Arizona School of Dentistry and Oral Health Monday through Thursday from 5:00-9:00 pm. Students participate in community special events including health fairs, Give Kids a Smile Day, and Oral Cancer Screenings.

The faculty in the Dental Hygiene Program are committed to developing health professionals who are competent, compassionate and skilled in teamwork.

For specific details about this program, see **Career and Technical Programs.**

Drafting & Computer Aided Design

Todd Verch, Program Director:
480-461-7767
Building TC 50
www.mc.maricopa.edu/dept/d58/dft/

Design Drafting Technology
The Drafting Technology Programs offer courses for students who plan to complete a two-year Associates in Applied Science degree and/or have an interest in drafting related careers, as well as training for persons already employed in fields related to design and drafting. Courses are also offered for those who may not be pursuing a career in design and drafting, but who have an interest in, or need to understand graphic communication. Our program also offers certificates of completion in multiple levels of CAD and Drafting training.

The types of projects that are used within the drafting courses cover a wide range of specialties including mechanical design, engineering layouts, architectural floor plans, furniture design, etc. Career options include working for industrial and manufacturing companies in defense, sport/recreation equipment, household goods and various other industries.

Associate Degrees

Associate in Applied Science – Electro/Mechanical Drafting
- Micro Circuit Mask Design specialty track
- CNC Programming/3D modeling specialty track

Associate in Applied Science – Micro Circuit Mask Design

Certificates

Certificates of Completion in Computer-Aided Drafting,
Certificates of Completion in Mechanical Drafting
Certificates of Completion in Electro/Mechanical Drafting
Certificates of Completion in Micro Circuit Mask Design

For specific details about this program, see **Career and Technical Programs.**

Early Childhood Education

See Education Studies

Economics

Harold W. Cranswick, Chairperson: 480-461-7245
Building SC 14
www.mc.maricopa.edu/dept/d52/ECN/ECN

Economics is one of the disciplines in the Social Science Department. For more information, see **Social Science.**

In addition to offering courses in economics (ECN), faculty in this area also host the Arizona Society of Economics Teachers Conference each year.

If You Plan to Major in Economics

The three public Arizona universities offer a number of baccalaureate degrees in economics:

ASU	BA	Economics (Liberal Arts)
ASU	BS	Economics (Liberal Arts)
NAU	BS	Economics
UA	BA	Economics

These three universities all require or accept the following courses as requirements for the economics major:

MAT212	Brief Calculus
GBS221	Business Statistics OR
MAT167	Elements of Statistics
ECN111	Macroeconomics
ECN112	Microeconomics

Education Studies

Nora Amavisca Reyes, Chairperson:
480-461-7781 Southern and Dobson campus (S&D)
Building ES 9, Office ES 111

Annapurna Ganesh, Program Director:
480-461-7305
Building ES 9, Office ES 107

The Education Studies Department offers degree and certificate programs designed to serve the needs of pre-service educators, paraprofessionals, and certified teachers. Programs and training opportunities are available for educators serving birth to adults in the areas of early childhood, elementary, special, secondary, and multicultural education.

The Education Studies Department strives to provide comprehensive support for aspiring and practicing educators by:

- partnering with educational institutions to create a seamless transfer for students,
- establishing cohorts within school districts,
- collaborating with East Valley education professionals through advisory councils,
- incorporating service learning into academic programs,
- emphasizing critical thinking, values clarification, career exploration, and civic responsibility,
- developing culturally sensitive educators responsive to the needs of a global society, and
- providing a solid foundation of academic coursework and field experience for teacher preparation and professional development.

Special programs and opportunities offered by the Education Studies Department include:

- Teacher Endorsement Programs for Structured English Immersion, English as a Second Language, Bilingual Education, Reading Specialist, Math Specialist, Middle Grades, Early Childhood Education
- High School Dual Enrollment
- Professional Career Pathway Project (PCPP)
- MCCCD-ASU Teacher Education Alliance (TEALL)
- NAU 2+2 Partnerships
- Mesa Grow Your Own with Mesa Public School
- Teaching and Learning Communities (TLC)
- Evelyn H. Warren Child Development Laboratory
- Xalapa Study Abroad Program
- Future Educators Club

For more information, contact the **Education Studies Department at 480-461-7904**.

Electromechanical Automation

Scott Shaw, Program Director:
480-461-7498
Building TC 50
www.mc.maricopa.edu/dept/d58/elt/

For specific details about this program, see **Career and Technical Programs.**

Electronics

JD Neglia, Program Director:
480-461-7385
Building TC 50
www.mccele.com

Electronics are everywhere, and the MCC Electronics program prepares students for careers wherever electronic systems are found. Current students and graduates work in industries such as:

Aerospace
Biotechnology
Communications
Entertainment
Industrial
Medical
Power
Semiconductor
Transportation

All of these industries employ our graduates to deal with increasingly complex electronic systems in all areas of our economy. Typical ET jobs include developing, building, calibrating, testing, certifying, maintaining, and qualifying:

- instrument landing, radar, and air traffic control systems in airports
- complex biomedical equipment in biotechnology companies
- transmitters and communications equipment for TV and radio broadcasters
- instrumentation and switching substations for power companies
- medical ultrasound systems, pacemakers, and automatic defibrillators in medical equipment companies
- traffic signal instrumentation and controls for large metropolitan areas
- high-speed automated systems for the U.S. Postal Service
- complex instruments and control systems for semiconductor equipment vendors and manufacturers
- night vision equipment for defense companies

Electronic Technicians do not repair radios and TV's.

Opportunities in Electronics continue to grow. According to the U.S. Bureau of Labor Statistics,

> "Growth in employment of electrical and electronic engineering technicians is expected to be about as fast as the average for all occupations through 2014."
> — Occupational Outlook Handbook, May, 2004.

To see an up-to-the-minute listing of current local job openings for ET's, a video about ET careers, and complete advisement information, visit the Electronics web site at **www.mccele.com**

MCC Electronics keeps its curriculum up-to-date by maintaining very close ties with local industry. It is the only Electronics Technology ("ET") program in the state of Arizona that is certified by the Federal Aviation Administration (FAA). It also maintains an Instrumentation and Relay Technician Apprenticeship with SRP, and a student internship program with Boeing. We also partner with the City of Scottsdale, offering our Electronics courses to City of Scottsdale technicians at their facility.

The Electronics program offers two AAS degrees:

- Electronics Technology ("ET"), which has a purely occupational focus, and
- Electronics Engineering Technology ("EET"), which was designed in collaboration with ASU Polytechnic to maximize transferability.

Both AAS degrees transfer as a block of credit into the ASU Polytechnic Bachelor of Applied Science degree programs, and most of the EET credits transfer into the ASU Polytechnic BSEET program.

Also offered is a one-year Certificate of Completion ("CCL"), and numerous individual courses that you can use to upgrade your skills in any particular area of Electronics.

For specific details about this program, see **Career and Technical Programs.**

Emergency Medical Technology

See Fire Science

Engineering Science

Mike Sims, Chairperson: 480-461-7015
Building PS 8
www.mc.maricopa.edu/dept/d43/ece/index.html

Engineering Science is one of the disciplines within the Physical Science Department. The engineering program is designed to prepare students for baccalaureate programs in all types of engineering (civil engineering, mechanical engineering, chemical engineering, electrical engineering, and many others) at any of the three state universities and universities nationwide. Call the Physical Science Department or the Advisement Center to schedule an appointment for advisement or to get more information about beginning your engineering education at Mesa Community College.

If You Plan to Major in Engineering

Depending on the field of engineering that interests you and the university program you intend to pursue, work closely with an advisor or contact an engineering faculty member to select courses that will transfer into your university program. All three public Arizona universities require or accept the following courses for engineering majors:

ECE102	Engineering Analysis Tools and Techniques
ECE103	Engineering Problem Solving and Design
ECE111	Bioengineering Systems
ECE211	Engineering Mechanics – Statics
ECE212	Engineering Mechanics – Dynamics
ECE214	Engineering Mechanics
ECE215	Mechanics of Materials
EEE202	Circuits and Devices

English

Jeffrey Andelora, Chairperson: 480-461-7636
Building LA 3
www.mc.maricopa.edu/dept/d13/eng

The English department offers courses and programs in the following areas:

- Creative Writing (CRW)
- English Composition (ENG)
- English as a Second Language (ESL)
- English Humanities (ENH)
- Humanities (HUM)
- Journalism (JRL)
- Mass Communications (MCO)
- Telecommunications (TCM)
- Women's Studies (WST)

The faculty members in MCC's English department are committed to helping students acquire the literacy skills they need to be successful in school and in their careers. We offer numerous writing courses to help students satisfy their interests—academic, technical, creative, personal—and meet their educational goals. We also offer courses in classic and contemporary literature, humanities, and narrative studies, in which students examine narrative texts in literature, film, and other media within their cultural contexts. Our ESL offerings are designed to help non-native English speakers acquire written and spoken fluency in English. Our journalism courses teach students to work in a variety of media and provide them with an opportunity to work on *The Mesa Legend*, MCC's award-winning student newspaper. Faculty in the English department have hosted the Mesa Literary Festival and the Mesa Community College International Film Festival. We also support developing students through our Emerging Writers awards program.

In addition to its course offerings, the English department provides free tutoring to all MCC students at the Writing Center (Southern and Dobson) and the Learning Enhancement Center (MCC at Red Mountain). Developmental and ESL students may also receive free tutoring at the Academic Skills Center (Southern and Dobson).

The English department also houses the Women's Studies certificate program, an interdisciplinary program that focuses on women's experiences and perspectives, exploring topics such as history, culture, class, race, ethnicity, sexuality, and gender in order to help bring about equality, understanding, and peace. See **Academic Certificates** for program requirements.

If You Plan to Major in English

English majors are always in demand for their excellent writing and speaking skills, and for critical thinking and problem-solving skills developed through the study of language and literature. The English major provides a strong foundation for many career paths. Many law schools regard an undergraduate degree in English as one of the best preparations for studying law. English majors also enjoy careers in writing, marketing, public relations, technical communications, journalism, publishing, teaching, and many other fields.

If you want to pursue a bachelor's degree in English or a related program, Arizona's public universities offer many options:

ASU	BA	English
ASU Polytechnic	BA	Multimedia Writing and Technical Communication
ASU West	BA	American Studies
ASU West	BA	English
NAU	BA	English
UA	BA	Creative Writing
UA	BA	English

If you are planning to pursue a bachelor's degree in English at a public Arizona university, you can follow the Associate in Arts degree pathway, which requires a total of 60-64 credits. The AA degree transfers as a block without loss of credit and satisfies Arizona university admission requirements. Depending on the institution, up to five 200-level ENH courses will transfer to one of Arizona's universities for English majors.

The following courses (and others) are appropriate for the prospective English major:

ENH221	Survey of English Literature/Before 1800
ENH222	Survey of English Literature/After 1800
ENG200	Reading and Writing about Literature
ENG214	Strategies of Academic Writing
ENG217	Personal and Exploratory Writing
ENH241	American Literature Before 1860
ENH242	American Literature After 1860

Exercise Science

Ann Stine, Chairperson: 480-461-7551
astine@mesacc.edu
Building ES 9
www.mc.maricopa.edu/dept/d37

The Exercise Science department offers a variety of lecture/academic courses under the Exercise Science (EXS prefix) and a variety of physical activity classes under the Physical Education (PED prefix), as well as lecture/academic courses in Health Science (HES prefix), Wellness (WED prefix), Recreation (REC prefix), and Dance Humanities (DAH prefix); all dance technique activity classes are under the Dance (DAN prefix).

The Exercise Science field of study offers certifications and degrees to assist students in job acquisition or transfer to a four-year institution.

The Exercise Science program offers many lecture/academic courses in traditional classroom settings as well as online or hybrid courses (combination of face-to-face classroom and online learning)

See **Physical Education** (PED prefix) for a list of all activity classes offered at Mesa Community College.

Degrees Offered:
Associate in Transfer Partnership (ATP):
- Kinesiology – ASU Tempe
- Exercise and Wellness – ASU Polytechnic
- Secondary Education – Physical Education – ASU Polytechnic

Associate of Applied Science Degree (AAS):
- Strength, Nutrition and Personal Training degree
- Organizational Management: emphasis on Fitness Center Management
  (See Career and Technical Programs)

Associate of Arts (AA):
- Associate of Arts – emphasis Exercise Science/Kinesiology
- Associate of Arts – emphasis Exercise and Wellness/Health Promotion
- Associate of Arts – emphasis on Physical Education

Certifications:
- Strength & Conditioning and Personal Training Certificate
- Nutrition for Fitness and Wellness Professionals (Nutrition Department confers Certification) – (See Career and Technical Programs)

Arizona Board of Education State Coaching Certification: Exercise Science Department offers the courses that apply to the State Coaching Certification - (State of Arizona confers the Certification)

If You Plan to Major in Exercise Science (Kinesiology):

Exercise Science/Kinesiology is the study of human movement as it relates to motor behavior and development, exercise physiology and biomechanics. Students who have a professional interest in Movement Science have an opportunity to pursue a baccalaureate degree in this field of study. This degree also prepares students for post-baccalaureate degrees in Medicine, Physical Therapy, Dentistry and as a Chiropractor.

ASU Tempe	BS	Kinesiology – See ATP in Kinesiology
NAU	BS	Athletic Training
GCU	BS	Athletic Training

The following are transfer courses for Exercise Science/ Kinesiology major at ASU Tempe:

EXS200	Introduction to Exercise Science
HES100/WED110	Healthful Living/Principles of Physical Fitness/Wellness (satisfies SB General Education Requirement)

Suggested Electives: All EXS and some HES prefix courses.

Transfer courses for Athletic Training at NAU:

HES154	CPR & First Aid
HES271	Prevention and Treatment of Athletic Injuries
HES100	Healthful Living

Suggested Electives: All EXS and some HES and WED prefix courses.

If You Plan to Major in Exercise and Wellness:

Exercise and Wellness is the study of healthy lifestyle habits that contribute to optimal health and wellness. Students who have a professional interest in fitness leadership and management have an opportunity to pursue a baccalaureate degree in this field of study.

ASU Polytechnic	BS	Exercise and Wellness – See ATP in Exercise and Wellness
ASU Polytechnic	BAS	Wellness – See AAS in Strength, Nutrition & Personal Training

The following are transfer courses for the Exercise and Wellness major at ASU Polytechnic:

EXS212 CR	Instructional Lab – Cardiorespiratory
EXS212 FL	Instructional Lab – Flexibility and Mind/ Body Exercises
EXS 212 SC	Instructional Lab – Strength and Conditioning
EXS200	Introduction to Exercise Science
HES100/ WED110	Healthful Living or Principles of Fitness and Wellness

Suggested Electives: All EXS and some HES or WED prefix courses.

Associate of Applied Science (AAS) in Strength, Nutrition and Personal Training transfers seamlessly into the Bachelor's of Applied Science (BAS) in Wellness at ASU Polytechnic. (See Career and Technical Programs)

Fashion Design & Fashion Merchandising

Evonne Bowling, Program Director:
480-461-7140
Building TC 50
www.mc.maricopa.edu/dept/d19/

- Fashion Merchandising and Design
- Costume Design & Production
- Image Consultant
- Retail Sales Manager
- Alterations Specialist

For specific details about these programs, see **Career and Technical Programs.**

Design Sewing Lab (TC308) – Includes a variety of sewing machines, sergers, and industrial machines for use by students in fashion design, draping, clothing construction and pattern design.

Fashion CAD Lab (TC3W) – Includes Computer Aided Design Lab for fashion design and lecture setting with computer lab for merchandising classes for student use. A resource room is also available for study materials for each of the fashion classes.

Fire Science and Emergency Medical Technology

Sonia Jones, Chairperson: 480-461-6300
Downtown Center
www.mc.maricopa.edu/dept/d12/fsc

The Fire Science/EMT program offers educational opportunities for those currently employed in and those seeking careers in Fire or Emergency Medical Services.

Our program also meets many fire departments' educational requirements for promotional and growth opportunities in leadership, management, and supervision.

The program offers both credit and non-credit classes in:

- Fire Science
- Fire Service Leadership
- Emergency Management
- Emergency Medical Technology
- Paramedicine
- Hazardous Materials
- Weapons of Mass Destruction (WMD)/ Homeland Security
- Candidate Physical Ability Test (CPAT)

Students may earn Certificates of Completion or an AAS degree in Fire Science, Emergency Response & Operations, Emergency Management or Paramedicine.

The certificates of completion include the following:
- Emergency Vehicle Driver/Operator
- Basic Firefighter
- Wildland Firefighter
- Emergency Management
- EMT-Basic
- Fire Officer I
- Fire Operations

See **Career and Technical Programs** for certificates and degrees and the special admissions requirements that apply to these programs.

MCC has a Fire Training Academy that enables students to experience various aspects of structural firefighting in a recruit firefighter training environment. The MCC Fire Academy provides a hands-on approach blended with coursework, which introduces students to various characteristics and skills of a firefighter. Students may be exposed to extreme temperatures, confined spaces, working at various heights, lifting heavy objects, and intense physical work while in the fire academy. It is highly recommended that students be physically and mentally prepared for the rigors of a Fire Academy experience before entering the program.

The MCC Fire Science/EMT program offers a mentoring program for all students within the department. For information, contact Lewis Jones at 480-988-8325.

The MCC Fire Science/EMT program offers an opportunity to participate in service-learning. We have partnered with the City of Mesa Fire Department to create a service-learning program known as Connectors. Connectors work with the Mesa Fire Department to provide assistance to citizens who have suffered loss of clothing, shelter or food due to fire, natural disaster, or other emergency situation. Connectors can earn college credit for volunteerism by enrolling in FSC282.

The MCC Fire Science program offers two scholarships specifically for Fire Science/EMT majors: The David Karam Scholarship and The Chuck Inman Scholarship. For information about these scholarships, contact the Financial Services office at 480-461-7815.

French

See World Languages

Geography

Mona Scott, Acting Chairperson: 480-461-7060
Karen Blevins, Geography/GIS Faculty
Building SC 14
www.mc.maricopa.edu/dept/d10/gph

Geography is one of the disciplines within the Cultural Science Department. Courses are offered in:

- Cultural Geography (GCU)
- Physical Geography (GPH)
- Geographic Information Systems (GPH)

Geography faculty provide academic advisement for all degrees and programs in geography, including certificates in Geographic Information Systems (GIS), and university transfer.

Geography faculty and students engage in service-learning and internships, field trips and MCC Science Day, study abroad and international programs, environmental issues and undergraduate research.

If You Plan to Major in Geography

Arizona public universities offer a variety of bachelor's degree programs in this field:

ASU	BA/BS	School of Geographical Sciences
NAU	BS	Applied Geography
NAU	BS	Geography
UA	BA	Geography
UA	BS	Regional Development

If you are planning to pursue a bachelor's degree in geography at a public Arizona university, you can follow the Associate in Arts degree pathway, which requires a total of 60-64 credits. The AA degree transfers as a block (in other words, your transcript will not be evaluated one course at a time for admission to the university) without loss of credit and satisfies Arizona university admission requirements.

The three public universities all require the following courses for the geography major:

GCU102	Introduction to Human Geography
GPH111	Introduction to Physical Geography
GCU121	World Geography I Eastern Hemisphere

Depending on the university you plan to transfer to, the following course may also be recommended:

GCU221	Arizona Geography
GPH210	Society and Environment
GPH211	Landform Processes

Geographic Information Systems Certificate Coursework includes:

GPH219	Introduction to GIS Using ArcGIS
GPH220	Intermediate GIS Using ArcGIS
GPH230	Spatial Databases I
GPH231	Spatial Databases II
GPH235	Introduction to Internet Map Servers Using ArcIMS
GPH270	Introduction to Cartography & Geospatial Technologies
GPH273	Advanced GIS Using ArcGIS
GPH275	Introduction to Remote Sensing Using ERDAS

The Associate in Applied Science (AAS) in Geospatial Technologies prepares students for entry-level positions within the field of Geographic Information Systems. The Geospatial Technologies program will also provide students with the educational foundation necessary for a four-year degree. A Certificate of Completion (CCL) is also available.

For specific degree and certificate requirements, see **Career and Technical Programs.**

Geology

Mike Sims, Chairperson: 480-461-7015
Building PS 8
www.mc.maricopa.edu/dept/d43/glg

Geology is one of the disciplines within the Physical Science Department. Geology faculty offer a wide range of courses in geology (GLG) for those who want to fulfill general education requirements, those who plan to major in geology, and those who are interested in majoring in geology in a university program. These courses provide both lecture and hands-on laboratory experiences.

In addition to teaching courses, geology faculty conduct community outreach by participating in a number of annual events and by sponsoring the Geo Club, a student organization. Geo Club performs various campus and community service activities that range from collecting pink halite crystals at Trona to selling the crystals at various gem and mineral shows (such as the Flagstaff Gem and Mineral Show) to helping with the Geology Outreach program (such as Science Day).

For more information on geology courses and programs, see the Geology website or contact the department office.

If You Plan to Major in Geology

Work closely with an advisor to determine the best courses to take depending on the university program you wish to transfer into. The three public universities require or accept the following courses for students who want to major in geology:

MAT220	Analytic Geometry and Calculus I
	OR
MAT221	Calculus with Analytic Geometry I
MAT220	Analytic Geometry and Calculus II
	OR
MAT231	Calculus with Analytic Geometry II
CHM151/151LL	General Chemistry I and lab
CHM152/152LL	General Chemistry II and lab
GLG101	Introduction to Geology I (Physical Lecture)
	AND
GLG103	Introduction to Geology I (Physical Lab)
PHY121	University Physics I AND
PHY131	University Physics II

German

See World Languages

Health Sciences/Wellness

Ann Stine, Chairperson: 480-461-7551
astine@mesacc.edu
Building ES 9
www.mc.maricopa.edu/dept/d37/

The Exercise Science Department offers a variety of lecture/academic courses in Health Sciences (HES prefix) and Wellness (WED prefix) including Alternative Medicine classes, as well as classes in Exercise Science (EXS prefix), Recreation (REC prefix) and Dance Humanities (DAH prefix); all physical activity classes are under the Physical Education (PED prefix) and all dance technique activity classes are under Dance (DAN prefix).

The Health Science and Wellness field of study provides degree programs that assist students in transferring to four-year institutions.

The Health Science and Wellness program offers many courses in traditional classroom settings, as well as online or hybrid (a combination of face-to-face classroom and online learning).

All CPR/First Aid courses are affiliated with the American Heart Association and American Red Cross. All students who successfully complete the written exam and lab skills will be Healthcare Provider certified through the American Heart Association and Responding to Emergencies – First Aid certified through American Red Cross.

If You Plan to Major in Health Sciences/Wellness:

Health Sciences/Wellness or Health Promotion is the study of lifestyle behaviors and patterns within each component of health: intellectual, psychological, sociological, physical, spiritual and environmental. Decision-making and the process of behavior change is also studied and investigated as to how it contributes to optimal health and wellness. Students who have a professional interest in Health Promotion and behavior change have an opportunity to pursue a baccalaureate degree in this field of study.

ASU Polytechnic	BS	Health Promotion
NAU	BS	Health Sciences: Community Health

The following are transfer courses for the Health Promotion major at ASU Polytechnic:

HES100/ WED110	Healthful Living/ Principles of Fitness and Wellness
HES201	Substance Abuse and Behaviors

Suggested Electives: Some HES and WED prefix courses.

History

Harold W. Cranswick, Chairperson: 480-461-7245
Building SC 14
www.mc.maricopa.edu/dept/d52/HIS/HIS.html

The History program is part of the Social Science Department. For more information on the department, see **Social Science.**

If You Plan to Major in History

The three public Arizona universities offer baccalaureate programs in history, including:

ASU	BA	History
ASU West	BA	American Studies (History)
ASU West	BA	History
NAU	BA	History
NAU	BS	History
NAU	Extended BA	History
NAU	Extended BS	History
UA	BA	History

These three universities all accept or require the following courses for history majors:

HIS100	History of Western Civilization to Middle Ages
	AND
HIS101	History of Western Civilization Middle Ages to 1789
	AND
HIS102	History of Western Civilization, 1789 to Present
HIS103	United States History to 1870
HIS104	United States History, 1870 to Present

Hotel and Restaurant Management

See Department of Business and Information Systems

Humanities

See English

Industrial Manufacturing

See Manufacturing

Interior Design

Janice Jennings, Chairperson: 480-461-7724
Sally Kroelinger, Program Director: 480-461-7134
Building TC 50
http://www.mc.maricopa.edu/dept2/interior/

Mesa Community College offers three levels of study in Interior Design: a certificate in Interior Merchandising, an AAS degree in Interior Design, and a CIDA (formerly FIDER) accredited Advanced Certificate in Interior Design. All students' advising is conducted by faculty in the program area. Advising is conducted during faculty office hours or by appointment. The program is committed to student success and offers the following lab services to support student learning:

- Design Studio I (TC310) – Multi-purpose interior design studio includes extensive fabric, finishes, and material resources for use by interior design majors. Open lab hours are posted.
- Design Studio II (TC101) – Drafting and design lab with research and production facilities for use by students enrolled in INT courses. Housed in the lab are 20 custom-designed drafting, computer, and rendering workstations, black and white and color laser printers, scanner, copier, and large format plotter. Specialized software includes AutoCAD Architecture 2009, Revit, Light Calc, Microsoft Project, Google SketchUp, and the Adobe Creative Suite CS3: Adobe Photoshop, Illustrator, Acrobat Professional, and In Design. During open lab periods, a qualified technical assistant provides hardware and software support to interior design students. Open lab hours are posted.
- Computer Lab (TC305) – General computer lab. Open lab hours are posted.

The "id group" is a student club united by three active professional organizations: American Society of Interior Designers (ASID), International Interior Design Association (IIDA), and United States Green Building Council (USGBC). Membership provides opportunities for interior design majors to network with the design community at local chapter meetings, attend workshops and seminars, enter student competitions, assist with community service projects, and apply for student scholarships.

Interior Design students also participate in internships which provide the opportunity to work in some aspect of the interior design industry. Students participate in local, state, and national design competitions as well.

For specific degree and certificate requirements, see **Career and Technical Programs.**

Italian

See World Languages

Japanese

See World Languages

Journalism

See English

Judicial Studies

See Administration of Justice

Latin

See World Languages

Library Science

Lorna Peralta, Chairperson: 480-461-7675
Chas Moore, Program Director: 480-461-7686
Paul A. Elsner Library Administration
www.mc.maricopa.edu/library

The two Mesa Community College libraries are the Paul A. Elsner Library at the Southern and Dobson campus and the Red Mountain Library in the Desert Willow building at MCC at Red Mountain. The MCC libraries offer courses and programs in:

- Library Skills (LBS)
- Library Technician Program (LBT)
- Information Skills in the Digital Age (IFS)

Life Science

Saundra Minckley, Chairperson: 480-461-7115
Building LS 12
www.mc.maricopa.edu/dept/d22/bio

The Life Science Department focuses on four areas of specialization:

- Preparing biology majors for transfer to universities
- Providing non-biology majors with diverse opportunities to satisfy their natural science requirements
- Training pre-health profession students
- Training students for careers in biotechnology

Biology is a lab-based science, so most courses have a lab component. We have specialized microbiology, biotechnology, and anatomy labs as well as several general purpose labs.

We maintain a study lab in the Nursing Building (N146), which provides students with access to lab materials for independent study or tutoring. This lab is generally open 60 hours per week, and is usually staffed by biology students who can do some tutoring. We provide microscopes, biology models, reference books, and computer tutorials for our students.

Faculty are available for advising in all our areas of specialization. Call the department office at 480-461-7115 for a referral to a faculty advisor for biology, anatomy/physiology, microbiology, or biotechnology majors.

Our greenhouse and outside area with raised beds serves many biology courses with living plant material and gives students opportunities to grow environmentally friendly plants.

The department also maintains a live animal collection primarily comprised of Sonoran Desert natives. Most of our animals are captive bred specimens including some that we have bred and raised ourselves. Besides class use, this collection is used with visiting school groups including the annual Science Day for elementary school students.

The Life Science Department continuously develops educational gardens for student and community use. These include our Deserts of North America and Xeriscape Demonstration Gardens. These community gardens have been developed in collaboration with the City of Mesa Water Conservation Department and the Master Gardeners of Maricopa County.

The Life Science Department provides a home and sponsorship for multiple student clubs including Environmental Action, Biotechnology, Pre-Dental, and Pre-Pharmacy. These clubs meet regularly in the Life Science building and sponsor speakers, outreach events, tours, and other activities. They work with local, state, and national organizations to promote awareness of the career possibilities in these areas.

Field experiences are provided as a major part of many biology courses including Environmental Biology and Natural History of the Southwest. In addition, we offer Marine Biology of Mexico and Field Biology of the Grand Canyon, which are short-term summer courses conducted entirely in the field.

Opportunities for service-learning are offered to students in biology and health-related fields. Call the department office for more information on programs and events.

If You Plan to Major in Life Science

The three public Arizona universities offer a wide range of baccalaureate programs for students who wish to major in a life science:

ASU	BS	Biology
ASU	BS	Conservation Biology
ASU	BS	Microbiology
ASU	BS	Plant Biology
ASU	BS	Molecular Biosciences and Biotechnology

ASU	BS	Biology with Concentration in Biology and Society
ASU West	BS	Life Sciences
NAU	BS	Biology
NAU	BS	Biology (with emphases)
NAU	BS	Botany
NAU	BS	Microbiology
NAU	BS	Microbiology (Preprofessional)
NAU	BS	Zoology
NAU	BS	Zoology (Preprofessional)
UA	BA	Biochemistry
UA	BA	Ecology and Evolutionary Biology
UA	BS	Biochemistry
UA	BS	Ecology and Evolutionary Biology
UA	BS	General Biology
UA	BS	Microbiology
UA	BS	Molecular and Cellular Biology
UA	BS	Health Sciences: Physiological Sciences

All three public Arizona universities require or accept the following courses for life science majors:

BIO181	General Biology (Majors) I
BIO182	General Biology (Majors) II
CHM151 AND CHM151LL	General Chemistry I and lab
CHM152 AND CHM152LL	General Chemistry II and lab

Machining and Product Development

Bob Bonura, Program Director: 480-461-7173
Building TC 50
www.mc.maricopa.edu/dept/d58/mfg/

The goal of this program is to prepare students to enter the job market with the entry-level manufacturing skills necessary to develop new products or custom products with input from engineering sketches and drawings. The program recognizes that students will need a broad range of skills and abilities to be successful – machining skills (including CNC machining), electro-mechanical assembly abilities, and some product test and prove-out knowledge. Much of the total program is designed to provide hands-on experience, learning to operate the various machine shop machines and their accessories, with a suitable amount of related classroom material. To work well in a product development environment, or to produce custom/low volume products requires technicians with good basic skills who can work with broad directions and solve problems and technical challenges as they produce the final product.

The student can choose to complete the coursework to achieve an AAS or focus on the core technical classes and receive a Certificate of Completion (CCL) in Machining.

For specific details about this program, see **Career and Technical Programs.**

Manufacturing

Bob Bonura, Program Director: 480-461-7173
Building TC 50
www.mc.maricopa.edu/dept/d58/mfg/

There are two program areas under Manufacturing – Manufacturing Technology and Manufacturing Engineering Technology.

The Associate in Applied Science (AAS) in Manufacturing Technology prepares students for employment as technicians and managers in the manufacturing industry. The program provides skills in computer programming and operation for current and future needs of the manufacturing industry. Students also gain knowledge, skills, and experience in traditional machining and manufacturing processes. The program is comprised of specialized curriculum in manufacturing technology, emphasizing mathematical and scientific theory, and a general education component. There are three (3) options to this program and each option leads to an Associate of Arts in Science (AAS) degree or a Certificate of Completion (CCL) for those who wish to concentrate on the basic competency courses.

Option 1 – CAD/CAM/CNC – The Manufacturing CNC Technician focuses on the development and design of support information for the industry. This information programs the Manufacturing CNC (Computer Numerical Control) equipment and the Computer Aided Design (CAM) and Computer aided Manufacturing (CAM) of industrial products. The product includes instruction in traditional machining and manufacturing processes to provide the student with a basis for producing appropriate manufacturing designs in the CNC, CAD, and CAM systems utilized.

Option 2 – Electromechanical Manufacturing Technology (EMMT) – Complex manufacturing production machines and support systems need skilled technicians to keep the equipment operational. The EMMT program provides the knowledge of how electromechanical systems work, how to fabricate, assemble, troubleshoot, and how to maintain these complex systems. Students will learn how to integrate this type of equipment into a manufacturing environment to support the current and future needs of the manufacturing industry.

Option 3 – Manufacturing Management – This option prepares students for employment as supervisors and managers in the manufacturing industry. The program provides knowledge of the general manufacturing issues that the student may encounter in a position supervising a technical workforce. Students also complete courses regarding the general scope of traditional machining and manufacturing processes.

The Associate of Applied Science (AAS) in Manufacturing Engineering Technology is designed to prepare technologists who want to concentrate on the more theoretical and scientific aspects of manufacturing product design, testing, and implementation. The student also studies the practical applications of processes, materials, and products related to manufacturing industries with the support of classes in mathematics, chemistry, and physics.

For specific details about this program, see **Career and Technical Programs.**

Mathematics

Chuy Carreon, Chairperson: 480-461-7728
Building MC 5
www.mc.maricopa.edu/dept/d25/

The Mathematics/Computer Science Department offers courses and programs in mathematics (MAT courses) and computer programming and system analysis (CSC courses). You can take all of the courses required for the first two years of any public Arizona university math or computer science program through this department.

Courses are offered in traditional classroom settings, at different campuses and sites, and in flexible formats such as distance learning. If you wish to take any course in math, you must first take a Math Placement Test at one of our Testing Centers. You must also have satisfied the prerequisites for the course you want to take.

There is a Math Learning Center, located in the Math/Science Classroom Building at MCC at Southern and Dobson, which is open from 8:00 AM to 7:00 PM Monday through Thursday and from 8:00 AM to 3:30 PM on Friday. The Math Study Area in the MC building also provides a quiet area for study. The department offers faculty advisement on a drop-in basis for those planning to major in math or computer science. In addition, the department sponsors the Math Club and conducts a math contest. Faculty in the department are associated with the Mathematical Association of America, the National Council of Teachers of Mathematics, and the Arizona Mathematical Association of Two Year Colleges.

Scholarships for math and computer science students are offered through Computer Science, Engineering, and Mathematics Scholarships (CSEMS) and MESA/AIMS (Activities Integrating Mathematics and Science). Contact the department office for details about these scholarship opportunities.

If You Plan to Major in Math

There are many academic and professional opportunities open to those who want to study mathematics. All three public Arizona universities offer bachelor's degree programs in mathematics:

ASU	BA or BS
NAU	BS
UA	BA or BS

If you are planning to pursue a bachelor's degree in mathematics at an Arizona university, you can follow the Associate in Arts degree pathway, which requires a total of 60-64 credits. The AA degree transfers as a block (in other words, your transcript will not be evaluated one course at a time for admission to the university) without loss of credit and satisfies Arizona university admission requirements.

If you are planning to transfer to an out-of-state university to complete your bachelor's degree, contact an academic advisor in the Advisement Center for help in choosing the best courses for your needs.

The three public Arizona universities require a minimum of 6 credits selected from:

MAT220	Calculus I
MAT231	Calculus II
MAT241	Calculus III
MAT262	Differential Equations

Mortuary Science

Thomas R. Taggart, Program Director: 480-988-8501
Williams Campus
www.mc.maricopa.edu/dept/d26/msp/

The Mortuary Science Program has as its central aim recognition of the importance of funeral service personnel as:

- Members of a human services profession
- Members of the community they serve
- Participants in the intimate relationship between bereaved families and those engaged in the funeral service profession
- Professionals who are sensitive to and knowledgeable about responsibility for public health, safety, and welfare in caring for human remains

The program has the following purposes:

- To enlarge the background and knowledge of students about the funeral service profession and the diversity of the families they will serve
- To educate students in every phase of funeral service and to enable them to develop the proficiency and skills to become functional members of the profession
- To educate students concerning the responsibilities of the funeral service profession to the community
- To emphasize high standards of ethical conduct
- To provide a comprehensive curriculum at the post-secondary level of instruction
- To encourage research in the field of funeral service

The Mortuary Science Program is a block program that comprises the second year of the Associate of Applied Science (AAS) degree.

The program is accredited by and a member of the American Board of Funeral Service Education (ABFSE), 3432 Ashland Ave., Suite U., St. Joseph, MO 64506, 816-233-3747, **www.abfse.org**

The program is a member of the National Association of Colleges of Mortuary Science (NACMS). As such, it is permitted to grant membership into Mu Sigma Alpha, the National Honor Society of Mortuary Science.

Students in the program may also join the Tau Chapter of Sigma Phi Sigma, the national fraternity for Funeral Service Education/Mortuary Science.

The program and its faculty are members of:
- National Funeral Directors Association (NFDA)
- Cremation Association of North America (CANA)
- International Cemetery, Cremation and Funeral Association (ICCFA)
- Arizona Funeral Directors Association (AFDA)
- Association of Career and Technical Education (ACTE)

Graduation from a Mortuary Science Program and subsequent licensure does not mean that an individual is limited in his/her career choices. Careers in funeral service are varied, and draw on the skills and talents of scientists, artists, counselors, managers, salespersons and entrepreneurs. Many graduates go on to become funeral service counselors, pre-need salespersons, and establishment owners.

Students who wish to apply for the Mortuary Science Program must have a GPA of 2.5 or higher. Other requirements apply to admission to this program; see the program's website or contact the Office of Admissions for further details.

Study groups have become an integral part of the program; tutoring and special assistance is available to any student who needs it.

During the fall semester embalming lab, the student must provide his or her own transportation to preceptor-site embalming experiences at local funeral homes.

All students must take the National Board Examination prior to graduation. The fee for this examination is the responsibility of the student.

The program also provides Continuing Education for Licensed Funeral Service Professionals, 6 credits, spring and fall semesters for a total of 12 each year.

Courses are available which lead to Cremation Operator Certification and additional Continuing Education for Certified Cremationists. These courses are separate from the ABFSE curriculum.

MORTUARY SCIENCE PROGRAM ENROLLMENT AND GRADUATION PASS RATIO FOR "FIRST TIME TAKERS" ON NBE AND SUBSEQUENT LICENSURE

Class	Graduates/Enrollment	Pass Ratio-%	Licensure
1996 - 97	18/18 100%	16/18 88.8%	11/16
1997 - 98	34/34 100%	29/34 85.3%	26/29
1998 - 99	30/30 100%	29/30 96.7%	23/29
1999 - 00	22/22 100%	20/22 90.9%	20/20
2000 - 01	14/14 100%	13/14 92.8%	10/13
2001 - 02	17/20 85.0%	16/17 94.1%	17/17
2002 - 03	21/21 100%	19/20 95.0%	16/20
2003 - 04	29/3 93.5%	25/29 86.2%	28/29
2004 - 05	16/21 76.1%	12/16 75%	16/16
2005 - 06	24/25 96%	21/24 87.5%	21/24
2006 - 07	21/22 95%	14/21 67%	19/21
2007 – 08	22/29 75%	17/22 77%	In process*

**Recent graduates are "in process" of completing various state requirements for apprenticeship, internship, or residency. These requirements vary from one to two years, depending on the state. Arizona requires a two-year internship.*

The Licensure Examination is the National Board Examination offered by the International Conference of Funeral Service Examining Boards. Licensure is on a state-by-state basis since each state does its own licensing. Approximately 33% of the students in the MCC Mortuary Science Program come from states other than Arizona.

Music

Sue Anne Lucius, Chairperson: 480-461-7577
Building MU 43
www.mc.maricopa.edu/music

All students considering a major and/or minor in music must be advised by the Music Department.

The mission of the Music Department is to provide a high quality experience to student musicians and a stimulating music education experience to the non-musicians we serve. The Music Department is a resource for transfer education, music education, career and vocational preparation in music technology, music business, and music performance. High quality musical experiences serve our community through classroom education and live musical performances.

The Music Department offers a wide range of courses and programs in the following areas:
- Music Theory and Composition (MTC)
- Music: Commercial and Business (MUC)
- Music Performance (MUP)
- Music Education (MUE)

Courses and programs are designed to enhance students' skills, prepare them for transfer to university programs, and equip them with knowledge and skills required to prepare for careers in the music field.

In addition, the department produces a number of musical performances each year and serves as home base for several community musical groups. For more information about courses, programs, performances, and groups, call the department office at 480-461-7575.

If You Plan to Major in Music

It is recommended that students planning to transfer as music majors to a baccalaureate-granting college or university take a planned set of courses leading to the Associate in Arts (AA). The AA is a general degree that includes special requirements enabling music majors to graduate from MCC after earning 64 credit hours.

The three public Arizona universities offer the following baccalaureate programs in music:

ASU	BA	Music
	BM	Secondary Education (Choral/Instrumental)
		Performance, Music Therapy
		Music Theory and/or Composition
NAU	BA	Music
	BM	Performance, Secondary Music Education, Choral/Instrumental
UA	BA	Music
	BM	Secondary Education (Choral/Instrumental)
		Performance
	BFA	Music Theatre – Theatre Arts

The MCC Music Department in partnership with Ottawa University offers a Music Education degree in Elementary and Secondary Music. Students complete their freshman and sophomore music and general education coursework, and their junior and senior performance ensembles and private instruction with MCC. Upper-division education courses are taken through Ottawa University.

The basic music courses required for most music majors planning to transfer to a baccalaureate-granting institution include:

MTC105/106	Music Theory and Aural Perception I
MTC155/156	Music Theory and Aural Perception II
MTC205/206	Music Theory and Aural Perception III
MTC255/256	Music Theory and Aural Perception IV
MUE135	Class Strings I
MUE136	Class Strings II
MUE137	Class Brass I
MUE138	Class Brass II
MUE235	Class Percussion I
MUE236	Class Percussion II
MUE237	Class Woodwinds I
MUE238	Class Woodwinds II
MUP123	Studio Class/Piano, Voice, Guitar, Instrumental, Jazz Styles (.5 credits 6 semesters)
MUP131	Class Piano I
MUP132	Class Piano II
MUP133	Class Voice I
MUP134	Class Voice II
MUP166	Jazz Piano I
MUP167	Jazz Piano II
MUP209	Conducting
MUP231	Class Piano III
MUP232	Class Piano IV
MHL241	Music History
MHL242	Music History
Private instruction	(2 credits 6 semesters)
Performing ensemble	
Small	(2 credits 6 semesters)
Large	(4 credits 6 semesters)
Music Methods	(2-4 credits 6 semesters)

The Music Department offers the Associate in Applied Science (AAS) and Certificate of Completion (CCL) in:

- Audio Production Technologies/Sound Design
- Music Business

Network Academy

Dr. Linda D. Collins, Chairperson: 480-461-7077
www.mc.maricopa.edu/dept/d07
Network Academy at the Downtown Center/ Centennial Way
480-461-6100
bii.mc.maricopa.edu

The Department of Business and Information Systems–Network Academy mission is to deliver education and training to Information Technology professionals and knowledge workers by developing, adopting, and implementing curricula that are aligned with industry standards and can lead to academic and industry certification.

The purpose of the Network Academy is to be:

- Responsive and adaptable to current and emerging industry needs
- Dedicated to responsible student advisement
- Committed to supporting, encouraging, and mentoring students

We accomplish this mission and purpose by providing:

- Certificate and degree programs
- Hands-on experiences applicable to the workplace
- Education for career advancement
- Accessible, affordable, and flexible programs
- Testing services for industry certifications and licenses

The Network Academy programs offer courses in the following disciplines:

- Computer Information Systems (CIS) – specializing in network administration, database administration, and distributed computing technologies including Microsoft, Oracle, Cisco Systems, Novell, Linux, Ascendant Learning (Security), SunMicrosystems, UNIX, and IBM
- Cisco Networking Technology (CNT) – courses offered under this prefix are certified as Cisco Networking Academy Courses
- Microsoft Technology (MST) – Specializing in Microsoft networking and distributed computing technologies
- Business and Personal Computers (BPC) – Desktop computing installation, maintenance, and support

Our specialized programs include:
- Cisco Networking Academy
- Oracle Academic Center
- Sun Academic Alliance Center
- Microsoft IT Academy
- Novell Education Academic Partner
- CompTIA partner – A+ certification, N+, and NITAS site
- Information Assurance
- BioInformatics

All courses are aligned to current industry standards and certifications. Students may earn a certificate of completion at MCC, an Associate in Applied Science (AAS) at MCC, and/or industry-specific certifications through exams offered by the specific technology company.

Students can complete coursework toward an associate degree including:
- Networking System Administration
- Linux Networking Administration
- Information Assurance

Students can complete certificates of completion in Network Administration with specializations in:
- Information Assurance
- Network Security
- Network Administration: Cyber Forensics Technician
- Network Administration: CISCO Network Associate (CCNA)
- Network Administration: CISCO Network Professional (CCNP)
- Network Administration: Microsoft Windows
- Network Administration: Novell
- Network Administration: UNIX-Solaris

Please see **Career and Technical Programs** for specific requirements for certificates and degrees.

All scheduled classes (except Open-Entry/Self-Paced and Internet-based) meet at the Downtown Center/Centennial Way facility located at 145 N. Centennial Way in downtown Mesa. Students have access to computers and network equipment in the classroom during the scheduled class time. Students also have access to the department's open labs at Southern and Dobson and Red Mountain campuses.

Students may be required to purchase tools and specific storage devices for certain classes.

Network Academy faculty provide advisement during the school year. Appointments for faculty advisement can be made by calling 480-461-6100. Advisement is also available in the department by appointment during the summer hours. Faculty provide additional tutorial assistance outside class hours as needed.

The Network Academy provides a strong service-learning component to give students additional hands-on experience to augment coursework. The Network Academy is a member of Arizona Students Recycling Used Computers (AZSTRUT). Students enrolled in service-learning are provided workplace experience fixing and refurbishing computers provided by the AZSTRUT program. These computers are then distributed to public schools and non-profit agencies throughout Arizona. Students are also given opportunities to serve as interns with the technical support staff of the department.

The Department of Business and Information Systems also offers courses in General Business under a variety of disciplines, Computer Information Systems (CIS), Business and Personal Computers (BPC), Fashion Merchandising and Design, and Office Automation Systems (OAS) at the Southern and Dobson and Red Mountain campuses and online. Visit our website at **http://www.mc.maricopa.edu/dept/d07** for additional information.

Nursing

Debra Bitter, Chairperson: 480-461-7262
Building NU 6
www.mc.maricopa.edu/dept/d31/nur/

The Nursing Department offers a wide range of courses and programs in:
- Nursing – Associate in Applied Science in Nursing
- International Educated Nurse Program
- Paramedic to Nurse Program
- Nurse Assisting Certificate of Completion
- Nurse Refresher Online Program
- Health Care Related
- Health Core Curriculum
- Community Health Care Advocate: Diabetes
- Nursing Continuing Education

Prospective nursing students must apply to the program and meet all of the requirements listed in the program requirements for specific certificates or degrees they wish to earn.

The Nursing Department is committed to student success. We have a nursing skills lab where students can practice clinical skills. We also provide student tutoring and encourage study groups. We offer online advisement and specialized advisement for nursing in the Advisement Center and in the department.

All nursing and pre-nursing students can join the Student Nursing Association. The department participates in a districtwide Nursing Career Day. Many scholarships are available to qualified nursing majors. Contact the Nursing Department for further details.

See **Career and Technical Programs** for specific program and degree requirements.

Nutrition

Lori Zienkewicz MS, RD, Program Director:
480-461-7379
Building TC 50, Office TC118
http://www.mesacc.edu/academics/applied/fon/

Interested in becoming a Registered Dietitian?

MCC offers students two pathways for becoming a nutrition expert: a Registered Dietitian (RD). Both pathways lead to Dietetics Bachelor's of Science degree programs.

1. Pre-Dietetics Associate of Arts:
   This transfer pathway meets requirements for the Arizona State University and University of Arizona Dietetics programs.
2. Distance Program: Pre-Dietetics Associate of Arts:
   In this 2+2 transfer pathway, students follow a specific 62-credit plan for admission to Kansas State University's Dietetics program (Distance Learning).

** Advising by the nutrition director is mandatory for the KSU program.

Certificate

3. Nutrition for Fitness and Wellness Certificate:
   This certificate is designed for students planning to work in the wellness industry or those currently working as a personal trainer or wellness coach. Students learn foundational information on nutritional science. (This is not a Registered Dietitian or Nutritionist pathway.)

For specific degree and certificate requirements, see **Career and Technical Programs.**

Office Automation Systems

See Computer Information Systems

Philosophy and Religious Studies

Keith Crudup, Chairperson: 480-461-7791
Building BP 43A
www.mc.maricopa.edu/dept/d34/

The Department of Philosophy and Religious Studies offers dozens of courses each year. Our two disciplines are twin approaches to the wisdom and practices of people across the world and throughout history. The study of science, history, literature, psychology and more are integrated in our shared pursuit of a greater perspective. We offer our students the freedom to question everything, challenge the answers, and discover new possibilities.

If You Plan to Major in Philosophy

Arizona's three state universities all offer B.A. degrees in Philosophy. There are many academic and professional opportunities for those who wish to study Philosophy, such as a career as an analyst, journalist or researcher, in various governmental roles or a track through Law School. Also, several comedians were Philosophy majors. The universities' Philosophy major requires Introduction to Philosophy (PHI101), Introduction to Logic (PHI103), and Introduction to Ethics (PHI105).

If You Plan to Major in Religious Studies

Arizona's three state universities all offer B.A. degrees in Religious Studies. ASU also offers a Ph.D. program. The community college student has wide freedom in taking courses to prepare themselves. We recommend you visit with one of our Religious Studies faculty to explore what works for you. Whichever direction you take, however, you will find either "Religion and the Modern World" (REL205) or "World Religions" (REL243) a worthwhile starting place.

Religious Studies is a good foundation for several careers, particularly international work in either the corporate or non-profit world. Teaching is also an option (an increasing number of high schools are now offering World Religions in their curriculum). Religious Studies also serves well to prepare students for graduate work in law, archaeology, linguistics, literature, and public administration.

CGTE: The Engagement Project

In addition to the dozens of courses we offer, our department established CGTE: The Engagement Project. Following 9/11, we sought to establish a long-term process for a better world: Engagement. Through varied programming, a resource center, and a unique option for our Honors students, we look to transcend the divisions among us – religious, cultural, political, and social – and foster relationships that allow us all to become more together than what we can be apart.
www.mc.maricopa.edu/cgte

The Center. Located in our department office, it is a growing collection of technology and multimedia: DVDs, magazines, books, Powerpoint presentations, audio programming and more. It is all there for MCC students, faculty and staff to use in courses or for personal exploration.

CGTE: The Engagement Project Events. Each semester we offer a series of programs and presentations for the campus which include our annual Fall Engage It! day, and special topics that touch on the many-faceted world around us. The semester calendar is available at our web site.

The House of Wisdom. The student arm of CGTE: The Engagement Project is the Students for Cultural Engagement (SCE). Its most visible expression is the House of Wisdom, a twice-monthly "engagement dialog" that gathers students, faculty and college staff together from across campus for discussion of varying challenging themes. The HOW is offered both as a "live event" and in an online chat format as the Cyber-HOW.

The Philosophy Club. More traditional in structure, the Philosophy Club meets twice monthly (alternating weeks with HOW), and explores themes that connect the philosophical tradition to the everyday modern experience.

The SCE Honors Experience. The SCE frames "Honors" within the engagement effort. Students, working with faculty advisors and student mentors, develop group projects that foster engagement, and share them with the wider campus community at the SCE Honors Experience Showcase. This experience is open to Honors students from all departments and disciplines.

The Lois Duncan Kellogg Scholarship

The Philosophy and Religious Studies Department awards annual scholarships for students in each of our disciplines. Please contact the department offices for information.

Physical Education

Ann Stine, Chairperson: 480-461-7551
astine@mesacc.edu
Building ES 9
www.mc.maricopa.edu/dept/d37/

The Exercise Science Department offers a variety of physical activity courses under the Physical Education (PED prefix) and lecture/academic classes under the Exercise Science (EXS prefix), Health Sciences (HES prefix), Wellness (WED prefix), Recreation (REC prefix) and Dance Humanities (DAH prefix); all dance technique activity classes are under Dance (DAN prefix).

The Physical Education/Exercise Science program offers degrees that assist students in transferring to a four-year institution.

All PED101 activity classes are taught at an introductory or beginning skill level, PED102 activity classes are taught at an intermediate skill level, and PED201 activity classes will be taught at an advanced skill level.

All students must be high school age to enroll in physical activity classes.

The Lifetime Fitness Centers is a 2-credit open entry/open exit strength and conditioning, group fitness (aerobics) and resistance training program which provides access to three workout facilities at the Southern & Dobson campus and two facilities at the Red Mountain campus: Fitness Center and Group Activity Center. The Lifetime Fitness Centers offer population-specific physical fitness and conditioning training by certified Personal Trainers or Strength and Conditioning Specialists for the following populations:

- Overweight/Obesity
- Diabetes
- Athletic Performance
- Cardiovascular Disease
- Osteoporosis
- Senior Fitness
- General Health and Wellness and more

The Department offers a wide range of 1-credit physical activity classes under the PED prefix:

- Bowling
- Tennis
- Volleyball
- Hiking
- Rock Climbing
- Self-Defense
- Karate
- Chi Gong
- Pilates
- Group Fitness (Aerobics)
- Women's Weight Training
- Golf
- Basketball
- Fencing
- Backpacking
- Shinkendo
- Taekwondo
- Tai Chi
- Aikido
- Yoga (variety of styles)
- Indoor cycling
- Olympic Lifting/ Weight Lifting

- Leisure Dance:
  - Ballroom Dance
  - Salsa
  - Jazz
  - Ballet
  - West African Dance
  - Tango
  - Swing
  - Modern Dance
  - Hip Hop
  - Belly Dance

- Population Specific Performance Training:
  - Athletes
  - Firefighters
  - Cardiac disease
  - Overweight
  - High School Athletes
  - Police/Military
  - Osteoporosis
  - Diabetes

- Education for the Atypical

If You Plan to Major in Education with an Emphasis in Physical Education:

If you are interested in a career in Education with an emphasis in Physical Education, the curriculum is based on teacher preparation courses in physical education activity and teaching methodology. Opportunities exist to pursue a baccalaureate degree in this field of study.

ASU Polytechnic	BAE	Secondary Education: Physical Education
UA	BS	Education: Physical Education
NAU	BS	Education and Physical Education: School Health

The following are transfer courses for the Secondary Education: Physical Education degree:

HES 100	Healthful Living

Suggested Electives:
Most EXS courses, some HES and WED courses.

Physical Science and Physics

Mike Sims, Chairperson: 480-461-7015
Building PS 8
www.mc.maricopa.edu/dept/d43/

Physical Science and Physics are disciplines within the Physical Science Department. Physical Science (PHS) and Physics (PHY) courses are offered for those who want to fulfill general education or major requirements, for those who plan to major in physics, and for those who want to expand their knowledge of the physical sciences.

If You Plan to Major in Physics

The three public Arizona universities offer a variety of baccalaureate programs for those who plan to major in physics and astronomy:

ASU	BS	Physics
NAU	BS	Astronomy
NAU	BS	Physics
NAU	Merged BS	Physics and Astronomy
NAU	Merged BS	Physics and Mathematics
UA	BS	Physics
UA	BS	Astronomy
UA	BS in Science	Education Physics

Work closely with an advisor to select courses that will help you meet your academic and professional goals. All three public Arizona universities require or accept the following courses for physics majors:

MAT231	Calculus with Analytic Geometry II
MAT241	Calculus with Analytic Geometry III
PHY121	University Physics I
PHY131	University Physics II

Political Science

Harold W. Cranswick, Chairperson: 480-461-7245
Building SC 14
www.mc.maricopa.edu/dept/d52/

For more information, see **Social Science.**

In addition to offering courses in political science (POS), the faculty also sponsor the Model United Nations group that competes nationally each year as well as offering the Arizona Constitution exam.

If You Plan to Major in Political Science

The three public Arizona universities offer a large number of baccalaureate degree programs in political science, including:

ASU	BA	Political Science (Asian Studies)
ASU	BA	Political Science (Latin American Studies)
ASU	BS	Political Science
ASU	BA	Political Science
ASU West	BA	Social and Behavioral Science (Political Science)
ASU West	BS	Social and Behavioral Sciences (Political Science)
ASU West	BA	Political Science
ASU West	BS	Political Science
NAU	BA	International Affairs
NAU	BA	Political Science
NAU	BS	American Political Studies
NAU	BS	Political Science
UA	BA	Political Science

These three universities all require or accept the following courses for political science majors:

POS110	American National Government
POS120	World Politics
POS140	Comparative Government
POS210	Political Ideologies

Portuguese

See World Languages

Psychology

Derek Borman, Chairperson: 480-461-7037
Building BP 43A
www.mc.maricopa.edu/dept/d46/psy/index.htm

The Psychology Department challenges students to expand their knowledge and enhance their appreciation of the human condition through open and impartial inquiry. We stimulate student curiosity to inquire about self and others through the scientific study of how people think, feel, act, and interact with their world. Students learn to view psychology and life from various perspectives and to recognize that psychology interrelates with all other disciplines.

The Psychology Department sponsors a chapter of Psi Beta, a national Honor Society for Psychology in Community Colleges. Psi Beta is also an MCC club and students with any interest in psychology topics are welcome to attend. Students may be either members of the psychology club or they may apply to be inducted in to the Honor Society. If they get inducted they are entitled to graduate with Honor Cords and their Psi Beta Honor Society membership is recorded on their transcript.

Students can get advisement assistance from members of the Psychology Department faculty by calling to make an appointment. In addition, once a year the Psychology Honor Society, Psi Beta, presents an Advisement Workshop with speakers from all of the public Arizona universities and other transfer institutions. The workshop is open to any interested student. Call the department for the date, time, and location.

Psi Beta and the Psychology Department also sponsor an Evening Lecture Series. Each semester three professionals in the field give informal lectures on a wide range of topics related to psychology. The public is invited to attend these lectures, and Continuing Education Credits (CEU) are offered.

The Psychology Department has its own lab, the Psychology Instructional Resource Center (PIRC). The PIRC is a well-equipped lab that has many resources for all psychology students. Materials are available online and in print format, and they include a variety of study guides, extra-credit materials, films and videos, experiential exercises, and additional textbooks. The PIRC is a great place to learn psychology! As part of the PIRC lab, the Psychology Department offers a tutoring program where free tutoring is available for any student taking a psychology course. Tutoring is offered in the PIRC Monday through Friday. The PIRC is located in the AD building (near the Cashier's Office) at MCC at Southern and Dobson and in the library at the Red Mountain campus.

The Psychology Department offers two scholarships: the Psychology Department and Faculty Scholarship and the James and Rita Scoresby Scholarship. Both of these awards require students to have completed nine credit hours in psychology classes, and are based on students' grade point average and other qualifications. These are awarded in the Spring semester. Students can get application information and qualification requirements from the department office.

If You Plan to Major in Psychology

Students who plan to major in psychology can complete their lower-division general education and major courses to prepare for upper-division psychology coursework. Students who are interested in psychology as a minor or as an elective may choose from among a large variety of classes. It is important for students to know that one does not "specialize" within psychology until graduate school (masters and/or doctoral work). An undergraduate degree in psychology is usually a general psychology degree, but the emphasis depends on the student's interest.

Arizona State University and University of Arizona require the following courses for psychology majors:

PSY101 Introduction to Psychology
PSY230 Introduction to Statistics
PSY290 Research Methods

Northern Arizona University requires the following courses for psychology majors:

PSY101 Introduction to Psychology
PSY230 Introduction to Statistics

PSY101 is the prerequisite for all 200-level courses. Additional prerequisites may also be required for some courses. The 200-level courses are introductions to almost all of the specialization areas in psychology and students may choose them based on their interest.

Reading

Mike Hewett, Chairperson: 480-461-7043
Building AD 42
www.mc.maricopa.edu/dept/d49/rdg/

The Reading Department embraces the philosophy that each individual should be respected and valued. Therefore, each individual must be afforded the opportunity to develop skills and talents through an accessible, student-oriented learning environment.

The department offers courses in two prefixes:

- Reading (RDG)
- Critical Reading (CRE)

Students must take the ASSET, CELSA, ACCUPLACER, or COMPASS placement test to determine which reading class(es) to take. Many reading classes are available in English as a Second Language format as well. It is best to take reading classes early in your college career since these classes build skills that will enhance your success as a student.

The department shares a computer lab with English and Math. The Academic Skills Center, another shared lab, is available for ESL reading classes as well as RDG081 and RDG091. Check posted hours for availability.

Reading faculty are available to provide advisement. It is recommended that students meet with faculty for advisement before registering in reading classes. Students who need help with coursework can get the assistance they need through the Learning Enhancement Center located in the Elsner Library.

The department offers the Milly Olsen Memorial Scholarship as well as the Dr. Phil Carrillo Memorial Scholarship for Native American Students in honor of former faculty members. See the Financial Services website or visit the office for more information about these scholarships.

Recreation

Ann Stine, Chairperson: 480-461-7551
astine@mesacc.edu
Building ES 9
www.mc.maricopa.edu/dept/d37/

The Exercise Science Department offers a variety of lecture/academic courses in Recreation (REC prefix), Exercise Science (EXS prefix), Health Science (HES prefix), Wellness (WED prefix) and Dance Humanities (DAH prefix); all physical activity classes are under Physical Education (PED prefix) and dance technique activity classes are under Dance (DAN prefix).

The Recreation field of study offers certifications and degrees to assist students in job acquisition or in transferring to four-year institutions.

The Recreation field offers many courses in traditional classroom settings, as well as online or hybrid (a combination of face-to-face classroom and online learning).

Degrees Offered:
Associate of Applied Sciences (AAS):
- Recreation Management

Certification:
- Recreation Management

If you Plan to Major in Recreation Management

If you are interested in a career in Recreation Management the curriculum is based on business and recreation courses. Opportunities exist to pursue a baccalaureate degree in this field of study.

ASU Downtown

NAU	BS	Parks and Recreation Management

The following are transfer courses for Recreation Management Majors at ASU Tempe, ASU West and NAU:

REC120	Leisure and Quality of Life
REC210	Leisure Delivery Systems
REC230	Programming of Recreation Services
REC250	Recreation Leadership

Russian

See World Languages

Social Science

Harold W. Cranswick, Chairperson: 480-461-7245
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www.mc.maricopa.edu/dept/d52

The Social Science Department is committed to an innovative learner-centered environment to assist students, faculty, and staff in achieving their academic goals. The Social Science Department strives to help each person achieve his or her potential as an effective and productive citizen by understanding the economic, historic and political foundations of local, state, national, and international communities.

The Social Science Department includes:
- Economics
- Future Studies
- History
- Political Science

Students are encouraged to form study groups, take advantage of the Learning Enhancement Center, and interact with faculty for advisement.

The Social Science Department offers a scholarship each spring. Details are available in the Social Science Department Office.

Social Work

Mona Scott, Acting Chairperson: 480-461-7060
Sue McAleavey, Social Work & Sociology Faculty, Social Work Program Coordinator: 480-461-7074
Building SC 14
www.mc.maricopa.edu/~smcaleavey

According to the Department of Labor/Bureau of Labor Statistics, Arizona's demand for professional social workers will continue to outpace supply. Careers range from family and child counseling, adoption and fostering and CPS to school, medical, addictions, behavioral health, gerontology and forensic fields. For further information on careers, salaries, etc. go to http//www.bls.gov/oco/ocos060.htm#content.

Social work advisement is available by the program coordinator and MCC's Transfer Office. Social work students also have opportunities to visit the ASU Downtown School of Social Work and meet ASU Social Work Program advisors who visit MCC several times per year.

Social work classes often include field trips to relevant community service sites and students are given the opportunity to get hands-on experience by serving the community at key sites as part of their course assignments. These include, but are not limited to, sites such as the East Valley Child Crisis Center, CARE Partnership, Paz de Cristo, A New Leaf, local hospitals, and Mesa Public Schools.

There is a great need for bilingual social workers, and MCC's Social Work program welcomes students for whom English may be a second language. Classes in English as a Second Language and other services are available to help bilingual students succeed in achieving their educational and professional goals.

Study abroad: Social work majors are encouraged to participate in the Xalapa, Mexico summer program and are eligible to apply for scholarships from the International Education program.

If You Plan to Major in Social Work

ASU offers bachelor's, master's, and Ph.D. degree programs in social work, and NAU offers a bachelor's degree in social work.

If you are planning to pursue a bachelor's degree in social work at one of these public Arizona universities, you can follow MCC's Associate in Arts (AA) Transfer Partnership degree pathway, which requires a total of 60-64 credits. The AA degree transfers as a block (in other words, your transcript will not be evaluated one course at a time for admission to the university) without loss of credit, and satisfies Arizona university admission requirements.

ASU and NAU require at least 6 credits from the following core courses for the social work major. ASU Downtown requires all three of these core courses:

SWU171 Introduction to Social Welfare
SWU291 Social Service Delivery Systems*
SWU292 Effective Helping in a Diverse World

**Requires (40) hours of observational experience in a local agency.*

In addition to these core courses for social work majors, other recommended courses for those in the helping professions are:

SWU225	Statistics for Social Research, Justice and Government
SWU130	Chemical Dependency
SWU215	Working With the Chemically Dependent Family
SWU220	Addictions and Mental Health
SWU258	Victimology and Crisis Management
SWU275AA	Case Report Writing
SWU282AA, AB, AC	Volunteerism in Social Work: Service Learning Experience

Sociology

Mona Scott, Acting Chairperson: 480-461-7060
Joanna Chamberlain, Sociology Faculty
Building SC 14
www.mc.maricopa.edu/dept/d10/soc
Paul Harasha, Assistant Chairperson, Red Mountain Campus
Palo Verde Building
www.mc.maricopa.edu/dept/d10/soc

An undergraduate degree in sociology provides a solid foundation for graduate work in a variety of fields such as law, medicine, social work, and education. The skills acquired are also desirable in many occupational areas, such as journalism, public administration, social services, and business administration.

Sociology advisement is available from sociology faculty during office hours and by appointment.

If You Plan to Major in Sociology

There are many academic and occupational opportunities available to those who study sociology. For example, at the three public Arizona universities you can earn a BA in sociology from ASU, ASU West, NAU, and UA. You can earn a BS from NAU and ASU West.

The three public universities all accept or require the following courses for the sociology major:

SOC101 Introduction to Sociology
SOC130 Human Sexuality
SOC140 Racial and Ethnic Minorities
SOC141 Sovereign Indian Nations
SOC142 Sociology of the Chicano Community
SOC143 Sociology of Afro-American Problems
SOC157 Sociology of Marriage and Family
SOC180 Social Implications of Technology
SOC212 Women and Men in a Changing Society
SOC245 Social Deviance
SOC251 Social Problems
SOC266 Sociology Through Film
SOC270 Sociology of Health and Illness

Spanish

See World Languages

Speech Communication

Susan Olson, Chairperson: 480-461-7793
Building AC 30
www.mc.maricopa.edu/dept/d55/com/

Communication skills are essential to initial job placement and promotion. Presentational, interpersonal, and teamwork skills top the list of competencies employers desire in their workforce. The study of Speech Communication builds positive relationships with clients, patients, and customers as well as family and friends.

Speech Communication faculty are dedicated teaching professionals with backgrounds in business management, business consulting, performance, rhetoric, and teaming. They use the latest technology and instructional methods to bring their students quality instruction in theory and practice.

Due to the sophistication of the concepts and the textbooks used, students enrolling in courses numbered 100 or above should have placement scores that would place them into ENG101 and CRE101. Students must also satisfy course prerequisites.

The department is committed to student success, and faculty members are available for one-on-one assistance and advisement.

The department also offers courses designed for English Language Learners (ELL). An informal lab is available for students enrolled in COM080 Conversation Circles, COM120 Pronunciation of American Speech, and COM221 Oral Fluency in American Speech. Students can work with software that help fine tune their production of American English sounds.

The department offers a course entitled Basic Oral Communication Skills to prepare developmental students to be more successful in the courses numbered 100-level and above.

Certificates

Speech Communication offers three certificates in Communication:

- Communication Skills for Non-Native English Speakers
- Oral Communication Fluency for Non-Native English Speakers
- Communication Competence in the Workplace

The Communication Department is affiliated with the National Communication Association, the Arizona Communication Association as well as Sigma Chi Eta, the undergraduate honor society for Communication majors.

The department sponsors symposiums featuring Careers in Communication, during which communication professionals speak to majors on pathways to careers in Communication. In addition, the Communication Activities program includes an intramural speech contest each semester entitled The Big Speak Out. In this contest, students from the various public speaking classes compete with each other to enable them to experience public speaking activities outside of the traditional classroom. The competition is judged and feedback is provided by faculty members from throughout the college as well as notable speakers from the community.

If You Plan to Major in Speech Communication

All three Arizona public universities offer bachelor's degree programs in this field:

ASU	BA	Communication
ASU West	BA/BS	Communication Studies
NAU	BA/BS	Speech Communication
UA	BA	Communication

The three public Arizona universities all require the following courses for the communication major:

COM100	Introduction to Human Communication
COM225	Public Speaking

Depending on the university to which you plan to transfer, the following courses may also be recommended:

COM110	Interpersonal Communication
COM207	Introduction to Communication Inquiry
COM222	Argumentation
COM230	Small Group Communication
COM241	Performance of Literature
COM250	Introduction to Organizational Communication
COM259	Communication in Business and Professions*
COM263	Intercultural Communication
COM271	Voice and Diction

**For non-communication majors. COM259 meets the business requirement for accounting majors, media arts, and other disciplines.*

Theatre Arts and Film

Susan Olson, Chairperson
Theatre Outback TH 29
www.mc.maricopa.edu/dept/d55/thp/

The Theatre Arts and Film program offers courses in Theatre Arts (THE), Theatre Production (THP), and Cinema (THE). Theatre performance and technical opportunities allow you to meet the human need for personal recognition and develop self-assurance, poise, and confidence.

When you get involved in theatre, you create the opportunity to use your talents in dance, music, art, speech, interpretation, storytelling, makeup, lighting and sound technologies, and scenic and costume construction. Through coursework, theatre arts and film provide an opportunity to explore other cultures and ages.

It is recommended that theatre arts and film majors enroll in a wide range of theatre courses in order to insure a total grasp of the field. Actors should understand scene design and stage lighting, just as designers should understand performance studies. All theatre majors should have a firm grasp of theatre history and dramatic literature.

Due to the sophistication of the concepts and the textbooks used, students enrolling in courses numbered 100 or above should have placement scores that would place them into ENG101 and CRE101. Students must also satisfy course prerequisites.

The Theatre Arts and Film program presents four major main stage productions and one Black box touring production each academic year. Open auditions are available for all students, staff, and faculty at MCC. The Theatre Arts program is active in the American College Theatre Festival and participates in the AriZoni Awards. The productions are staged in the Theatre Outback, which also hosts musicals and dance concerts.

The Theatre Arts and Film program sponsors the Stagedoor Players, an organization designed to foster student interest in theatre, as well as explore careers in theatre and pursue special interests in the area. The Stagedoor Players sponsor workshops and performances at various times throughout the year and in the summer. Many of these productions are written and staged entirely by students.

The department is committed to student success, and faculty are available during their office hours for one-on-one assistance and advisement.

Theatre Arts students may apply for scholarships by contacting Lyn Dutson, Director of Theatre.

If You Plan to Major in Theatre Arts

Public universities in Arizona offer a variety of bachelor's degree programs in this field:

ASU	BA	Theatre
ASU West	BA	Interdisciplinary Arts and Performance
NAU	BA or BS	Theatre
UA	BFA or BA	Theatre Production/Theatre Arts

The three public Arizona universities all require the following courses for the theatre major:

THP112	Acting I
THP212	Acting II
THP213	Introduction to Technical Theatre
THP115	Theatre Makeup
THE220	Modern Drama (Dramatic Analysis)

Depending on the university you plan to transfer to, the following courses may also be recommended:

THE111 Introduction to Theatre
THE118 Playwriting
THE205 Introduction to Cinema
THE206 Introduction to Television Arts
THE210 Contemporary Cinema
THP115 Theatre Make-up
THP131 Stage Movement
THP210 Acting: Television/Film
THP211 Creative Drama
THP214 Directing: Theatre Techniques
THP216 Beginning Stage Lighting
THP217 Introduction to Design Scenography
THP219 Introduction to Puppetry
THP241 Performance of Literature
THP267 Painting Techniques for Film, TV and Theatre

Contact an academic advisor in the Advisement Center and/or Theatre Faculty for help in choosing the best courses for your needs.

Veterinary Technology

Dr. Jill Sheport, Program Director: 480-461-7488
Building TC 50
www.mc.maricopa.edu/dept/d58/vet/

The Veterinary Technology Program is an Associate in Applied Science Degree program nationally accredited by the Committee on Veterinary Technician Education and Activities of the American Veterinary Medical Association. The program prepares students for careers in the rapidly growing field of veterinary technology, which require knowledge and skills involving basic medical sciences, general animal care and management, veterinary medical care, and client communications and service. Veterinary technicians function as the paraprofessional assistants to veterinarians, biomedical researchers, other scientists, and animal control and humane organizations. The program provides instruction in small animal, large animal, and laboratory animal medical and surgical nursing; laboratory techniques; office protocol; emergency medicine; specialty medicine; and other topics. Instruction includes practical clinical internship experience in veterinary emergency, large animal, small animal, and specialty practices, as well as in zoos, laboratories, humane societies, and other facilities. The curriculum combines courses in animal science and animal health with a general education component. Upon completion of the program, the student will be awarded an Associate in Applied Science degree in Veterinary Technology/Animal Health, and will be qualified to sit for national and state certification examinations.

For specific details about this program, see **Career and Technical Programs.**

Welding

Rod Hammil, Program Director: 480-461-7131
Building WL 52
www.mc.maricopa.edu/dept/d58/wld/

Welding engineering employs science and engineering in joining components made of metals, ceramics, plastics, and other materials. Welding engineering includes the designing of the joints to be welded, the development of the detailed joining procedures to be used, the selection of the materials incorporated in the joint, joint inspection, and the quality control for the final product. Welding engineering can also involve research in these areas, such as developing new welding processes or procedures for new materials. Welding engineers work with design engineers to develop efficient welding designs and fabrication procedures.

Welding engineers are involved in research and development, production, construction, and inspection functions involving welded fabrication. They also work in consulting, teaching, management, sales, and service functions. There are also opportunities to be owners or partners in private sector businesses. As the world becomes more conscious of the environment and the need for conservation of natural resources, many new opportunities are available for welding engineers. These opportunities include the design and manufacture of lighter and safer automobiles, trucks, and airplanes with increased fuel economy and improved environment control systems. The exploration of space brings the opportunity of designing and manufacturing space probes and space shuttles.

Welding engineering is a growing profession, and it is expected to continue in this growth for many years.

For specific details about this program, see **Career and Technical Programs.**

World Languages

Steven T. Budge, Chairperson: 480-461-7031
Building 41
www.mc.maricopa.edu/dept/d16/

The mission of the World Languages Department at Mesa Community College is to promote excellence in teaching and learning by educating students to be linguistically and culturally prepared for advanced education and/or active citizenship in our global society:

- American Sign Language (SLG)
- Arabic (ARB)
- Chinese (CHI)
- French (FRE)
- German (GER)
- Hebrew (HEB)
- Italian (ITA)
- Japanese (JPN)
- Latin (LAT)
- Navajo (NAV)
- Portuguese (POR)
- Russian (RUS)
- Spanish (SPA)

The foundational courses (courses numbered 101, 102, 201, and 202) fulfill language requirements for specific degree programs. They are prerequisites for advanced language courses at the community college and 300 and 400-level language courses at 4-year institutions. These university-equivalent courses emphasize the four language skills: listening, speaking, reading and writing. Course 101 has no prerequisite. These courses are offered in a variety of formats (hybrid, face-to-face and online). Consult the current online class schedule for details.

The conversational courses (courses numbered 115, 116, 225, and 226) are offered for those who wish to develop conversational abilities. These courses emphasize speaking and listening skills. Course 115 has no prerequisite.

The advanced courses prepare students for 300 and 400-level language courses at 4-year institutions. These courses are recommended to students who plan to transfer to a major university and wish to gain a deeper understanding of the culture, as well as improve their critical language skills. Courses in the advanced track have prerequisites.

The industry-specific courses (courses numbered 117, 118, 119. 120, 109, 169, 209, 210 and 240) are offered for those who wish to develop language skills in order to communicate with clients and employees in specific work environments. These language classes are customized in order to meet the schedule and content needs of each specific industry. Contact your employer today to schedule one of these courses with the World Languages Department.

The humanities and language studies courses (SPH245, NVH245, SLC201, SLC202, SPA241 and 242, and FLA240) are designed to meet the diverse academic needs of the student. They include studies in linguistics, second language acquisition, foreign language teaching methods, film, and culture and heritage studies. Please consult the current course schedule for details.

Many foreign language courses are transferable to other colleges and universities, depending upon the programs and policies of the institution. For transferability status of courses to Arizona universities, consult the Course Equivalency Guide.

The World Languages Department has a state-of-the-art language laboratory to facilitate and stimulate the language learning process. The language laboratory is located in Building #4, AS 110 at MCC at Southern and Dobson. Hours vary from semester to semester. For more information, contact the World Languages department office.

The department has joined efforts with the Learning Enhancement Center to provide tutoring services for our language programs at various campuses and sites.

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MCCCD Degrees

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 single catalog in effect during subsequent terms of continuous enrollment. Students may maintain continuous enrollment whether attending a single public community college or university in Arizona or transferring among public institutions in Arizona while pursuing their degrees.

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

   Example A:
   - Admitted & Earned Course Credit at a Public Community College or University – Fall ’93 (Active)
   - Continued at a Public Community College – Spring ’94, Fall ’94 (Active)
   - Transferred to a University – Spring ’95 (1993 or Any Subsequent Catalog)

   Example B:
   - Admitted & Earned Course Credit at a Public Community College or University – Fall ’92 (Active)
   - Enrolled But Earned All Ws, Zs, or Fs – Spring ’93 (Inactive)
   - Enrolled in Audit Courses Only – Fall ’93 (Inactive)
   - Nonattendance – Spring ’94 (Inactive)
   - Transferred to a University – Fall ’94 (1994 or Any Subsequent Catalog)

2. Students who do not meet the minimum enrollment standard stipulated in No. 1 during three consecutive semesters (fall/spring) and the intervening summer term* at any public Arizona community college or university are no longer considered continuously enrolled, and must meet requirements of the public Arizona community college or university catalog in effect at the time they are readmitted or of any single catalog in effect during subsequent terms of continuous enrollment after readmission.

   Example A:
   - Admitted & Earned Course Credit at a Public Community College or University – Fall ’92 (Active)
   - Nonattendance – Spring ’93, Fall ’93, Spring ’94 (Inactive)
   - Readmitted & Earned Course Credit at a Public Community College – Fall ’94 (Active)
   - Transferred to a University – Spring ’95 (1994 or Any Subsequent Catalog)

   Example B:
   - Admitted & Earned Course Credit at a Public Community College or University – Fall ’92 (Active)
   - Nonattendance – Spring ’93 (Inactive)
   - Readmitted & Earned Course Credit at a Public Community College – Summer ’93 (Active)
   - Nonattendance – Fall ’93, Spring ’94 (Inactive)
   - Transferred to a University – Fall ’94 (1992 or Any Subsequent Catalog)

*Students are not obligated to enroll and earn course credit during summer terms, but summer enrollment may be used to maintain continuous enrollment status.

3. Students admitted or readmitted to a public Arizona community college or university during a summer term must follow the requirements of the catalog in effect the following fall semester or of any single catalog in effect during subsequent terms of continuous enrollment.

   Example:
   - Admitted & Earned Course Credit at a Public Community College or University – Summer ’94 (Active)
   - Continued at a Public Community College – Fall ’94, Spring ’95 (Active)
   - Nonattendance – Fall ’95 (Inactive)
   - Readmitted & Earned Course Credit at a Public Community College – Spring ’96 (Active)
   - Transferred to a University – Summer ’96 (1994 or Any Subsequent Catalog)

4. Students transferring among Arizona public higher education institutions must meet the admission requirements, residency requirements, and all curricular and academic requirements of the degree-granting institution.

UNIVERSITY DEPARTMENT TIME LIMIT FOR TRANSFER 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 degree requirements at the discretion of the student’s major department at the university. University 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 fewer than eight years. University 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.

The college reserves the right to make necessary course and program changes in order to meet current educational standards.

GENERAL GRADUATION REQUIREMENTS

All students are required to complete the degree and/or certificate requirements as approved by the MCCCD Governing Board. The college reserves the right to make necessary course and program changes in order to meet current educational standards. In addition, students must:

1. Be credited in the Office of Admissions and Records with not fewer than:

   60 semester credit units in courses numbered 100 or above for the Associate in Arts degree, Associate in Science degree, Associate in Transfer Partnership degree, and Associate in General Studies degree; 60 semester credit units for the Associate in Applied Science degree; 62 semester credits for the Associate in Business degrees. For specific certificate programs, these will be credited with no fewer than the minimum total of credit units required for the certificate program.

   Students not continuously enrolled, as outlined in the Catalog Under Which a Student Graduates policy, must satisfy current graduation requirements.
2. Have earned a minimum of 12 semester credit units toward the degree or certificate at the college granting the degree or certificate. In cases where the certificate requires fewer than 12 credit units, a minimum of six credit units must be completed at the college awarding the certificate.
3. Have filed an application for the degree or certificate with the Office of Admissions and Records on the date determined by the college/center.

   Students must apply for graduation from the college where they have successfully completed Block 4 of the Associate in Applied Science in Nursing.
4. Have a minimum cumulative grade point average of 2.000 at the college granting the degree.
5. Have a minimum cumulative grade point average of 2.000 in all courses used to fulfill degree requirements.

   Some specific programs have higher grade requirements. It is the student's responsibility to be aware of these program requirements.
6. Have removed, thirty (30) days after the anticipated graduation date, all deficiencies on the record to use those courses toward program completion.
7. Have removed any indebtedness to any MCCCD college /center.
8. Have paid required degree or certificate application fee.

See **fee schedule** for charges.

See **Graduation with Honors** for information on honors designation.

CERTIFICATES/DEGREES

The Maricopa Community Colleges offer Certificates of Completion as well as Associate Degrees, one of which is conferred on each student who has completed a program of study. These certificates and degrees are as follows: (1) Certificate of Completion (Career Program Specified); (2) Academic Certificate; (3) General Education Certificate; (4) Associate in Arts; (5) Associate in Science; (6) Associate in Business; (7) Associate in General Studies; (8) Associate in Transfer Partnership; (9) Associate in Applied Science (Career Program Specified).

All candidates for a degree and/or certificate must complete the General Graduation Requirements as approved by the MCCCD Governing Board.

All students are urged to meet with a faculty advisor, program advisor, or counselor as soon as possible to determine which program meets their needs and to plan their course of study.

GRADUATE GUARANTEE POLICY

The Governing Board believes so strongly in the quality of its colleges' occupational training programs that it guarantees graduate competence.

1. Graduation from an Associate of Applied Science (AAS) is designed to prepare a person for entry-level employment in a specific career field. A graduate's ability to perform approved program competencies will be judged by employers. Should the employer of a graduate who has earned an AAS Degree find the employee lacking in the technical skills normally expected of an entry-level employee in the specific career field for which that graduate prepared, the District will provide the graduate with up to the equivalent of twelve (12) credit hours of retraining for no additional tuition.
2. Because technical occupations change rapidly, initial employment in an AAS Degree-related field must occur within one year of graduation from the AAS Degree program in question.

   Retraining needs to occur as cost effectively as possible. The graduate's employer must present a list of the graduate's skill deficiencies to the appropriate dean at the graduate's alma mater. All retraining will be completed in a reasonable time as agreed to by the employer, the student, and the college.

LICENSURE DISCLAIMER

Maricopa Community Colleges courses and programs prepare students for entry into a variety of professions. Many of these professions require that a person hold an occupational license or certificate in order to work in a particular field. Typically, a person must meet certain legal requirements before obtaining such a license or certificate. These requirements are established by county, state, or federal agencies, and often are based on a person's character, or whether the person has been convicted of a criminal offense. It is possible for a student who has obtained a degree or certificate from a community college to be denied the right to work in a particular profession after completing the degree or certificate because of concerns over the student's character or criminal background. Any student preparing to enter a field for which a professional license or certificate is required is strongly advised to consult with the appropriate government agency that issues such credentials. That agency can provide the student with complete information about any requirements the law imposes for working in a particular occupation.

MCCCD GENERAL EDUCATION STATEMENT

The general education core of the program of study for an associate's degree or a certificate helps students develop a greater understanding of themselves, of their relationship with others, and of the richly diverse world in which they live. The general education experience provides students with opportunities to explore broad areas of commonly held knowledge and prepares them to contribute to society through personal, social, and professional interactions with others. General education fosters students' personal development by opening them to new directions, perspectives, and processes.

Through its general education requirements, the Maricopa County Community College District is committed to helping students develop qualities and skills that will serve them throughout their lives. General education opportunities encourage students to:

- Build self-awareness, self-respect, and self-confidence
- Recognize and respect the beliefs, traditions, abilities, and customs of all people and all cultures
- Consider the local, global, and environmental impacts of personal, professional, and social decisions and actions
- Access, evaluate, analyze, synthesize, and use information wisely
- Communicate effectively personally, socially, and professionally
- Think critically, make informed decisions, solve problems, and implement decisions
- Consider the ethical implications of their choices
- Value the learning process throughout their lives
- Integrate and connect ideas and events in a historical perspective, and see relationships among the past, the present, and the future
- Develop a personal sense of aesthetics
- Use technological resources appropriately and productively
- Work cooperatively and respectfully with others to serve their communities

The general education experience at MCCCD is composed of specific elements across the curriculum designed to provide the learner with essential knowledge and skills including:

- Communication
- Arts and Humanities
- Numeracy
- Scientific Inquiry in the Natural and Social Sciences
- Information Literacy
- Problem-Solving and Critical Thinking
- Cultural Diversity

General Education Designations

(example: [FYC], [SB], [HU], etc.)
Effective Fall 2000 the course evaluation and/or general education designation as listed in the Arizona CEG (Course Equivalency Guide) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Given that curriculum is dynamic at both MCCCD and the institutions to which MCCCD students transfer, students have the option to petition for general education evaluations and/or general education designations.

The college reserves the right to make necessary course and program changes in order to meet current educational standards.

ARIZONA GENERAL EDUCATION CURRICULUM (AGEC)

Description: The Maricopa County Community College District **Arizona General Education Curriculum (MCCCD AGEC)** is a 35-38 semester-credit general education certificate that fulfills lower-division general education requirements for students planning to transfer to any Arizona public community college or university. Generally, the MCCCD AGEC transfers as a block without loss of credit.

In most cases, all courses used to satisfy the MCCCD AGEC will apply to graduation requirements of the university major for which the AGEC was designed.

For students planning to pursue an associate's degree or transfer to an Arizona public community college or university, the AGEC-A is a component of the MCCCD Associate in Arts, the AGEC-B is a component of the MCCCD Associate in Business, and the AGEC-S is a component of the MCCCD Associate in Science.

Purpose of the AGECs

There are three types of MCCCD AGECs. They are the AGEC-A, the AGEC-B, and the AGEC-S. Designed to articulate with different academic majors, their requirements vary accordingly. Additional information on academic majors at the Arizona public universities can be accessed via the following website: **www.aztransfer.com**

1. The **AGEC-A** is designed to satisfy requirements in many liberal arts majors as well as other majors that articulate with the Associate in Arts (e.g., social sciences, fine arts, humanities). AGEC-A requires a minimum of college mathematics or college algebra to satisfy the Mathematics [MA] requirement. AGEC-A Mathematics requirement is less stringent than the AGEC-B and AGEC-S. AGEC-A and AGEC-B Natural Sciences requirements are less stringent than AGEC-S.
2. The **AGEC-B** is designed to satisfy requirements in business majors that articulate with the Associate in Business. AGEC-B requires a minimum of brief calculus to satisfy the Mathematics [MA] requirement.
3. The **AGEC-S** is designed to satisfy requirements in majors with more prescriptive mathematics and mathematics-based science requirements. AGEC-S articulates with the Associate in Science. AGEC-S requires a minimum of the first course in a calculus sequence to satisfy the Mathematics [MA] requirement, and a minimum of eight credits of any university chemistry, university physics or general biology to satisfy the Natural Sciences [SQ/SG] requirement. In addition, students must select six to eight additional credits of math and/or science appropriate to the major.

Academic Policies that Govern the AGEC A, B, S:

- Requires 35-38 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better. Credit units transferred from outside of the district need to be at a grade of "C" or better. A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent. A minimum of 60 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better. On an exception basis, P-grades may be allowed in the AGEC for credit transferred if documentation collected by the community college indicates that the P-grade issued was the only option for the student and the P-grade is a "C" or better. The P-grade exception does not apply to credits awarded by AGEC granting/receiving institutions.
- Credit received through prior learning assessment or credit by evaluation is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. No more than 20 semester credit hours may be applied toward AGEC.
- Uses the following policies to help students complete the required Core and Awareness Areas without exceeding the 35-38 semester credits.
  1. Courses can satisfy a Core area and one or two Awareness areas simultaneously.
  2. A course cannot be used to satisfy more than one Core area requirement in the AGEC A and B.
  3. A course can be used to satisfy the L and SB or L and HU requirements simultaneously in the Core area for the AGEC S.

Follow the general education policy that follows:

GENERAL EDUCATION DESIGNATIONS (EXAMPLE: [FYC], [SB], [HU], ETC.)

Effective fall 2000 the course evaluation and/or the general education designation as listed in the Arizona CEG (Course Equivalency Guide) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Given that curriculum is dynamic at both MCCCD and the institutions to which MCCCD students transfer, students have the option to petition for course evaluations and/or general education designations.

The college reserves the right to make necessary course and program changes in order to meet current educational standards.

- Required courses that transfer as equivalent courses, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities according to the Arizona CEG (Course Equivalency Guide). The course evaluation and/or general education designation as listed in AZCAS is valid for the term in which the student is awarded credit on the transcript;
- Require that a minimum of 12 semester credits of course work be taken at any of the MCCCD colleges;
- Include both course and their modular equivalents. Either the course or the modular equivalents will satisfy the AGEC;
- Accept one of the courses that is cross-referenced with other courses;
- Provide for exemption from Arizona university admission requirements for: Students who complete the AGEC-A, AGEC-B, or AGEC-S with a minimum 2.0 on a 4.0=A scale, or students who complete an associate or higher degree from a regionally accredited post-secondary institution with a minimum 2.0 on a 4.0=A scale for Arizona residents and a minimum 2.5 on a 4.0=A scale for non-residents.

The 35-38 semester credits required for each of the three AGECs follow. See the list entitled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta**

The list identifies the courses in alpha-order by prefix as well as the different Core Areas and Awareness Areas where the course will apply.

A. Core Areas — 35 Credits

1. **First-Year Composition (FYC)** **6**
2. **Literacy and Critical Inquiry [L]** **0-3**
   AGEC-A & AGEC-B: Select a course that satisfies the [L] requirement (3)

   AGEC-S: Select a course that satisfies L and SB (Social and Behavioral Sciences) **OR**

   L and HU (Humanities and Fine Arts) requirements simultaneously (0-3)

3. **Mathematical Studies [MA/CS]** **4-6**
   The Mathematics [MA] requirement differs for AGEC-A, AGEC-B, and AGEC-S.

   To complete the Mathematical Studies requirement for AGEC-A and AGEC-B, select one course to satisfy Mathematics [MA], and a second course from Computer/Statistics/Quantitative Applications [CS]. AGEC-S does not require the [CS] area.

   AGEC-A requires:
   a. Mathematics [MA] (3 credits) **AND**
      (Requires a course in college mathematics (MAT142) or college algebra (MAT150, MAT151, MAT152) or pre-calculus (MAT187) or any other mathematics course designated with the MA general education value and for which college algebra is a prerequisite.)

   b. Computer/Statistics/Quantitative Applications [CS] (3 credits)

   AGEC-B requires:
   a. Mathematics [MA] (3 credits) AND
      (Requires a course in brief calculus (MAT212) or a higher level mathematics course (MAT216, MAT220, or MAT221 or any course for which these courses are prerequisites).

   b. Computer/Statistics/Quantitative Applications [CS] (3 credits)
      CIS105 Survey of Computer Information Systems

   AGEC-S requires:
   a. Mathematics [MA] (4 credits) AND
      (Requires a calculus course (MAT220 or MAT221) OR any mathematics course for which MAT220 or MAT221 are prerequisites. **OR** if pursuing a degree at ASU in Life Sciences select MAT251 Calculus for Life Science.

4. **Humanities and Fine Arts [HU]** **6**
   AGEC-A and AGEC-B: Students are encouraged to choose courses from more than one discipline for a total of six semester credits.

   AGEC S: Select a course that satisfies both L and SB or L and HU requirements simultaneously.

5. **Social and Behavioral Sciences [SB]** **6**
   AGEC-A and AGEC-B: Students are encouraged to choose courses from more than one discipline for a total of six semester credits.

   AGEC-S: Select a course that satisfies both L and SB (Social and Behavioral Sciences) or L and HU (Humanities and Fine Arts) requirements simultaneously.

6. **Natural Sciences [SQ/SG]** **8**
   To complete the Natural Sciences requirement: AGEC-A and AGEC-B require four (4) semester credits of [SQ] and four (4) semester credits of [SG] for a total of eight (8) semester credits, **OR** eight (8) semester credits of [SQ]. Students cannot take eight (8) semester credits of [SG] to meet the Natural Sciences requirement.

   The Natural Sciences requirement differs for AGEC-S. AGEC-S requires eight (8) semester credits of either university chemistry or eight (8) semester credits of university physics or eight (8) semester credits of general biology appropriate to the major.

   The lecture course(s) selected for Natural Sciences must include or be accompanied by the corresponding laboratory course. The lecture and corresponding laboratory course(s) may carry separate credit. Students should consult with an advisor for appropriate course selection. Students should also access the AZ Course Equivalency Guide (CEG) within the AZ Course Applicability System (AZCAS) for information on equivalencies.

7. **Subject Options**
   (Subject based on major) (AGEC S) **6-8**
   Students completing AGEC S, through careful selection of courses that meet the other major or prerequisite requirements for Science degrees, will meet this requirement. Using a transfer guide, select Mathematics courses above Calculus, and/or Science courses from: Astronomy, Biology, Botany, Chemistry, Environmental Science, Geology, Physical Geography, Physics, Zoology.

B. Awareness Areas

Students must satisfy two Awareness areas: Cultural Diversity in United States [C] and either Global Awareness [G] or Historical Awareness [H]. However, it is not necessary for students to exceed 35-38 semester credits to complete any of the three MCCCD AGECs because courses can satisfy a Core area and one or two Awareness areas simultaneously. Therefore, no additional semester credits are required to satisfy the two Awareness areas.

1. Cultural Diversity in the United States [C] **AND**
2. Global Awareness [G] **OR**
3. Historical Awareness [H]

AGEC Area Requirements Descriptions/Definitions

CORE AREAS

First-Year Composition (FYC)
Courses must be completed with a grade of "C" or better in the First-Year Composition Core area. Courses must emphasize skills necessary for college-level learning and writing skills.

Literacy and Critical Inquiry [L]
Courses must be completed with a grade of "C" or better in the Literacy and Critical Inquiry Core area. In the [L] course, typically at the sophomore level, students gather, interpret, and evaluate evidence and express their findings in writing or speech. This course includes a series of graded written or spoken formal assignments.

For AGEC S, students will select a course that satisfies both Literacy and Social & Behavioral Sciences or Literacy and Humanities and Fine Arts requirements simultaneously.

Literacy is defined broadly as communicative competence in written and oral discourse; critical inquiry is defined as the gathering, interpreting, and evaluating of evidence. Building on the proficiency attained in traditional First-Year Composition courses, the Literacy and Critical Inquiry requirement helps students sustain and extend their ability to reason critically and communicate clearly through language.

Mathematical Studies
Courses must be completed with a grade of "C" or better in the Mathematical Studies Core area. One course must be selected from Mathematics [MA]. In AGEC A and AGEC B, a second course must be selected from Computer/Statistics/Quantitative Applications [CS].

The Mathematical Studies requirement is intended to ensure students have skills in basic mathematics, can use mathematical analysis in their chosen fields, and can understand how computers make mathematical analysis more powerful and efficient.

First, the acquisition of essential skills in basic mathematics requires the student to complete a course in college algebra or to demonstrate a higher level of skill by completing a course for which college algebra is a prerequisite.

Second, the real-world application of mathematical reasoning requires the student to take a course in statistics or the use of quantitative analysis to solve problems of substance.

Third, the use of the computer to assist in serious analytical work is required. Computers are widely used to study the implications of social decisions or to model physical systems.

Mathematics [MA] AGEC-A
The AGEC-A Mathematics Core area requires a course in college mathematics, college algebra, pre-calculus, or any other mathematics course for which college algebra is a prerequisite.

Mathematics [MA] AGEC-B
The AGEC-B Mathematics Core area requires a course in Brief Calculus or a higher level mathematics course.

Mathematics [MA] AGEC-S
The AGEC-S Mathematics Core area requires the first course in the calculus sequence or any mathematics course for which that course is a prerequisite. MAT251 is required if transferring to a Life Sciences degree at Arizona State University (ASU).

Computer/Statistics/Quantitative Applications [CS]
AGEC-A, B [CS] requires: courses that emphasize the use of statistics or other mathematical methods in the interpretation of data and in describing and understanding quantitative relationships, courses that involve the use of computer programming languages or software in the development of skills in analytical thinking.

AGEC-B specifies CIS105 as the course that meets the [CS] requirement.

Humanities and Fine Arts [HU]
Courses must be completed with a grade of "C" or better in the Humanities and Fine Arts Core area. Students are encouraged to choose coursework from more than one discipline. The Humanities and Fine Arts Core area enables students to broaden and deepen their consideration of basic human values and their interpretation of the experiences of human beings.

The humanities are concerned with questions of human existence and the universality of human life, questions of meaning and the nature of thinking and knowing, and questions of moral, aesthetic, and other human values. The humanities investigate these questions in both the present and the past and make use of philosophy, foreign languages, linguistics and communications studies, religious studies, literature, and fine arts.

The fine arts constitute the artist's creative deliberation about reality, meaning, knowledge, and values.

Social and Behavioral Sciences [SB]
Courses must be completed with a grade of "C" or better in the Social and Behavioral Sciences Core area. Students are encouraged to choose coursework from more than one discipline.

The Social and Behavioral Sciences Core area provides scientific methods of inquiry and empirical knowledge about human behavior, both within society and within individuals. The forms of study may be cultural, economic, geographic, historical, linguistic, political, psychological, or social. The courses in this area address the challenge of understanding the diverse natures of individuals and cultural groups who live together in a world of diminishing economic, linguistic, military, political, and social distance.

Natural Sciences [SQ/SG]
Courses must be completed with a grade of "C" or better in the Natural Sciences Core area.

Courses in the Natural Sciences Core area help the student to develop an appreciation of the scope and limitations of scientific capability to contribute to the quality of society. This Core area emphasizes knowledge of methods of scientific inquiry and mastery of basic scientific principles and concepts, in particular those that relate to matter and energy in living and non-living systems. Firsthand exposure to scientific phenomena in the laboratory is important in developing and understanding the concepts, principles, and vocabulary of science. At least one of the two laboratory courses required in the Natural Sciences Core area must include an introduction to the fundamental behavior of matter and energy in physical or biological systems.

Natural Sciences [SQ] A & B
The AGEC A and B Natural Sciences Core area requires one laboratory course in natural sciences that includes a substantial introduction to the fundamental behavior of matter and energy in physical or biological systems.

Natural Sciences [SG] A & B
The AGEC A and B Natural Sciences Core area requires a second laboratory course in the natural sciences, for example, from Anthropology, Astronomy, Biology, Chemistry, Experimental Psychology, Geology, Microbiology, Physical Anthropology, Physical Geography, Physics, and Plant Biology.

Natural Sciences S
The AGEC S Natural Sciences Core area requires eight semester credits of either university chemistry or eight semester credits of university physics or eight semester credits of general biology appropriate to the major.

SQ = Natural Science-Quantitative
SG = Natural Science-General

Subject Options (for AGEC S)
Courses in the Subject Options area help the student to be prepared for specific majors in science. Students completing AGEC-S, through careful selection of courses that meet the other major or prerequisite requirements for Science degree, will meet this requirement. Using a transfer guide, courses would be selected from Mathematics courses above Calculus, and/or Science courses from: Astronomy, Biology, Botany, Chemistry, Environmental Science, Geology, Physical Geography, Physics, and Zoology.

Awareness Areas

Students must satisfy two Awareness areas: Cultural Diversity in the U.S. and either Global Awareness or Historical Awareness. Courses can satisfy a Core area and one or two Awareness areas simultaneously. Therefore, no additional semester credits are required to satisfy the two Awareness areas.

Cultural Diversity in the United States [C]
The contemporary "culture" of the United States involves the complex interplay of many different cultures that exist side by side in various states of harmony and conflict. United States history involves the experiences not only of different groups of European immigrants and their descendants, but also of diverse groups of American Indians, Hispanic Americans, African Americans, and Asian Americans-all of whom played significant roles in the development of contemporary culture and together shape the future of the United States. At the same time, the recognition that gender, class, and religious differences cut across all distinctions of race and ethnicity offers an even richer variety of perspectives from which to view. Awareness of cultural diversity and its multiple sources can illuminate the collective past, present, and future and help to foster greater mutual understanding and respect.

The objective of the Cultural Diversity area requirement is to promote awareness of, and appreciation for, cultural diversity within the contemporary United States. This is accomplished through the study of the cultural, social, or scientific contributions of women and minority groups, examination of their experiences in the United States, or exploration of successful or unsuccessful interactions between and among cultural groups.

Global Awareness [G]
Human organizations and relationships have evolved from being family and village-centered to the modern global interdependence that is apparent in many disciplines-for example, contemporary art, business, engineering, music, and the natural and social sciences. Many serious local and national problems are world issues that require solutions which exhibit mutuality and reciprocity. These problems occur in a wide variety of activities, such as food supply, ecology, health care delivery, language planning, information exchange, economic and social developments, law, technology transfer, and even philosophy and the arts. The Global Awareness area recognizes the need for an understanding of the values, elements, and social processes of cultures other than the culture of the United States. The Global Awareness area includes courses that recognize the nature of other contemporary cultures and the relationship of the American cultural system to generic human goals and welfare.

Courses that satisfy the global awareness option in the requirements are of one or more of the following types:
1. Area studies that are concerned with an examination of culture-specific elements of a region of the world;
2. The study of a non-English language;
3. Studies of international relationships, particularly those in which cultural change is facilitated by such factors as social and economic development, education, and the transfer of technology; and
4. Studies of cultural interrelationships of global scope such as the global interdependence produced by problems of world ecology.

Historical Awareness [H]
The Historical Awareness area option in the requirements aims to develop a knowledge of the past that can be useful in shaping the present and future. Because historical forces and traditions have created modern life and lie just beneath its surface, historical awareness is an aid in the analysis of present-day problems. Also, because the historical past is a source of social and national identity, historical study can produce intercultural understanding by tracing cultural differences to their origins. Even the remote past may have instructive analogies for the present.

The Historical Awareness area consists of courses that are historical in method and content. In this area, the term "history" designates a sequence of past events or a narrative whose intent or effect is to represent such a sequence.

The requirement presumes these are human events and history includes all that has been felt, thought, imagined, said, and done by human beings. History is present in the languages, art, music, literature, philosophy, religion, and the natural sciences, as well as in the social science traditionally called history.

ASSOCIATE IN ARTS (AA)

Description

The Maricopa County Community College District **Associate in Arts** degree requires 60-64 semester credits for the program of study. The degree includes the following components:

I. General Education

Arizona General Education Curriculum for Arts (AGEC-A)
MCCCD Additional Requirements

II. General Electives

Purpose of the Degree

The Associate in Arts degree is designed for students planning to transfer to four-year colleges and universities. In general, the components of the degree meet requirements for majors in the Liberal Arts or programs of study other than business or science. Generally, the degree will transfer as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements.

In most cases, courses used to satisfy the MCCCD Associate in Arts will apply to university graduation requirements of the university major for which the Associate in Arts is designed. Information regarding the articulation of the Associate in Arts with majors at the Arizona public universities can be accessed via the following website: **www.aztransfer.com**

Academic Policies that Govern the Associate in Arts Degree

- Completion of the Associate in Arts or the AGEC-A provides for exemption from Arizona public university admission requirements for Arizona residents who have a minimum Grade Point Average of 2.0 on a 4.0=A scale and a minimum 2.5 on a 4.0=A scale for non-residents.
- The graduation policies within the general catalog must be satisfied for completion of the Associate in Arts degree.
- A minimum of 60 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better. Credit units transferred from outside of the district need to be at a grade of "C" or better. A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent. On an exception basis, P-grades may be allowed in the AGEC for credit transferred if documentation collected by the community college indicates that the P-grade issued was the only option for the student and the P-grade is a "C" or better. The P-grade exception does not apply to credits awarded by AGEC granting/receiving institutions.
- Credit received through prior learning assessment or credit by evaluation is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. No more than 20 semester credit hours may be applied toward AGEC.
- The General Education Requirements for AGEC-A may be completed in 35 semester credits with the following stipulations:
  - Courses can satisfy a Core Area and one or two Awareness Areas simultaneously.
  - A course cannot be used to satisfy more than one Core Area.
- General Education Courses can satisfy multiple areas within the degree simultaneously (AGEC-A Core Area, AGEC Awareness Area, MCCCD Additional Requirements, or lower-division courses applicable to the major).
- Effective fall 2000, the course evaluation and/or general education designation as listed in the Arizona Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Students do have the option to petition for general education evaluations and/or general education designations upon transfer.
- Courses completed at one of the Maricopa Community Colleges to meet AGEC-A requirements must be listed in the Course Equivalency Guide within the Arizona Course Applicability System as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities. The course's evaluation and/or general education designation is valid for the term in which the student is awarded credit on the transcript. See the list titled **MCCCD Courses That Can Be used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta**

- Courses completed at one of the Maricopa Community Colleges to meet the General Electives requirement must be listed in the Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) as an equivalent course, departmental elective credit (XXXDEC), or general elective credit (Elective) at all Arizona public universities. For appropriate course selection, students should consult with an advisor.
- Courses transferred from another regionally accredited institution to one of the Maricopa Community Colleges will be evaluated by the college for inclusion in the AGEC-A or Associate in Arts Degree.
- Courses and their modular equivalents will satisfy AGEC-A and Associate in Arts requirements.
- If a course is cross-referenced with one or more other courses, then only one of the cross-referenced courses will be accepted to meet requirements.

Degree Requirements

The 60-64 semester credits required for the Associate in Arts follow. See the list titled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta.** This list identifies the courses in alpha-order by prefix as well as the Core Areas and Awareness Areas where the course will apply. For purposes of clarifying requirements in the Mathematics and Natural Sciences areas on the list and the AGEC requirements, an A, B, and/or S character may follow the [MA], [SQ], [SG] general education designations and refers to the specific AGEC.

I. MCCCD General Education

The MCCCD General Education includes two areas: MCCCD AGEC-A and MCCCD Additional Requirements.

MCCCD AGEC-A

1. Core Areas — 35 Credits

a. First-Year Composition (FYC) — **6**

b. Literacy and Critical Inquiry [L] — **3**

c. Mathematical Studies [MA/CS] — **6**
To complete the Mathematical Studies requirement, select one course to satisfy Mathematics [MA] A and a second course from Computer/Statistics/ Quantitative Applications [CS].

1) Mathematics [MA] A (3 credits)
Note: requires a course in college mathematics (MAT142) or college algebra (MAT150, MAT151, MAT152) or pre-calculus (MAT187) or any other mathematics course designated with the MA general education value and for which college algebra is a prerequisite.
AND
2) Computer/Statistics/Quantitative Applications [CS] (3 credits)

d. Humanities and Fine Arts [HU] — **6**
Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

e. Social and Behavioral Sciences [SB] — **6**
Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

f. Natural Sciences [SQ/SG] — **8**
To complete the Natural Sciences requirement: Select four (4) semester credits of [SQ] and four (4) semester credits of [SG] for a total of eight (8) semester credits, OR eight (8) semester credits of [SQ]. Students cannot take eight (8) semester credits of [SG] to meet the Natural Sciences requirement.

The lecture course(s) selected for Natural Sciences must include or be accompanied by the corresponding laboratory course. The lecture and corresponding laboratory course(s) may carry separate credit. Students should consult with an advisor for appropriate course selection. Students should also access the AZ Course Equivalency Guide (CEG) within the AZ Course Applicability System (AZCAS) for information on equivalencies.

2. Awareness Areas

Students must satisfy two Awareness Areas: Cultural Diversity in the United States [C] and either Global Awareness [G] or Historical Awareness [H]. However, it is not necessary for students to exceed thirty-five semester credits to complete the Awareness Areas because courses can satisfy a Core Area and one or two Awareness Areas simultaneously. Therefore no additional semester credits are required to satisfy the two Awareness Areas.

Cultural Diversity in the United States [C] **AND**
Global Awareness [G] **OR**
Historical Awareness [H]

3. MCCCD Additional Requirements — 0-6 Credits

Students must satisfy Oral Communication and Critical Reading areas. However, it is not necessary for students to exceed the thirty-five semester credits required in order to complete the MCCCD Additional Requirements because courses can satisfy a Core Area and MCCCD Additional Requirements simultaneously. Therefore no additional semester credits are required to satisfy Oral Communication and Critical Reading.

a. Oral Communication
A total of three (3) semester credits is required for Oral Communication. However, if students select a communication course that satisfies both the Oral Communication area and an area within the Core, then the Oral Communication requirement has been satisfied and additional electives may be taken.

Select from the following options:
COM100 [SB] (3 credits) **OR**
COM100AA & COM100AB & COM100AC [SB] (3 credits) **OR**
COM110 [SB] (3 credits) **OR**
COM110AA & COM110AB & COM110AC [SB] (3 credits) **OR**
COM225 [L] (3 credits) **OR**
COM230 [SB] (3 credits)

b. Critical Reading
A total of three (3) semester credits is required for the Critical Reading area. However, if students complete CRE101 and apply it to AGEC-A Core Requirements or if the students demonstrate proficiency through assessment, then the Critical Reading requirement has been satisfied and additional electives may be taken.

CRE101 [L] **OR** equivalent as indicated by assessment

II. General Electives

Select courses to complete a minimum of 60 semester credits but no more than a total of 64 semester credits.

For students who have decided on a major that articulates with the AA, but who are undecided on the university to which they will transfer, courses satisfying the General Electives area should be selected from the list of Common Courses, Arizona Transfer Pathway Guides, and/or University Transfer Guides in order for the courses to apply in the major upon transfer.

The list of Common Courses for each major is included in the Arizona Transfer Pathway Guides. University Transfer Guides are also available for the Arizona public universities. These guides, both statewide and institutional, are accessible on the following web site: **www.aztransfer.com**

Students must select MCCCD courses that are acceptable as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities according to the Arizona CEG within the AZCAS. For appropriate course selection, students should consult with an advisor.

For some majors, students must demonstrate 4th semester proficiency at the 202 course level to satisfy the Non-English Language Requirements. Students should consult the Arizona Transfer Pathway Guides and/or the University Transfer Guides to determine this requirement for the major at the university to which they intend to transfer. If required, it is recommended that students choose Maricopa courses as electives to meet this requirement as part of the Associate in Arts degree.

Students who are undecided on a major or university should consult an advisor. Not all majors have common courses, so it is recommended that students consult with an advisor for a list of common courses or assistance with selecting appropriate electives.

Associate in Arts Total Credits: 60-64

ASSOCIATE IN SCIENCE (AS)

Description

The Maricopa County Community College District **Associate in Science** degree requires 60-64 semester credits for the program of study. The degree includes the following components:

I. General Education:

Arizona General Education Curriculum for Science (AGEC-S) MCCCD Additional Requirements

II. General Electives

Purpose of the Degree

The Associate in Science degree is designed for students planning to transfer to four-year colleges and universities. In general, the components of the degree meet requirements for majors with more stringent mathematics and mathematics-based science requirements. Generally, the degree will transfer as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements.

In most cases, courses used to satisfy the MCCCD Associate in Science will apply to university graduation requirements of the university major for which the Associate in Science is designed. Information regarding the articulation of the Associate in Science with majors at the Arizona public universities can be accessed via the following website: **www.aztransfer.com**

Academic Policies that Govern the Associate in Science Degree

- Completion of the Associate in Science or the AGEC-S provides for exemption from Arizona public university admission requirements for Arizona residents who have a minimum Grade Point Average of 2.0 on a 4.0=A scale and a minimum 2.5 on a 4.0=A scale for non-residents.
- The graduation policies within the general catalog must be satisfied for completion of the Associate in Science degree.
- A minimum of 60 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better. Credit units transferred from outside of the district need to be at a grade of "C" or better. A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent. On an exception basis, P-grades may be allowed in the AGEC for credit transferred if documentation collected by the community college indicates that the P-grade issued was the only option for the student and the P-grade is a "C" or better. The P-grade exception does not apply to credits awarded by AGEC granting/receiving institutions.
- Credit received through prior learning assessment or credit by evaluation is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. No more than 20 semester credit hours may be applied toward AGEC.

- The General Education Requirements for AGEC-S may be completed in 36-38 semester credits with the following stipulations:
  - Courses can satisfy a Core area and one or two Awareness areas simultaneously.
  - A course cannot be used to satisfy more than one Core area requirement in the AGEC A and B.
  - A course can be used to satisfy the L and SB or L and HU requirements simultaneously in the Core area for the AGEC S.
- General Education Courses can satisfy multiple areas within the degree simultaneously (AGEC-S Core Area, AGEC Awareness Area, MCCCD Additional Requirements, or lower-division courses applicable to the major).
- Effective fall 2000, the course evaluation and/or general education designation as listed in the Arizona Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Students do have the option to petition for general education evaluations and/or general education designations upon transfer.
- Courses completed at one of the Maricopa Community Colleges to meet AGEC-S requirements must be listed in the Course Equivalency Guide within the Arizona Course Applicability System as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities. The course's evaluation and/or general education designation is valid for the term in which the student is awarded credit on the transcript. See the list titled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta**
- Courses completed at one of the Maricopa Community Colleges to meet the General Electives requirement must be listed in the Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities. For appropriate course selection, students should consult with an advisor.
- Courses transferred from another regionally accredited institution to one of the Maricopa Community Colleges will be evaluated by the college for inclusion in the AGEC-S or Associate in Science Degree.
- Courses and their modular equivalents will satisfy AGEC-S and Associate in Science requirements.
- If a course is cross-referenced with one or more other courses, then only one of the cross-referenced courses will be accepted to meet requirements.

Degree Requirements

The 60-64 semester credits required for the Associate in Science follow. See the list titled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta.** This list identifies the courses in alpha-order by prefix as well as the Core Areas and Awareness Areas where the course will apply. For purposes of clarifying requirements in the Mathematics and Natural Sciences areas on the list and the AGEC requirements, an A, B, and/or S character may follow the [MA], [SQ], [SG] general education designations and refers to the specific AGEC.

I. MCCCD General Education

The MCCCD General Education includes two areas: MCCCD AGEC-S and MCCCD Additional Requirements.

MCCCD AGEC-S

1. Core Areas — 36-38 Credits

a. First-Year Composition (FYC) — **6**

b. Literacy and Critical Inquiry [L] — **0-3**
Select a course that satisfies L (Literacy and Critical Inquiry) and SB (Social and Behavioral Sciences) **OR** L (Literacy and Critical Inquiry) and HU (Humanities and Fine Arts) requirements simultaneously.

c. Mathematical Studies [MA] — **4**
To complete the Mathematical Studies requirement, select one course to satisfy Mathematics [MA] S.

1) Mathematics [MA] S (4 credits)
   Select a calculus course MAT220 or MAT221, or any mathematics course for which MAT220 or MAT221 is a prerequisite, or
2) If pursuing a degree at ASU in Life Sciences select MAT251 Calculus for Life Science.

d. Humanities and Fine Arts [HU] — **6**
Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

Select a course that satisfies both L and HU requirements simultaneously.

e. Social and Behavioral Sciences [SB] — **6**
Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

Select a course that satisfies both L and HU requirements simultaneously.

f. Natural Sciences **8**

To complete the Natural Sciences requirement:
Select eight (8) semester credits of either general chemistry CHM151 & CHM151LL and CHM152 & CHM152LL
OR
Eight (8) semester credits of university physics PHY115 & PHY116 or PHY121 & PHY131
OR
Eight (8) semester credits of general biology, BIO181 & BIO182 appropriate to the major.

g. Subject Options (subject based on major) **6-8**

Students completing AGEC-S, through careful selection of courses that meet the other major or prerequisite requirements for Science degree, will meet this requirement. Using a transfer guide, select courses from Mathematics courses above Calculus, and/or Science courses from: Astronomy, Biology, Botany, Chemistry, Environmental Science, Geology, Physical Geography, Physics, and Zoology.

2. Awareness Areas

Students must satisfy two Awareness Areas: Cultural Diversity in the United States [C] and either Global Awareness [G] or Historical Awareness [H]. However, it is not necessary for students to exceed thirty-six to thirty-eight semester credits to complete the Awareness Areas because courses can satisfy a Core Area and one or two Awareness Areas simultaneously. Therefore no additional semester credits are required to satisfy the two Awareness Areas.

Cultural Diversity in the United States [C]
AND
Global Awareness [G] **OR**
Historical Awareness [H]

3. MCCCD Additional Requirements 0-6 Credits

Students must satisfy Oral Communication and Critical Reading areas. However, it is not necessary for students to exceed the 36-38 semester credits required in order to complete the MCCCD Additional Requirements.

a. Oral Communication

A total of three (3) semester credits are required for Oral Communication. However, if students select a communication course that satisfies both the Oral Communication area and an area within the Core, then the Oral Communication requirement has been satisfied and additional electives may be taken.

Select from the following options:
COM100 [SB] (3 credits) **OR**
COM100AA & COM100AB & COM100AC [SB] (3 credits) **OR**
COM110 [SB] (3 credits) **OR**
COM110AA & COM110AB & COM110AC [SB] (3 credits) **OR**
COM225 [L] (3 credits) **OR**
COM230 [SB] (3 credits)

b. Critical Reading

A total of three (3) semester credits are required for the Critical Reading area. If students demonstrate proficiency through assessment, then the Critical Reading requirement has been satisfied and additional electives may be taken.

CRE101 [L] **OR** equivalent as indicated by assessment.

II. General Electives

Select courses to complete a minimum of 60 semester credits but no more than a total of 64 semester credits.

For students who have decided on a major that articulates with the AS, but who are undecided on the university to which they will transfer, courses satisfying the General Electives area should be selected from the list of Common Courses, Arizona Transfer Pathway Guides, and/or University Transfer Guides in order for the courses to apply in the major upon transfer.

The list of Common Courses for each major is included in the Arizona Transfer Pathway Guides. University Transfer Guides are also available for the Arizona public universities. These guides, both statewide and institutional, are accessible on the following web site: **www.aztransfer.com**

Students must select MCCCD courses that are acceptable as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities according to the Arizona CEG within the AZCAS. For appropriate course selection, students should consult with an advisor.

For some majors, students must demonstrate 4th semester proficiency at the 202 course level to satisfy the Non-English Language Requirements. Students should consult the Arizona Transfer Pathway Guides and/or the University Transfer Guides to determine this requirement for the major at the university to which they intend to transfer. If required, it is recommended that students choose Maricopa courses as electives to meet this requirement as part of the Associate in Science degree.

Students who are undecided on a major or university should consult an advisor. Not all majors have common courses, so it is recommended that students consult with an advisor for a list of common courses or assistance with selecting appropriate electives.

Associate in Science Total Credits: 60-64

ASSOCIATE IN ARTS – ELEMENTARY EDUCATION (AA-EE)

Description

The MCCCD **Associate in Arts in Elementary Education (AAEE)** requires the student to complete a total of 60-63 semester credits in the program of study. The degree has two major components:

I. MCCCD General Education

Arizona General Education Curriculum for Arts (AGEC-A)
Additional MCCCD Requirements

II. Elementary Education Requirements

Education Foundations
Electives for Arizona Professional Teacher Standards

Purpose of the Degree

The AAEE is designed for the student who plans to transfer to an Elementary Education, Early Childhood, Multicultural/ Multilingual or Special Education program at an Arizona public higher education institution and/or who plans to become a classroom instructional aide.

Generally, the degree transfers as a block without loss of credit to Arizona's public universities. In most cases, courses applied to the MCCCD Associate in Arts in Elementary Education also apply to graduation requirements of the university major for which the AAEE was designed.

Academic Policies that Govern the Associate in Arts Elementary Education Degree:

- Completion of the Associate in Arts or the AGEC-A provides for exemption from Arizona public university admission requirements for Arizona residents who have a minimum Grade Point Average of 2.0 on a 4.0=A scale and a minimum 2.5 on a 4.0=A scale for non-residents.
- The graduation policies within the general catalog must be satisfied for completion of the Associate in Arts degree.
- A minimum of 60 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better; Credit units transferred from outside of the district need to be at a grade of "C" or better. A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent. A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent. On an exception basis, P-grades may be allowed in the AGEC for credit transferred if documentation collected by the community college indicates that the P-grade issued was the only option for the student and the P-grade is a "C" or better. The P-grade exception does not apply to credits awarded by AGEC granting/receiving institutions.
- Credit received through prior learning assessment or credit by evaluation is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. No more than 20 semester credit hours may be applied toward AGEC.
- Credit received through prior learning assessment or credit by evaluation is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. No more than 20 semester credit hours may be applied toward AGEC.
- The General Education Requirements for AGEC-A may be completed in 35 semester credits with the following stipulations:
  - Courses can satisfy a Core Area and one or two Awareness Areas simultaneously.
  - A course cannot be used to satisfy more than one Core Area.
  - Courses can satisfy an Elementary Education Requirement and one or more Awareness Areas simultaneously.
  - A course cannot satisfy both the Elementary Education Requirement and a Core Area Requirement simultaneously.
  - Effective fall 2000, the course evaluation and/or general education designation as listed in the Arizona Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Students do have the option to petition for general education evaluations and/or general education designations upon transfer.
  - Courses completed at one of the Maricopa Community Colleges to meet AGEC-A requirements must be listed in the Course Equivalency Guide within the Arizona Course Applicability System as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities. The course's evaluation and/or general education designation is valid for the term in which the student is awarded credit on the transcript. See the list titled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website:
    http://www.maricopa.edu/academic/ccta
  - Courses completed at one of the Maricopa Community Colleges to meet the General Electives requirement must be listed in the Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) as an equivalent course, departmental elective credit (XXXDEC), or general elective credit (Elective) at all Arizona public universities. For appropriate course selection, students should consult with an advisor.
  - Courses transferred from another regionally accredited institution to one of the Maricopa Community Colleges will be evaluated by the college for inclusion in the AGEC-A or the Associate in Arts Elementary Education degree.
  - Courses and their modular equivalents will satisfy AGEC-A and Associate in Arts in Elementary Education requirements.
  - If a course is cross-referenced with one or more other courses, then only one of the cross-referenced courses will be accepted to meet requirements.

Degree Requirements

I. MCCCD General Education Requirements

A. MCCCD AGEC-A

1. Core Areas 35-38 Credits

a. First-Year Composition [FYC] **6**
ENG101/102 OR ENG107/108

b. Mathematics Studies [MA] and Computer/ Statistics/Quantitative Applications [CS] **6**

1. MAT142 [MA]
   College Mathematics, or higher
   (NOTE: MAT150, MAT151, MAT152, MAT156 and MAT157 are excluded)
   AND
2. CIS105 [CS]
   Survey of Computer Information Systems, **OR**
   BPC110 [CS]
   Computer Usage and Applications

c. Literacy and Critical Inquiry [L] **3**
COM225 Public Speaking

d. Humanities and Fine Arts [HU] **6**

1. Select (3) semester credits from the following courses:

   ARH100 Introduction to Art
   ARH101 Prehistoric through Gothic Art
   ARH102 Renaissance through Contemporary Art
   AND
2. Select (3) semester credits from the following courses:
   ENH110 Introduction to Literature
   ENH241 American Literature Before 1860
   ENH242 American Literature After 1860
   EDU/ENH291 Children's Literature
   HUM250 or HUM251 Ideas and Values in the Humanities
   THE111 Introduction to Theatre
   DAH100 Introduction to Dance
   DAH201 World Dance Perspectives
   MHL140 Survey of Music History
   MHL143 Music in World Cultures

e. Social and Behavioral Sciences [SB] **6**

1. Select 3 semester credits from the following courses:
   HIS103 United States History to 1870
   HIS104 United States History 1870 to Present
   AND
2. Select 3 semester credits from the following courses:
   PSY101 Introduction to Psychology
   GCU121 World Geography I: Eastern Hemisphere
   GCU122 World Geography II: Western Hemisphere
   ECN211 Macroeconomic Principles
   ECN212 Microeconomic Principles
   POS110 American National Government
   ECH/CFS176 Child Development
   CFS205 Human Development

f. Natural Sciences—Science-Quantitative [SQ] and Science-General [SG] **8**
To complete the Natural Sciences requirement, select a total of 8 semester credits from the following categories. At least 4 credits must be SQ courses. You can select 4 semester credits of SG and 4 semester credits of SQ for a total of 8 semester credits. Natural Sciences courses must include or be accompanied by the corresponding laboratory course. When the lecture and corresponding laboratory are awarded separate credit, both will be counted as equivalent to one course in that discipline.

1. Life Sciences - Select 4 semester credits from the following courses:
   BIO100 Biology Concepts [SQ]
   BIO105 Environmental Biology [SQ]
   BIO108 Plants and Society [SQ]
   AND
2. Physical Sciences - Select 4 semester credits of SQ or SG credits from the following prefixes:
   AGS
   ASM
   AST
   GPH
   GLG
   PHS
   PHY

2. Awareness Areas 0 Credits

The MCCCD AAEE requires coursework in two Awareness Areas:
Cultural Diversity in the U.S. [C] **AND**
Historical Awareness [H] **OR**
Global Awareness [G]

Courses can satisfy a Core Area Requirement and one or more Awareness Areas, or can satisfy an Elementary Education Requirement and one or more Awareness Areas simultaneously. Therefore, no additional semester credits are required to satisfy the two Awareness Areas.

3. MCCCD Additional Requirements 0-3 Credits

a. Oral Communication
Satisfied by COM225 taken for Literacy and Critical Inquiry Requirement

b. Critical Reading
CRE101 or exemption by testing.

II. Elementary Education Requirements 25 Credits

A total of 25 semester credits are required to satisfy the Elementary Education Requirements.

A. Education Foundations 15 Credits

Complete the following courses to satisfy the Education Foundations requirements:
EDU221 Introduction to Education
EDU222 Introduction to the Exceptional Learner
EDU230 Cultural Diversity in Education
MAT156 Mathematics for Elementary Teachers I
MAT157 Mathematics for Elementary Teachers II

B. Electives for Arizona Professional Teacher Standards 10 Credits

A total of 10 semester credits are required to satisfy the Electives for Arizona Professional Teacher Standards: 3 credits in an additional Education course and 7 credits in Content Area Electives. Courses must transfer to all public Arizona universities as Elective Credit, Departmental Elective, or Equivalent to a university course as indicated in the Arizona Course Equivalency Guide in effect when the course is taken. Courses identified as Non-transferable in the Arizona Course Equivalency Guide cannot be used to satisfy this requirement.

1. Additional Education Course Requirement
   Select any EDU course (except EDU221, EDU222, EDU230 and EDU250) to satisfy this requirement.
2. Content Area Electives
   Select 7 credits from the following:

   Any ARH, ART, CIS, ECN, BPC, ENG, ENH, GCU, GPH, HIS, MHL, MTC, POS, THE, THP prefixed course(s)

   Any EDU prefixed course(s) (except EDU250)

   Any MAT (courses numbered higher than 142 except MAT156 and MAT157)

   Any Foreign Language course(s)

   Any Natural Science course(s)

   CFS/ECH176 Child Development

   CFS205 Human Development

   EED215 Early Learning: Heath, Safety, Nutrition and Fitness

   FON100 Introductory Nutrition

Associate in Arts – Elementary Education Total Credits: 60-63

ASSOCIATE IN ARTS, FINE ARTS – DANCE (AAFA)

Description

The Maricopa County Community College District **Associate in Arts, Fine Arts - Dance** degree requires a minimum of 64 semester credits for the program of study. The degree includes the following components:

I. General Education

Arizona General Education Curriculum for Arts (AGEC-A)
MCCCD Additional Requirements

II. Fine Arts Requirements – Dance

Purpose of the Degree

The Associate in Arts, Fine Arts - Dance degree is designed for students planning to transfer to four-year colleges and universities. In general, the components of the degree meet requirements for majors in the Fine Arts. The degree is designed to prepare students to meet selective admission criteria for programs such as the Bachelor of Fine Arts, which may require a portfolio or performance requirement.

The semester credits used to satisfy the MCCCD Associate in Arts, Fine Arts - Dance degree may apply to university graduation requirements of the university major for which the degree is designed. Information regarding the articulation of the degree with majors at the Arizona public universities can be accessed via the following website: **www.aztransfer.com**

Academic Policies that Govern the Associate in Arts, Fine Arts – Dance Degree

- Completion of the Associate in Arts, Fine Arts - Dance degree or the AGEC-A provides for exemption from Arizona public university admission requirements for Arizona residents who have a minimum Grade Point Average of 2.0 on a 4.0=A scale and a minimum 2.5 on a 4.0=A scale for non-residents.
- The graduation policies within the general catalog must be satisfied for completion of the Associate in Arts, Fine Arts - Dance degree.
- A minimum of 64 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better; Credit units transferred from outside of the district need to be at a grade of "C" or better. A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent. On an exception basis, P-grades may be allowed in the AGEC for credit transferred if documentation collected by the community college indicates that the P-grade issued was the only option for the student and the P-grade is a "C" or better. The P-grade exception does not apply to credits awarded by AGEC granting/receiving institutions.
- Credit received through prior learning assessment or credit by evaluation is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. No more than 20 semester credit hours may be applied toward AGEC.
- The General Education Requirements for AGEC-A may be completed in 35 semester credits with the following stipulations:
  - Courses can satisfy a Core Area and one or two Awareness Areas simultaneously.
  - A course cannot be used to satisfy more than one Core Area.
  - General Education Courses can satisfy multiple areas within the degree simultaneously (AGEC-A Core Area, AGEC Awareness Area, MCCCD Additional Requirements, or lower-division courses applicable to the major).

- Effective fall 2000, the course evaluation and/or general education designation as listed in the Arizona Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Students do have the option to petition for general education evaluations and/or general education designations upon transfer.
- Courses completed at one of the Maricopa Community Colleges to meet AGEC-A requirements must be listed in the Course Equivalency Guide within the Arizona Course Applicability System as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities. The course's evaluation and/or general education designation is valid for the term in which the student is awarded credit on the transcript. See the list titled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta**
- Courses completed at one of the Maricopa Community Colleges to meet the General Electives requirement must be listed in the Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) as an equivalent course, departmental elective credit (XXXDEC), or general elective credit (Elective) at all Arizona public universities. For appropriate course selection, students should consult with an advisor.
- Courses transferred from another regionally accredited institution to one of the Maricopa Community Colleges will be evaluated by the college for inclusion in the AGEC-A or Associate in Arts, Fine Arts - Dance degree.
- Courses and their modular equivalents will satisfy AGEC-A and Associate in Arts, Fine Arts - Dance requirements.
- If a course is cross-referenced with one or more other courses, then only one of the cross-referenced courses will be accepted to meet requirements.

Degree Requirements

The 64 semester credits required for the Associate in Arts, Fine Arts - Dance degree follow. See the list titled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta.** This list identifies the courses in alpha-order by prefix as well as the Core Areas and Awareness Areas where the course will apply. For purposes of clarifying requirements in the Mathematics and Natural Sciences areas on the list and the AGEC requirements, an A, B, and/or S character may follow the [MA], [SQ], [SG] general education designations and refers to the specific AGEC.

I. MCCCD General Education

The MCCCD General Education includes two areas: MCCCD AGEC-A and MCCCD Additional Requirements.

A. MCCCD AGEC-A

1. Core Areas — 35 Credits

a. First-Year Composition (FYC) — **6**

b. Literacy and Critical Inquiry [L] — **3**

c. Mathematical Studies [MA/CS] — **6**

To complete the Mathematical Studies requirement, select one course to satisfy Mathematics [MA] A and a second course from Computer/Statistics/ Quantitative Applications [CS].

1. Mathematics [MA] A (3 credits)
   Select a course in college mathematics or college algebra or pre-calculus or any other mathematics course for which college algebra is a prerequisite
   AND
2. Computer/Statistics/Quantitative Applications [CS] (3 credits)

d. Humanities and Fine Arts [HU] — **6**

Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

Select from the following options to complete three credits:

DAH100 Introduction to Dance	3
DAH201 World Dance Perspectives	3

e. Social and Behavioral Sciences [SB] — **6**

Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

f. Natural Sciences [SQ/SG] — **8**

To complete the Natural Sciences requirement: Select four (4) semester credits of [SQ] and four (4) semester credits of [SG] for a total of eight (8) semester credits, OR eight (8) semester credits of [SQ]. Students cannot take eight (8) semester credits of [SG] to meet the Natural Sciences requirement.

The lecture course(s) selected for Natural Sciences must include or be accompanied by the corresponding laboratory course. The lecture and corresponding laboratory course(s) may carry separate credit. Students should consult with an advisor for appropriate course selection. Students should also access the AZ Course Equivalency Guide (CEG) within the AZ Course Applicability System (AZCAS) for information on equivalencies.

Select from the following options to complete four credits:

BIO160 Introduction to Human Anatomy and Physiology
BIO201 Human Anatomy and Physiology I

2. Awareness Areas 0 Credits

Students must satisfy two Awareness Areas: Cultural Diversity in the United States [C] and either Global Awareness [G] or Historical Awareness [H]. However, it is not necessary for students to exceed thirty-five semester credits to complete the Awareness Areas because courses can satisfy a Core Area and one or two Awareness Areas simultaneously. Therefore no additional semester credits are required to satisfy the two Awareness Areas.

Cultural Diversity in the United States [C]
AND
Global Awareness [G] **OR**
Historical Awareness [H]

3. MCCCD Additional Requirements 0-6 Credits

Students must satisfy Oral Communication and Critical Reading areas. However, it is not necessary for students to exceed the thirty-five semester credits required in order to complete the MCCCD Additional Requirements because courses can satisfy a Core Area and MCCCD Additional Requirements simultaneously. Therefore no additional semester credits are required to satisfy Oral Communication and Critical Reading.

a. Oral Communication

A total of three (3) semester credits is required for Oral Communication. However, if students select a communication course that satisfies both the Oral Communication area and an area within the Core, then the Oral Communication requirement has been satisfied and additional electives may be taken.

Select from the following options:
COM100 [SB] (3 credits) **OR**
COM100AA & COM100AB & COM100AC [SB] (3 credits) **OR**
COM110 [SB] (3 credits) **OR**
COM110AA & COM110AB & COM110AC [SB] (3 credits) **OR**
COM225 [L] (3 credits) **OR**
COM230 [SB] (3 credits)

b. Critical Reading 3

A total of three (3) semester credits is required for the Critical Reading area. However, if students complete CRE101 and apply it to AGEC-A Core Requirements or if the students demonstrate proficiency through assessment, then the Critical Reading requirement has been satisfied and additional electives may be taken.

Select from the following options to complete 3 credits:
CRE101 [L] (3 credits) **OR**
equivalent as indicated by assessment

II. Fine Arts Requirements – Dance 29 Credits

A minimum of 29 credits are required to satisfy the Fine Arts Requirements – Dance.

Part I 11 Credits

Select the following:

DAN150	Dance Performance I	1
DAN210	Dance Production I	3
DAN221	Rhythmic Theory for Dance I	2
DAN264	Choreography I	3
DAN280	Dance Practicum	2

Part II 9 Credits

Select from the following options to complete a minimum of nine semester credits. Students must attain Level III competency in ballet and modern dance courses:

DAN120++	World Dance (any module)	1
DAN129	Musical Theatre Dance I	1
DAN130	Musical Theatre Dance II	1
DAN131	Ballet I 1	
DAN132	Modern Dance I 1	
DAN133	Modern Jazz Dance I	1
DAN134	Ballet II 1	
DAN135	Modern Dance II	1
DAN136	Modern Jazz Dance II	1
DAN229	Musical Theatre Dance III	1
DAN230	Musical Theatre Dance IV	1
DAN231	Ballet III	1
DAN231AA	Ballet III: Intensive	2
DAN232	Modern Dance III	1
DAN233	Modern Jazz Dance III	1
DAN234	Ballet IV	1
DAN234	Ballet IV: Intensive	2
DAN235	Modern Dance IV	1
DAN236	Modern Jazz Dance IV	1
DAN237	Ballet Pointe I	1
DAN290	Dance Conservatory I (any module)	1-3
DAN291	Dance Conservatory II (any module)	1-3
DAN292	Dance Conservatory III (any module)	1-3

Part III: Restricted Electives 9 Credits

The remaining credits from DAH and DAN prefixed courses should be selected as prescribed by the dance advisor. Only three of the remaining credits may be selected from the following DAN prefixed courses:

DAH+++++	Any DAH prefixed course EXCEPT DAH100 or DAH201 if selected to satisfy the AGEC-A Humanities and Fine Arts Area	
DAN115++	Contemporary Dance Trends (any module)	1
DAN120++	World Dance (any module)	1
DAN125++	Social Dance (any module)	1
DAN129	Musical Theatre Dance I	1

DAN130	Musical Theatre Dance II	1
DAN133	Modern Jazz Dance I	1
DAN136	Modern Jazz Dance II	1
DAN140	Tap Dance I	1
DAN141	Dance Workshop	1
DAN145	Tap Dance II	1
DAN146	Tap Dance Ensemble	1
DAN150	Dance Performance I	1
DAN164	Improvisation	1
DAN230	Musical Theatre Dance IV	1
DAN231	Ballet III	1
DAN231AA	Ballet III: Intensive	2
DAN232	Modern Dance III	1
DAN233	Modern Jazz Dance III	1
DAN234	Ballet IV	1
DAN234AA	Ballet IV: Intensive	2
DAN235	Modern Dance IV	1
DAN236	Modern Jazz Dance IV	1
DAN237	Ballet Pointe I	1
DAN290++	Dance Conservatory I (any module)	1-3
DAN291++	Dance Conservatory II (any module)	1-3
DAN292++	Dance Conservatory III (any module)	1-3
DAN298++	Special Projects (any module)	1-3

** Selection of DAN298 courses to satisfy degree requirements should be done in consultation with a program advisor or faculty member as Special Projects courses do not currently transfer to any of the three Arizona state public universities.*

NOTE: 298 courses are not accepted for use within statewide transfer degrees since the policy is very clear about 298s exclusion from the CEG. For students who elect to transfer to one of the three public universities in Arizona the credit requirements are specific. The DAN298 course within the degree requirements and course bank may support other college/student needs. The above note has been added to the 298 courses that explains what the current transfer condition if the student is planning to transfer to ASU, U of A or NAU. Please review and indicate if the proposed note is acceptable or if some other solution should be proposed.

Associate in Arts, Fine Arts – Dance
Total Credits 64

ASSOCIATE IN ARTS, FINE ARTS – AA (AAFA)

Description

The Maricopa County Community College District **Associate in Arts, Fine Arts - Art** degree requires a minimum of 63 semester credits for the program of study. The degree includes the following components:

I. General Education

Arizona General Education Curriculum for Arts (AGEC-A)
MCCCD Additional Requirements

II. Fine Arts Requirements – Art

Purpose of the Degree

The Associate in Arts, Fine Arts - Art degree is designed for students planning to transfer to four-year colleges and universities. In general, the components of the degree meet requirements for majors in the Fine Arts. The degree is designed to prepare students to meet selective admission criteria for programs such as the Bachelor of Fine Arts, which may require a portfolio or performance requirement.

The semester credits used to satisfy the MCCCD Associate in Arts, Fine Arts - Art degree may apply to university graduation requirements of the university major for which the degree is designed. Information regarding the articulation of the degree with majors at the Arizona public universities can be accessed via the following website: **www.aztransfer.com**

Academic Policies that Govern the Associate in Arts, Fine Arts – Art Degree

- Completion of the Associate in Arts, Fine Arts - Art degree or the AGEC-A provides for exemption from Arizona public university admission requirements for Arizona residents who have a minimum Grade Point Average of 2.0 on a 4.0=A scale and a minimum 2.5 on a 4.0=A scale for non-residents.
- The graduation policies within the general catalog must be satisfied for completion of the Associate in Arts, Fine Arts - Art degree.
- A minimum of 63 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better. Credit units transferred from outside of the district need to be at a grade of "C" or better. A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent. On an exception basis, P-grades may be allowed in the AGEC for credit transferred if documentation collected by the community college indicates that the P-grade issued was the only option for the student and the P-grade is a "C" or better. The P-grade exception does not apply to credits awarded by AGEC granting/receiving institutions.
- Credit received through prior learning assessment or credit by evaluation is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. No more than 20 semester credit hours may be applied toward AGEC.
- The General Education Requirements for AGEC-A may be completed in 35 semester credits with the following stipulations:
  - Courses can satisfy a Core Area and one or two Awareness Areas simultaneously.
  - A course cannot be used to satisfy more than one Core Area.
- General Education Courses can satisfy multiple areas within the degree simultaneously (AGEC-A Core Area, AGEC Awareness Area, MCCCD Additional Requirements, or lower-division courses applicable to the major).

- Effective fall 2000, the course evaluation and/or general education designation as listed in the Arizona Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Students do have the option to petition for general education evaluations and/or general education designations upon transfer.
- Courses completed at one of the Maricopa Community Colleges to meet AGEC-A requirements must be listed in the Course Equivalency Guide within the Arizona Course Applicability System as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities. The course's evaluation and/or general education designation is valid for the term in which the student is awarded credit on the transcript. See the list titled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta**
- Courses completed at one of the Maricopa Community Colleges to meet the General Electives requirement must be listed in the Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) as an equivalent course, departmental elective credit (XXXDEC), or general elective credit (Elective) at all Arizona public universities. For appropriate course selection, students should consult with an advisor.
- Courses transferred from another regionally accredited institution to one of the Maricopa Community Colleges will be evaluated by the college for inclusion in the AGEC-A or Associate in Arts, Fine Arts - AA degree.
- Courses and their modular equivalents will satisfy AGEC-A and Associate in Arts, Fine Arts – Art requirements.
- If a course is cross-referenced with one or more other courses, then only one of the cross-referenced courses will be accepted to meet requirements.

Degree Requirements

The 63 semester credits required for the Associate in Arts, Fine Arts - Art degree follow. See the list titled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta.** This list identifies the courses in alpha-order by prefix as well as the Core Areas and Awareness Areas where the course will apply. For purposes of clarifying requirements in the Mathematics and Natural Sciences areas on the list and the AGEC requirements, an A, B, and/or S character may follow the [MA], [SQ], [SG] general education designations and refers to the specific AGEC.

I. MCCCD General Education

The MCCCD General Education includes two areas: MCCCD AGEC-A and MCCCD Additional Requirements

MCCCD AGEC-A

1. Core Areas **35 Credits**

a. First-Year Composition (FYC) **6**

b. Literacy and Critical Inquiry [L] **3**

c. Mathematical Studies [MA/CS] **6**

To complete the Mathematical Studies requirement, select one course to satisfy Mathematics [MA] A and a second course from Computer/Statistics/ Quantitative Applications [CS].

1) Mathematics [MA] A (3 credits)
   Select a course in college mathematics or college algebra or pre-calculus or any other mathematics course for which college algebra is a prerequisite
   AND
2) Computer/Statistics/Quantitative Applications [CS] (3 credits)

d. Humanities and Fine Arts [HU] **6**

Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

Select the following:
ARH101 Prehistoric Through Gothic Art (3)

e. Social and Behavioral Sciences [SB] **6**

Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

f. Natural Sciences [SQ/SG] **8**

To complete the Natural Sciences requirement: Select four (4) semester credits of [SQ] and four (4) semester credits of [SG] for a total of eight (8) semester credits, **OR** eight (8) semester credits of [SQ]. Students cannot take eight (8) semester credits of [SG] to meet the Natural Sciences requirement.

The lecture course(s) selected for Natural Sciences must include or be accompanied by the corresponding laboratory course. The lecture and corresponding laboratory course(s) may carry separate credit. Students should consult with an advisor for appropriate course selection. Students should also access the AZ Course Equivalency Guide (CEG) within the AZ Course Applicability System (AZCAS) for information on equivalencies.

2. Awareness Areas 0 Credits

Students must satisfy two Awareness Areas: Cultural Diversity in the United States [C] and either Global Awareness [G] or Historical Awareness [H]. However, it is not necessary for students to exceed thirty-five semester credits to complete the Awareness Areas because courses can satisfy a Core Area and one or two Awareness Areas simultaneously. Therefore no additional semester credits are required to satisfy the two Awareness Areas.

Cultural Diversity in the United States [C]
AND
Global Awareness [G] **OR**
Historical Awareness [H]

3. MCCCD Additional Requirements 0-6 Credits

Students must satisfy Oral Communication and Critical Reading areas. However, it is not necessary for students to exceed the thirty-five semester credits required in order to complete the MCCCD Additional Requirements because courses can satisfy a Core Area and MCCCD Additional Requirements simultaneously. Therefore no additional semester credits are required to satisfy Oral Communication and Critical Reading.

a. Oral Communication **3**

A total of three (3) semester credits is required for Oral Communication. However, if students select a communication course that satisfies both the Oral Communication area and an area within the Core, then the Oral Communication requirement has been satisfied and additional electives may be taken.

Select from the following options:
COM100 [SB] (3 credits) **OR**
COM100AA & COM100AB & COM100AC [SB] (3 credits) **OR**
COM110 [SB] (3 credits) **OR**
COM110AA & COM110AB & COM110AC [SB] (3 credits) **OR**
COM225 [L] (3 credits) **OR**
COM230 [SB] (3 credits)

b. Critical Reading **3**

A total of three (3) semester credits is required for the Critical Reading area. However, if students complete CRE101 and apply it to AGEC-A Core Requirements or if the students demonstrate proficiency through assessment, then the Critical Reading requirement has been satisfied.

Select from the following options to complete 3 credits:
CRE101 (3 credits) **OR** equivalent as indicated by assessment

II. Fine Arts Requirements – Art 28 Credits

A minimum of 28 credits are required to satisfy the Fine Arts Requirements – Art.

Foundations 16 Credits

Select the following:

ADA/ART112	Two-Dimensional Design	3
ADA/ART115	Three-Dimensional Design	3
ARH102	Renaissance Through Contemporary Art	3
ART111	Drawing I	3
ART113	Color	3
ART255AB	The Portfolio	1

Restricted Electives 12 Credits

Select from the following options to complete a minimum of twelve semester credits:

ART116	Life Drawing I	3
ART122	Drawing and Composition II	3
ART131	Photography I	3
ART151	Sculpture I	3
ART161	Ceramics I	3
ART165	Watercolor Painting I	3
ART167	Painting I	3

Associate in Arts, Fine Arts – Art Total Credits 63

ASSOCIATE IN ARTS, FINE ARTS – THEATRE (AAFA)

Description

The Maricopa County Community College District **Associate in Arts, Fine Arts - Theatre** degree requires a minimum of 60-64 semester credits for the program of study. The degree includes the following components:

I. General Education

Arizona General Education Curriculum for Arts (AGEC-A)
MCCCD Additional Requirements

II. Fine Arts Requirements – Theatre

Purpose of the Degree

The Associate in Arts, Fine Arts - Theatre degree is designed for students planning to transfer to four-year colleges and universities. In general, the components of the degree meet requirements for majors in the Fine Arts the degree is designed to prepare students to meet selective admission criteria for programs such as the Bachelor of Fine Arts, which may require a portfolio or performance requirement.

The semester credits used to satisfy the MCCCD Associate in Arts, Fine Arts - Theatre may apply to university graduation requirements of the university major for which the degree is designed. Information regarding the articulation of the degree with majors at the Arizona public universities can be accessed via the following website: **www.aztransfer.com**

Academic Policies that Govern the Associate in Arts, Fine Arts – Theatre Degree

- Completion of the Associate in Arts, Fine Arts - Theatre or the AGEC-A provides for exemption from Arizona public university admission requirements for Arizona residents who have a minimum Grade Point Average of 2.0 on a 4.0=A scale and a minimum 2.5 on a 4.0=A scale for non-residents.
- The graduation policies within the general catalog must be satisfied for completion of the Associate in Arts, Fine Arts - Theatre degree.
- A minimum of 60 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better. Credit units transferred from outside of the district need to be at a grade of "C" or better. A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent. On an exception basis, P-grades may be allowed in the AGEC for credit transferred if documentation collected by the community college indicates that the P-grade issued was the only option for the student and the P-grade is a "C" or better. The P-grade exception does not apply to credits awarded by AGEC granting/receiving institutions.
- Credit received through prior learning assessment or credit by evaluation is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. No more than 20 semester credit hours may be applied toward AGEC.
- The General Education Requirements for AGEC-A may be completed in 35 semester credits with the following stipulations:
  - Courses can satisfy a Core Area and one or two Awareness Areas simultaneously.
  - A course cannot be used to satisfy more than one Core Area.
- General Education Courses can satisfy multiple areas within the degree simultaneously (AGEC-A Core Area, AGEC Awareness Area, MCCCD Additional Requirements, or lower-division courses applicable to the major).
- Effective fall 2000, the course evaluation and/or general education designation as listed in the Arizona Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Students do have the option to petition for general education evaluations and/or general education designations upon transfer.
- Courses completed at one of the Maricopa Community Colleges to meet AGEC-A requirements must be listed in the Course Equivalency Guide within the Arizona Course Applicability System as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities. The course's evaluation and/or general education designation is valid for the term in which the student is awarded credit on the transcript. See the list titled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta.**
- Courses completed at one of the Maricopa Community Colleges to meet the General Electives requirement must be listed in the Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS) as an equivalent course, departmental elective credit (XXXDEC), or general elective credit (Elective) at all Arizona public universities. For appropriate course selection, students should consult with an advisor.
- Courses transferred from another regionally accredited institution to one of the Maricopa Community Colleges will be evaluated by the college for inclusion in the AGEC-A or Associate in Arts, Fine Arts - Theatre degree.
- Courses and their modular equivalents will satisfy AGEC-A and Associate in Arts, Fine Arts - Theatre requirements.
- If a course is cross-referenced with one or more other courses, then only one of the cross-referenced courses will be accepted to meet requirements.

Degree Requirements

The 60-64 semester credits required for the Associate in Arts, Fine Arts -Theatre follow. See the list titled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B, and/or AGEC-S** for specific course information via the following website: **www.maricopa.edu/academic/ccta.**

This list identifies the courses in alpha-order by prefix as well as the Core Areas and Awareness Areas where the course will apply. For purposes of clarifying requirements in the Mathematics and Natural Sciences areas on the list and the AGEC requirements, an A, B, and/or S character may follow the [MA], [SQ], [SG] general education designations and refers to the specific AGEC.

I. MCCCD General Education

The MCCCD General Education includes two areas: MCCCD AGEC-A and MCCCD Additional Requirements

MCCCD AGEC-A

1. Core Areas	35 Credits
a. First-Year Composition (FYC)	**6**
b. Literacy and Critical Inquiry [L]	**3**
Select the following :	
THE220 Modern Drama	

c. Mathematical Studies [MA/CS] **6**
To complete the Mathematical Studies requirement, select one course to satisfy Mathematics [MA] A and a second course from Computer/Statistics/ Quantitative Applications [CS].

1) Mathematics [MA] A (3 credits)
Select a course in college mathematics or college algebra or pre-calculus or any other mathematics course for which college algebra is a prerequisite.
AND
2) Computer/Statistics/ Quantitative Applications [CS] (3 credits)

d. Humanities and Fine Arts [HU] **6**
Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

Select the following:
THE205 Introduction to Cinema 3

e. Social and Behavioral Sciences [SB] **6**
Students are encouraged to choose course work from more than one discipline for a total of six semester credits.

f. Natural Sciences [SQ/SG] **8**
To complete the Natural Sciences requirement: Select four (4) semester credits of [SQ] and four (4) semester credits of [SG] for a total of eight (8) semester credits, **OR** eight (8) semester credits of [SQ]. Students cannot take eight (8) semester credits of [SG] to meet the Natural Sciences requirement.

The lecture course(s) selected for Natural Sciences must include or be accompanied by the corresponding laboratory course. The lecture and corresponding laboratory course(s) may carry separate credit. Students should consult with an advisor for appropriate course selection. Students should also access the AZ Course Equivalency Guide (CEG) within the AZ Course Applicability System (AZCAS) for information on equivalencies.

2. Awareness Areas 0 Credits

Students must satisfy two Awareness Areas: Cultural Diversity in the United States [C] and either Global Awareness [G] or Historical Awareness [H]. However, it is not necessary for students to exceed thirty-five semester credits to complete the Awareness Areas because courses can satisfy a Core Area and one or two Awareness Areas simultaneously. Therefore no additional semester credits are required to satisfy the two Awareness Areas.

Cultural Diversity in the United States [C]
AND
Global Awareness [G] **OR**
Historical Awareness [H]

3. MCCCD Additional Requirements 0-6 Credits

Students must satisfy Oral Communication and Critical Reading areas. However, it is not necessary for students to exceed the thirty-five semester credits required in order to complete the MCCCD Additional Requirements because courses can satisfy a Core Area and MCCCD Additional Requirements simultaneously. Therefore no additional semester credits are required to satisfy Oral Communication and Critical Reading.

a. Oral Communication **3**
A total of three (3) semester credits is required for Oral Communication. However, if students select a communication course that satisfies both the Oral Communication area and an area within the Core, then the Oral Communication requirement has been satisfied and additional electives may be taken.

Select from the following options:
COM100 [SB] (3 credits) **OR**
COM100AA & COM100AB & COM100AC [SB] (3 credits) **OR**
COM110 [SB] (3 credits) **OR**
COM110AA & COM110AB & COM110AC [SB] (3 credits) **OR**
COM225 [L] (3 credits) **OR**
COM230 [SB] (3 credits)

b. Critical Reading **3**
A total of three (3) semester credits is required for the Critical Reading area. However, if students complete CRE101 and apply it to AGEC-A Core Requirements or if the students demonstrate proficiency through assessment, then the Critical Reading requirement has been satisfied.

Select from the following options to complete 3 credits:
CRE101 [L] (3 credits) **OR** equivalent as indicated by assessment

II. Fine Arts Requirements – Theatre 25-29 Credits

A minimum of 25 credits are required to satisfy the Fine Arts Requirements – Theatre.

Foundations 13 Credits

Select the following:

THE111	Introduction to Theatre	3
THP112	Acting I	3
THP115	Theatre Makeup	3
THP201AA	Theatre Production I **OR**	
THP201AB	Theatre Production II	1
THP213	Introduction to Technical Theatre	3

Restricted Electives 12-16 Credits

Students may choose from the following courses to specialize in Acting, Technical Theatre, Teacher Education, or Cinema. Students should consult with the theatre advisor for the restricted electives recommended for each specialization track.

Select from the following options to complete a minimum of 12 semester credits:

HUM/THE206	Introduction to Television Arts	3
HUM/THE210	Contemporary Cinema	3
THE118	Playwriting	3
THP120AA	Audition Techniques: Monologue	1
THP120AB	Audition Techniques: Cold Readings	1
THP130	Stage Combat OR	
THP131	Stage Movement	3
THP210	Acting: TV/Film	3
THP211	Creative Drama	3
THP212	Acting II	3
THP214	Directing Techniques	3
THP216	Beginning Stage Lighting	3
THP217	Introduction to Design Scenography	3
THP219	Introduction to Puppetry	3
THP267	Painting Techniques for Film, TV and Theatre	3
THP271	Voice and Diction	3

Associate in Arts, Fine Arts – Theatre Total Credits 60-64

ASSOCIATE IN BUSINESS – GENERAL REQUIREMENTS (ABUS-GR)

Description

The Maricopa County Community College District **Associate in Business General Requirements (ABus GR)** degree requires a total of 62-63 semester credits for the program of study. The degree has three major components:

I. MCCCD General Education

Includes Arizona General Education Curriculum for Business (AGEC-B)

II. Common Lower Division Program Requirements

III. General Electives

Purpose of the Degree

The ABus-GR degree is designed for students who plan to transfer to Arizona's public universities into majors that articulate with the Associate in Business General Requirements pathway and for students who plan to complete lower division coursework toward a baccalaureate program at other degree-granting institutions. All business majors except Accountancy and Computer Information Systems should follow the ABus-GR pathway. Accountancy majors should follow the Transfer Guide (TG-XR) pathway. Computer Information Systems majors should follow the Associate in Business Special Requirements pathway.

Generally, the degree transfers as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements. In most cases, courses used to satisfy the MCCCD Associate in Business General Requirements will apply to university graduation requirements of the university major for which the ABus-GR was designed.

Academic Policies that Govern the Associate in Business General Requirements Degree

- Requires 62-63 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better.
- Credit units transferred from outside of the district need to be at a grade of "C" or better. A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent. On an exception basis, P-grades may be allowed in the AGEC for credit transferred if documentation collected by the community college indicates that the P-grade issued was the only option for the student and the P-grade is a "C" or better. The P-grade exception does not apply to credits awarded by AGEC granting/receiving institutions.
- Credit received through prior learning assessment or credit by evaluation is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. No more than 20 semester credit hours may be applied toward AGEC.
- Uses the following policies to help students complete the required Core and Awareness Areas in AGEC-B without exceeding the 35 semester credits.
  - Courses can satisfy a Core Area and one or two Awareness Areas simultaneously.
  - A course cannot be used to satisfy more than one Core Area requirement.
- Uses the following policies to help students complete the program requirements at a minimum of 62 semester credits but not more than 63 semester credits.
- Courses can satisfy multiple areas within the degree simultaneously (AGEC-B Core Area, AGEC-B Awareness Area, and/or Common Lower Division Program Requirements.
- Follows the general education policy below:

General Education Designations (example: [FYC], [SB], [HU], etc.)

Effective Fall 2000 the course evaluation and/or general education designation as listed in the Arizona CEG (Course Equivalency Guide) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Given that curriculum is dynamic at both MCCCD and the institutions to which MCCCD students transfer, students have the option to petition for general education evaluations and/or general education designations.

- Requires courses that transfer as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities according to the Arizona Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS). The course evaluation and/or general education designation as listed in AZCAS is valid for the term in which the student is awarded credit on the transcript.
- Follows the graduation policies within the general catalog.
- Includes both courses and their modular equivalents. Either the course or the modular equivalents will satisfy the Associate in Business General Requirements.

- Accepts one of the courses that is cross-referenced with other courses.
- Provides for exemption from Arizona university admission requirements for students who complete the ABus-GR degree from a regionally accredited post-secondary institution with a minimum 2.0 on a 4.0=A scale for Arizona residents and a minimum 2.5 on a 4.0=A scale for non-residents.

Degree Requirements

The 62-63 semester credits required for the Associate in Business General Requirements follow. See the list entitled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC A, AGEC B and/or AGEC S** for specific course information via the following website:
www.maricopa.edu/academic/ccta

- Select Tab labeled "Curriculum Procedures Handbook-Programs"
- Select Academic Programs
- Select AGEC Course Matrix

The list identifies the courses in alpha-order by prefix as well as the different Core Areas and Awareness Areas where the course will apply. When selecting Mathematical Studies and Natural Sciences options, select from the appropriate AGEC-A, B, or S list.

I. MCCCD General Education

MCCCD AGEC-B

1. Core Areas **35 Credits**

a. First-Year Composition (FYC) **6**

b. Literacy and Critical Inquiry [L] **3**

c. Mathematical Studies [MA/CS] **6**
To complete the Mathematical Studies requirement select one course to satisfy Mathematics [MA] B and a second course from Computer/Statistics/ Quantitative Applications [CS].

1) Mathematics [MA] B (3 credits)
MAT212, Brief Calculus, or a higher level mathematics course
AND
2) Computers/Statistics/Quantitative Applications) [CS] (3 credits)
CIS105 [CS] Survey of Computer Information Systems

d. Humanities and Fine Arts [HU] **6**
Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

e. Social and Behavioral Sciences [SB] **6**
Students are encouraged to choose coursework from more than one discipline for a total of six semester credits.

f. Natural Sciences [SQ/SG] **8**
To complete the Natural Sciences requirement: Select four (4) semester credits of [SQ] and four (4) semester credits of [SG] for a total of (8) semester credits, **OR** eight (8) semester credits of [SQ].

Students cannot take eight (8) semester credits of [SG] to meet the Natural Sciences requirement.

The lecture course(s) selected for Natural Sciences must include or be accompanied by the corresponding laboratory course. The lecture and corresponding laboratory course(s) may carry separate credit. Students should consult with an advisor for appropriate course selection. Students should also access the AZ Course Equivalency Guide (CEG) within the AZ Course Applicability System (AZCAS) for information on equivalencies.

2. Awareness Areas

Students must satisfy two Awareness Areas: Cultural Diversity in the United States [C] and either Global Awareness [G] or Historical Awareness [H]. However, it is not necessary for students to exceed thirty-five semester credits to complete the Awareness Areas because courses can satisfy a Core Area and one or two Awareness Areas simultaneously. Therefore no additional semester credits are required to satisfy the two Awareness Areas.

Cultural Diversity in the United States [C]
AND
Global Awareness [G] **OR**
Historical Awareness [H]

II. Common Lower Division Program Requirements 27-28 Credits

A total of 27-28 credits are required to satisfy the Common Lower Division Program Requirements. However, if students select courses that simultaneously satisfy multiple areas of the degree, then the number of semester credits required for Common Lower Division Program Requirements is reduced. Additional semester credits may be required in General Electives to complete the minimum 62-63 total program semester credits.

Complete the following:

Accounting

*ACC111	Accounting Principles I **AND**	
ACC230	Uses of Accounting Information I	
	AND	
ACC240	Uses of Accounting Information II	
	OR	
**ACC211	Financial Accounting **AND**	
ACC212	Managerial Accounting	6-7

*MCCCD ACC250 or ACC211 may be taken in lieu of ACC111.
**MCCCD ACC111 and ACC112 together are equivalent to ACC211.

ECN211 [SB]	Macroeconomic Principles	(3)
ECN212 [SB]	Microeconomic Principles	(3)
GBS205	Legal, Ethical, Regulatory Issues in Business	(3)
GBS221 [CS]	Business Statistics	(3)
GBS220	Quantitative Issues in Business	
	OR	
MAT217	Mathematical Analysis for Business	
	OR	
MAT218	Mathematical Analysis for Business	(3)

Business Elective **6**

Select from the following options:

CIS114DE	Excel Spreadsheet
CIS133DA	Internet/Web Development Level I
CIS159 [CS]	Visual Basic Programming I
CIS162AD	C#: Level I
CIS163AA	Java Programming: Level I
GBS151	Introduction to Business
GBS233 [L]	Business Communication
**GBS220	Quantitative Methods in Business
GBS110 **OR**	Human Relations in Business and Industry
MGT251	Human Relations in Business
IBS101	Introduction to International Business
MGT253	Owning and Operating a Small Business
REA179	Real Estate Principles I
REA180	Real Estate Principles II

**If course used to satisfy Common Lower Division Program Requirements, it can not be used to satisfy Business Electives.

III. General Electives

Select courses to complete a minimum of 62 semester credits but no more than a total of 63 semester credits. General Electives semester credits may be necessary if courses selected for the degree satisfy multiple areas. For appropriate course selection, students should consult an advisor.

Students must select courses that are acceptable as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities according to the Arizona Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS). For appropriate course selection, students should consult with an advisor.

ABUS-GR Degree Total Credits **62-63**

ASSOCIATE IN BUSINESS – SPECIAL REQUIREMENTS (ABUS – SR)

Description

The Maricopa County Community College District **Associate in Business, Special Requirements (ABus-SR)** degree requires a total of 62-63 semester credits for the program of study. The degree has three major components:

I. MCCCD General Education

Includes the Arizona General Education Curriculum for Business (AGEC-B)

II. Common Lower Division Program Requirements

III. General Electives

Purpose of the Degree

The ABus-SR degree is designed for Computer Information Systems majors who plan to transfer to Arizona's public universities and for students who plan to complete lower division coursework toward a baccalaureate program at other degree-granting institutions. Currently the pathway for accountancy majors is a Transfer Guide Pathway (TG-XR). The Associate in Business General Requirements (ABus-GR) is designed for all other business majors. Additional information on academic majors at the Arizona public universities can be accessed via the following web site: **www.aztransfer.com**

Generally, the degree transfers as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements. In most cases, courses used to satisfy the MCCCD Associate in Business Special Requirements may apply to university graduation requirements of the university major for which the ABus-SR was designed.

Academic Policies that Govern the Associate in Business Special Requirements Degree

- •Requires 62-63 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better.
- Credit units transferred from outside of the district need to be at a grade of "C" or better. A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent. On an exception basis, P-grades may be allowed in the AGEC for credit transferred if documentation collected by the community college indicates that the P-grade issued was the only option for the student and the P-grade is a "C" or better. The P-grade exception does not apply to credits awarded by AGEC granting/receiving institutions.
- Credit received through prior learning assessment or credit by evaluation is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. No more than 20 semester credit hours may be applied toward AGEC.
- Uses the following policies to help students complete the required Core and Awareness Areas in AGEC-B without exceeding the 35 semester credits:
  - Courses can satisfy a Core Area and one or two Awareness Areas simultaneously.
  - A course cannot be used to satisfy more than one Core Area requirement.
- Uses the following policy to help students complete the program requirements at a minimum of 62 semester credits but not more than 63 semester credits.
- Courses can satisfy multiple areas within the degree simultaneously (AGEC-B Core Area, AGEC-B Awareness Area, and/or Common Lower Division Program Requirements)
- Follows the general education policy below:

General Education Designations (example: [FYC], [SB], [HU], etc.)

Effective fall 2000, the course evaluation and/or general education designation, as listed in the Arizona CEG (Course Equivalency Guide) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Given that curriculum is dynamic at both MCCCD and the institutions to which MCCCD students transfer, students have the option to petition for course evaluations and/or general education designations.

- Requires courses that transfer as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities according to the Arizona Course Equivalency Guide (CEG). The course evaluation and/or general education designation as listed in AZCAS is valid for the term in which the student is awarded credit on the transcript.
- Follows the graduation policies within the general catalog.
- Includes both courses and their modular equivalents, Either the course or the modular equivalents will satisfy the Associate in Business Special Requirements.
- Accepts one of the courses that is cross-referenced with other courses.
- Provides for exemption from Arizona university admission requirements for students who complete the ABus-SR degree from a regionally accredited post-secondary institution with a minimum 2.0 on a 4.0=A scale for Arizona residents and a minimum 2.5 on a 4.0=A scale for non-residents.

Degree Requirements

The 62-63 semester credits required for the Associate in Business Special Requirements follow. See the list entitled **MCCCD Courses That Can Be Used to Satisfy MCCCD AGEC-A, AGEC-B and/or AGEC-S** for specific course information via the following website:
www.maricopa.edu/academic/ccta

- Select Tab labeled "Curriculum Procedures Handbook-Programs"
- Select Academic Programs
- Select AGEC Course Matrix

The list identifies the courses in alpha-order by prefix as well as the different Core Areas and Awareness Areas where the course will apply. When selecting Mathematical Studies and Natural Sciences options, select from the appropriate AGEC-A, B, or S list.

I. MCCCD General Education

MCCCD AGEC-B

1. Core Areas **35 Credits**

a. First-Year Composition (FYC) **6**

b. Literacy and Critical Inquiry [L] **3**

c. Mathematical Studies [MA/CS] **6**
To complete the Mathematical Studies requirement select one course to satisfy the Mathematics [MA] B and a second course from Computer/Statistics/ Quantitative Applications [CS]

1) Mathematics [MA] B (3 credits)
MAT212, Brief Calculus, or a higher level mathematics course
AND
2) Computer/Statistics/Quantitative Applications [CS] (3 credits)
CIS105 [CS] Survey of Computer Information Systems

d. Humanities and Fine Arts [HU] **6**
Students are encouraged to choose course work from more than one discipline for a total of six semester credits.

e. Social and Behavioral Sciences [SB] **6**
Students are encouraged to choose course work from more than one discipline for a total of six semester credits

f. Natural Sciences [SQ/SG] **8**
To complete the Natural Sciences requirement: Select four (4) semester credits of [SQ] and four (4) semester credits of [SG] for a total of eight (8) semester credits, OR eight (8) semester credits of [SQ]. Students cannot take eight (8) semester credits of [SG] to meet the Natural Sciences requirement.

The lecture course(s) selected for Natural Sciences must include or be accompanied by the corresponding laboratory course. The lecture and corresponding laboratory course(s) may carry separate credit. Students should consult with an advisor for appropriate course selection. Students should also access the AZ Course Equivalency Guide (CEG) within the AZ Course Applicability System (AZCAS) for information on equivalencies.

2. Awareness Areas

Students must satisfy two Awareness Areas: Cultural Diversity in the United States [C] and either Global Awareness [G] or Historical Awareness [H]. However, it is not necessary for students to exceed thirty-five semester credits to complete the Awareness Areas because courses can satisfy a Core Area and one or two Awareness Areas simultaneously. Therefore no additional semester credits are required to satisfy the two Awareness Areas.

Cultural Diversity in the United States [C]
AND
Global Awareness [G]
OR
Historical Awareness [H]

II. Common Lower Division Program Requirements 27-28 Credits

A total of 27-28 credits is required for the Common Lower Division Program Requirements. Common courses meeting general education areas are noted with the general education designations encased in brackets.

Complete the following:

Accounting

*ACC111	Accounting Principles I AND	
ACC230	Uses of Accounting Information I	
	AND	
ACC240	Uses of Accounting Information II	
	OR	
**ACC211	Financial Accounting AND	
ACC212	Managerial Accounting	6-7

* MCCCD ACC250 or ACC211 may be taken in lieu of ACC111.
**MCCCD ACC111 and ACC112 together are equivalent to ACC211.

Programming I		**3**
CIS162AD	C#: Level I	

Programming II		**3**
CIS250	Management Information Systems	
GBS205	Legal, Ethical, Regulatory Issues in Business	3
GBS220	Quantitative Issues in Business	
	OR	
MAT217	Mathematical Analysis for Business	
	OR	
MAT218	Mathematical Analysis for Business	3
GBS221 [CS]	Business Statistics	3
ECN211 [SB]	Macroeconomic Principles	3
ECN212 [SB]	Microeconomic Principles	3

III. General Electives 0-6 Credits

Select courses to complete a minimum of 62 semester credits but no more than a total of 63 semester credits for the program. General Electives semester credits may be necessary if courses selected for the degree satisfy multiple areas. For appropriate course selection, students should consult an advisor.

Students must select courses that are acceptable as an equivalent course, departmental elective credit (XXXXDEC), or general elective credit (Elective) at all Arizona public universities according to the Arizona Course Equivalency Guide (CEG) within the Arizona Course Applicability System (AZCAS). For appropriate course selection, students should consult with an advisor.

ABus-SR Total Credits 62-63

ASSOCIATE IN TRANSFER PARTNERSHIP (ATP)

Purpose of the Degree

The Maricopa County Community College District **Associate in Transfer Partnership (ATP)** degree is designed to meet the needs of the Maricopa Community College students transferring to public and private colleges and universities. This degree is developed specifically for students who have an identified major and have selected the baccalaureate degree-granting institution to which they intend to transfer.

The Associate in Transfer Partnership degree is an articulated academic program of study established among the student, the accredited baccalaureate degree-granting institution selected by the student, and the primary Maricopa Community College the student attends. The program of study will "parallel" the student's four-year degree as designated by the baccalaureate degree-granting institution. That is, the courses and number of credit hours in the degree will consist of the Freshman and Sophomore lower division course degree requirements of the major as jointly planned and agreed on with the community college and the accredited institution to which the student plans to transfer.

The ATP degree requires a core of general education credits in the following general education categories: First-Year Composition (6 credits); Mathematics (3 credits); Natural Sciences (4 credits); and Humanities and Fine Arts/Social and Behavioral Sciences or related area general education requirements (6 credits). Also included in the ATP degree are the general education and major requirements to meet the lower division requirements of the major at the baccalaureate degree-granting institution. The ATP degree must consist of at least a minimum of 60 credit hours. The ATP degrees are accessible on the following web site: **www.maricopa.edu/academic/cctacurric/atp.php**

Click on Program Information to access ATPs.

Exemption From Arizona University Admission Requirements

The Associate in Transfer Partnership degree provides for exemption from Arizona university admission requirements for students who complete the degree from a regionally accredited post-secondary institution with a minimum 2.0 on a 4.0=A scale for Arizona residents and a minimum 2.5 on a 4.0=A scale for non-residents.

The ATP degree does not assure admission to the specific program at the baccalaureate degree-granting institution. Students participating in the ATP degree will be treated as "native" students by the upper division institution in terms of course evaluation and course changes.

Advising is a critical element of the transfer partnership degree, and students must work closely with a community college academic advisor prior to entering into a transfer partnership agreement. Once a transfer partnership agreement has been initiated by the student, approved and signed off by a community college academic advisor and

university authorized official, the student is responsible for periodic meetings with the community college advisor and, if/when determined necessary, with the appropriate baccalaureate degree-granting institution academic advisor. Upon completion of 36 hours, the student must receive formal advising at a Maricopa Community College before the remainder of their classes can be scheduled.

ELEMENTS OF THE ASSOCIATE IN TRANSFER PARTNERSHIP (ATP) DEGREE

MCCCD General Education Core **19 Credits**

Approved Lower Division Transfer Courses (Major dependent with variable maximum to be determined by receiving baccalaureate degree-granting institution)

Associate in Transfer Partnership Degree Total Hours **60 minimum**

The Associate in Transfer Partnership (ATP) degrees may not be available at all of the MCCCD colleges. Associate in Transfer Partnership degrees are available in the following areas. Other ATP degrees may be added later depending on curricular needs ATP information may be accessed via the following website:

www.maricopa.edu/academic/cctacurric/atp.php

- General Business
- Psychology
- Social Work
- Kinesiology
- Computer Information Systems
- Accountancy
- Human Nutrition
- K-12 Classroom Instructional Support
- Exercise and Wellness
- Recreation (various emphasis)
- Early Childhood Teacher Education
- Justice Studies
- Elementary Education

ASSOCIATE IN GENERAL STUDIES (AGS)

Description

The Maricopa County Community College District **Associate in General Studies (AGS)** degree is recommended for students whose educational goals require flexibility. The AGS allows students to choose any elective courses numbered 100 or above to complete the degree. Therefore, this degree may be less appropriate for students who intend to transfer to a baccalaureate-granting institution.

Students who demonstrate skills comparable to those in Critical Reading and/or Mathematics and/or Computer Usage may substitute acceptable elective courses to satisfy the total credits required for the degree.

Academic Policies That Govern the Associate in General Studies Degree

- Requires a minimum of 60 semester credits in courses numbered 100 and above.
- AGS degree requirements follow with the use of a diagonal character (/) between course numbers to signify options. An asterisk (*) following the course number defines requirements with an effective begin term of spring.
- Requires grades as listed for specific areas such as the General Education Core where a minimum grade of "C" is required. Courses applied to other areas may be completed with a minimum grade of "D".
- Uses the following policies for course(s) satisfying multiple program areas:
  1. A course can simultaneously satisfy one Core area and one Distribution area. Courses that meet this criterion are bold print and underscored in the Core areas and Distribution areas.
  2. A course cannot satisfy more than one Core area, even if it is approved for more than one Core area.
  3. A course cannot satisfy more than one Distribution area, even if it is approved for more than one Distribution area.
- Follows the graduation policies within the general catalog.
- Includes both courses and their modular equivalents; either the course or the modular equivalents will satisfy the Associate in General Studies.
- Accepts one of the courses that is cross-referenced with other courses.
- Provides for exemption from Arizona university admission requirements for students who complete the Associate in General Studies degree from a regionally accredited post-secondary institution with a minimum 2.0 on a 4.0=A scale for Arizona residents and a minimum 2.5 on a 4.0=A scale for non-residents.

Degree Requirements

General Education Core

(16 credits - grade of "C" or better)

First-Year Composition **(6 credits)**
ENG English [101/107] & [102/108]

Oral Communication **(3 credits)**
COM Communication 100/100AA & 100AB & 100AC/110/110AA &110AB & 110AC/225/230

Critical Reading **(3 credits)**
CRE Critical Reading 101/equivalent as indicated by assessment

Mathematics **(3 credits)**
MAT Mathematics 102/120/121/122/122AA/122AB/122AC/126/140/141/142/150/151/151AA/151AB/151AC/151AD/152/156/172/182/187/206/212/213/220/221/230/231/240/241/251/261/262 equivalent course **OR** satisfactory completion of a higher level Mathematics course

Computer Usage **(1 credit)**

Computer-related course or demonstration of comparable computer skills

Additional courses may be approved by individual colleges. Students should contact their advisor for college-specific courses satisfying the requirement.

ACC Accounting 115
ADA Advertising Arts 169/170/170AA/170AB/173/173AA/173AB/173AC/175/175AA/175AB/177/177AA/177AB/any 180 modules/183/183AA/183AB/183AC/283/283AA/283AB/283AC/289/289AA/289AB/289AC
AGB Agribusiness 139
AJS Administration of Justice Studies 119/205
AMS Automated Manufacturing System 150
ARC Architecture 243/244/245
ART Art 100/169/170/170AA/170AB/173/173AA/173AB/173AC/175/175AA/175AB/177/177AA/177AB/179/179AA/179AB/any 180 module/183/183AA/183AB/183AC/283/283AA/283AB/283AC/289/289AA/289AB/289AC
BIO Biology 294
BPC Business-Personal Computers any BPC course(s)
CFS Child/Family Studies 180
CIS Computer Information Systems any CIS course(s) (except 162, 163AA, 169, 183AA, 259, 262)
CSC Computer Science any CSC course(s) (except 200, 200AA, 200AB, 210, 210AA, 210AB)
CTR Court Reporting 101/102
DFT Drafting Technology 103/105/any 105 module/150/251/any 251 module/any 254 module/256AA
ECE Engineering Science 102/102AA/103/103AB
ECH Early Childhood Education 238
EEE Electrical Engineering 120
ELE Electronic 131/181/241/243/245/281
ELT Electronic Technology 131/241/243
ENG English 100AE
ENV Environmental Sciences 119/219
FON Food & Nutrition 100/100AA/100AC/100AD/
GBS General Business 221
GPH Physical Geography 220
HRM Hotel Restaurant Management 126
JAS Justice & Government Agencies Admin 225
JRN Journalism 133
LAS Paralegal Studies 229
MAT Mathematics 206
MET Manufacturing Technology 264
MTC Music Theory/Composition 180/191
NET Networking Technology 181/181AA
OAS Office Automation Systems 111AA/111AB/113/119/130DK/135DK/235DK
PSY Psychology 230
RTR Realtime Reporting 101/102
SBS Small Business 211
SMT Semiconductor Manufacturing Technology 150
SWU Social Work 225
TVL Travel Agent Technology 203
VPT Video Production Technology 106

GENERAL EDUCATION DISTRIBUTION AREAS 28-29 Credits

Humanities and Fine Arts **(9 credits)**

Students are encouraged to choose courses from more than one discipline. Select nine (9) credits from the following:

AIS American Indian Studies 213
AJS Administration of Justice Studies 123
ARH Art Humanities any ARH course(s)
ASB Anthropology 211/220/222/223
CCS Chicana and Chicano Studies 101
CNS Construction 101
COM Communication 241
DAH Dance Humanities 100/201
EDU Education 292/294
ENG English 200/218
ENH English Humanities any ENH course(s) (except 291)
FRE French 265
HCR Health Care Related 210
HIS History 101/102/103/109/111/243/253/254
HUM Humanities any HUM course(s) (except 203, 207)
INT Interior Design 115/120/225
LAT Latin 201/202
MHL Music: History/Literature 140/143/145/146/153/155
PHI Philosophy any PHI course(s) (except 113)
REL Religious Studies any REL course(s) (except 271)
SPA Spanish 241/242/265/266
SPH Spanish Humanities 245
STO Storytelling 292/294
THE Theater 111/205/206/210
THP Theater/Performance/Production 241
WST Women's Studies 209/284/285/290

Social and Behavioral Sciences **(9 credits)**

Students are encouraged to choose courses from more than one discipline.

AIS American Indian Studies 101/140/141/160/170
AFR African American Studies 202/203/204
AJS Administration of Justice Studies 101/119/162/200/225/258/259/270
ASB Anthropology 102/202/211/214//222/223/230/235/238/245/252
ASM Anthropology 104/275
CFS Child/Family Studies 157/159/176/205/259
COM Communication 100/100AA&100AB&100AC/110/110AA&110AB&110AC/230/263
ECH Early Childhood Education 176
ECN Economics any ECN course(s)
EDU Education 221/222
EMT Emergency Medical Technology 258
FOR Forensic Science 275
FSC Fire Science Technology 258
FUS Future Studies 101
GCU Cultural Geography 102/121/122/141/221/223/253
HES Health Science 100
HIS History any HIS course(s) (except 108, 111, 113, 114)

IBS	International Business 109
MCO	Mass Communications 120
PHI	Philosophy 243
POS	Political Science any POS course(s)
PSY	Psychology 101/123/132/156/215/218/225/235 240/241/243/245/250/258/260/266/270/277 280/292
REC	Recreation 120
REL	Religious Studies 243
SBU	Society and Business 200
SOC	Sociology any SOC course(s) (except 242)
SWU	Social Work 102/171/258/292
WED	Wellness Education 110
WST	Women's Studies 100/110/160/161
YAQ	Yaqui Indian History and Culture 100

Natural Sciences (7-8 credits)

Two lecture courses and one corresponding laboratory course are to be selected. The lecture and corresponding laboratory course(s) may carry separate credit. For appropriate course selection students should consult with an advisor.

AGS	Agricultural Science 164/260
ASB	Anthropology 231
ASM	Anthropology 104
AST	Astronomy 101/102/111/112/113/114
BIO	Biology 100/101/102/105/107/108/109/145/149AF/149AH/149AK/149AL/149AM/149AN/156/160/181/182/201/205/241
CHM	Chemistry 107/107LL/130/130LL/150/151/151LL/152/152LL/154/154LL/230/230LL
ENV	Environmental Sciences 101
FON	Food and Nutrition 241&241LL
FOR	Forensic Science 105/106
GLG	Geology any GLG course(s)
GPH	Physical Geography 111/112/113/210/211/212 & 214/213/215
PHS	Physical Science 110/120
PHY	Physics 101/101AA/111/111AA/112/115/116/121/131
PSY	Psychology 290AB/290AC

Literacy & Critical Inquiry (3 credits)

AIS	American Indian Studies 213
BIO	Biology 294
COM	Communication 222/225/241
CRE	Critical Reading 101
ENG	English 111/200/213/215/216/217/218
ENH	English Humanities 254/255
FON	Food & Nutrition 206
GBS	General Business 233
HUM	Humanities 250/251
IFS	Information Studies 101
IGS	Integrated Studies 291/293
JRN	Journalism 201/234
MCO	Mass Communications 220
PHI	Philosophy 103/106
POS	Political Science 115
PSY	Psychology 290AB/290AC
REL	Religious Studies 203/205
THE	Theater 220
THP	Theater Performance/Production 241

Elective Courses 15-16 Credits

May select courses from prefixes already chosen for General Education Distribution requirements in order to develop depth in one or more subject areas.

ASSOCIATE IN APPLIED SCIENCE (AAS)

Purpose of the Degree

The Maricopa County Community College District **Associate in Applied Science (AAS)** degree is recommended for students who wish to gain a depth of technical expertise by completing an occupational program presented in the college catalog. Students should consult this catalog to determine specific program requirements.

Academic Policies that Govern the AAS Degree

- Requires 60 or more credits numbered 100 or above and includes credits or the equivalent in the General Education Core areas and credits in the Distribution areas. AAS degree requirements follow with the use of a diagonal character (/) between course numbers to signify options. An asterisk (*) following the course number defines requirements with an effective begin term of spring.
- Requires grades as listed for specific areas such as the General Education Core where a minimum grade of "C" is required. See specific AAS occupational degree for specific program grade requirements.
- Follows the graduation policies within the general catalog.
- Includes both courses and their modular equivalents, either the course or the modular equivalents will satisfy the Associate in Applied Science requirements;
- Requires at least 12 semester credit hours earned at the college awarding the AAS degree. The 12 hours in the AAS degree curricula may be in the Required Courses area and/or Restricted Electives courses. Courses from the General Education Core and Distribution areas are excluded.

Shared Programs are programs offered at multiple colleges but not available at all colleges. The requirements are identical at all of the colleges offering the program.

A shared program requires a minimum of six credit hours from the total program requirements to be completed with a grade of "C" or better at the college awarding the certificate or degree. The exception is the Nursing program. For those shared programs with less than six credit hours, the total hours for the program must be completed at the college awarding the certificate. The minimum of six credit hours in the certificate or degree curricula may be in the Required Courses area and/or the Restricted Electives. Courses from the General Education Core and Distribution areas are excluded.

Students must apply for graduation from the college where they have successfully completed Block 4 of the Associate in Applied Science in Nursing.

- Requires completion of General Education courses as indicated in the General Education Requirements for the Associate in Applied Science degree from the Maricopa County Community College District, or completion of a curriculum as stated in the catalog;
- Accepts one of the courses that is cross-referenced with other courses;
- Provides for exemption from Arizona university admission requirements for students who complete the Associate in Applied Science (AAS) degree from a regionally accredited post-secondary institution with a minimum 2.0 on a 4.0=A scale for Arizona residents and a minimum 2.5 on a 4.0=A scale for non-residents.

GENERAL EDUCATION CORE

(15 credits - grade of "C" or better.)
Demonstrate college-level skills in the following areas:

First-Year Composition (6 credits)
ENG English [101/107] & [102/108/111]

Oral Communication (3 credits)
COM Communication 100/100AA & 100AB & 100AC/110/110AA & 110AB & 110AC/225/230

Critical Reading (3 credits)
CRE Critical Reading 101/111/Equivalent as indicated by assessment

Mathematics (3 credits)
MAT Mathematics 102/120/121/122/122AA/122AB/122AC/126/140/141/142/150/151/151AA/151AB/151AC/151AD/152/156//172/182/187/206/212/213/220/221/230/231/240/241/251/261/262/equivalent course/satisfactory completion of a higher level mathematics course

GENERAL EDUCATION DISTRIBUTION AREAS 9-10 Credits

Humanities and Fine Arts (2-3 credits)
Students are encouraged to choose courses from more than one discipline.

AIS American Indian Studies 213
AJS Administration of Justice Studies 123
ARH Art Humanities any ARH course(s)
ASB Anthropology 211/220/222/223
CCS Chicana and Chicano Studies 101
CNS Construction 101
COM Communication 241
DAH Dance Humanities 100/201
EDU Education 291/292/294
ENG English 200/218
ENH English Humanities any ENH course(s)
FRE French 265
HCR Health Care Related 210
HIS History 101/102/103/111/243/253/254
HUM Humanities any HUM course(s) (except 203, 207)
INT Interior Design 115/120/225
LAT Latin 201/202
MH Music: History/Literature 140/143/145/146/153/155
PHI Philosophy any PHI course(s) (except 113)
REL Religious Studies any REL course(s) (except 271)
SPA Spanish 241/242/265/266
SPH Spanish Humanities 245
STO Storytelling 292/294
THE Theater 111/205/206/210
THP Theater/Performance/Production 241
WST Women's Studies 209/284/285/290

Social and Behavioral Sciences (3 credits)
Students are encouraged to choose courses from more than one discipline.

AIS American Indian Studies 101/140/141/160/170
AFR African American Studies 202/203/204
AJS Administration of Justice Studies 101/162/200/225/258/259/270
ASB Anthropology 102/202/211/214/222/223/230 235/238/245/252
ASM Anthropology 104/275
CFS Child/Family Studies 157/159/176/205/259
COM Communications 100/100AA&100AB&100AC 110/110AA&110AB&110AC/230/263
ECH Early Childhood Education 176
ECN Economics any ECN course(s)
EDU Education 221/222
EMT Emergency Medical Technology 258
FOR Forensic Science 275
FSC Fire Science 258
FUS Future Studies 101
GCU Cultural Geography 102/121/122/141/221/223/253
HES Health Science 100
HIS History any HIS course(s) (except 108, 111, 113, 114)
IBS International Business 109
MCO Mass Communications 120
PHI Philosophy 243
POS Political Science any POS course(s)
PSY Psychology 101/123/125/132/156/215/218/225 235/240/241/243/245/250/258/260/266/270 277/280/292
REC Recreation 120
REL Religious Studies 243
SBU Society and Business 200
SOC Sociology any SOC course(s) (except 242)
SWU Social Work 102/171/258/292
WED Wellness Education /110
WST Women's Studies 100/110/160/161
YAQ Yaqui Indian History and Culture 100

Natural Sciences (4 credits)
The lecture course(s) selected for Natural Sciences must include or be accompanied by the corresponding laboratory course. The lecture and corresponding laboratory course(s) may carry separate credit. Students should consult with an advisor for appropriate course selection.

AGS Agricultural Science 164/260
ASB Anthropology 231
ASM Anthropology 104

AST	Astronomy 101/102/111/112/113/114
BIO	Biology 100/101/102/105/107/108/109/149AN/ 145/156/160/181/182/201/205/241
CHM	Chemistry 107/107LL/130/130LL/150&151LL/151/ 151LL/152/152LL/154/154LL/230/230LL
FON	Food and Nutrition 241&241LL
FOR	Forensic Science 105/106
GLG	Geology any GLG course(s) (except 140/251MC/275)
GPH	Physical Geography 111/112/113/212/213/214/215
PHS	Physical Science 110/120
PHY	Physics 101/101AA/111/111AA/112/115/116/121/131
PSY	Psychology 290AB/290

Academic Certificates (AC)

PURPOSE OF THE ACADEMIC CERTIFICATE (AREA OF EMPHASIS)

The Maricopa Community College District Academic Certificate (area of emphasis) is a defined and coherent program of study that is recommended for students who wish to gain additional expertise in an academic area. While this program of study can result in proficiency in specified skills and competencies, as well as mastery of knowledge, it is not designed to prepare someone for employment in a specific occupation. The content for an Academic Certificate (area of emphasis) may be derived from a variety of disciplines or it can be discipline specific. The Academic Certificate does not require a general studies component even though requirements of the certificate may include courses that currently meet specific general studies designations such as Humanities and Fine Arts, Social and Behavioral Sciences, etc.

ACADEMIC POLICIES THAT GOVERN THE ACADEMIC CERTIFICATE (AREA OF EMPHASIS)

- Generally ranges from 12-39 credit hours in courses numbered 100 or above, although there is no minimum number of credit hours required for an Academic Certificate;
- Requires a cumulative GPA of 2.0 or better for completion;
- Follows the graduation policies within the general catalog;
- Accepts one of the courses that is cross-referenced with other courses;
- Includes both courses and their modular equivalents. either the course or the modular equivalents will satisfy the Academic Certificate requirements;
- Does not presume block transfer value. Consequently, in most cases the Academic Certificate should not be a subset of an existing transfer degree;
- May have admission criteria established by the college if and when appropriate;
- Is for the most part college specific.

ACADEMIC CERTIFICATE IN AFRICAN-AMERICAN STUDIES (15-18 CREDITS) MAJOR CODE: 6226

The interdisciplinary Academic Certificate (AC) in African-American Studies enhances students' understanding of African-Americans by examining history, social issues, literature, culture, religion, ethnic relations, and gender issues. Through coursework, students develop skills in critical thinking, inquiry, and discourse while becoming more informed.

Program Notes:

+ indicates course has prerequisite and/or corequisites

Courses selected must satisfy the following General Education Requirements:

Awareness Area:

Cultural Diversity in the United States (C) 3 credits
Historical Awareness (H) 3 credits

Core Area:

Humanities (HU) 3 credits
Social and Behavioral Sciences (SB) 6 credits

Admission Criteria (None)

Program Prerequisites (None)

Required Courses (6 credits)

AFR110	Introduction to African-American Studies (SB, C)	3
AFR/ASB202	Ethnic Relations in the United States (SB, C, H)	3

Restricted Electives (9-12 credits)

+AFR203	African-American History: The Slavery Experience (SB, C, H)	3
+AFR204	African-American History: Reconstruction to the Present (SB, C, H)	3
CPD103BC	African-American Cultural Pride and Awareness (AFS Department Elective)	2
ENH114	African-American Literature (HU, C)	3
HIS203	African-American History I (SB, C, H)	3
+HIS204	African-American History II (SB, C, H)	3
HUM214	African-Americans in Film (HU, C)	3
PHI/REL225	African-American Religions (HU, C)	3
SOC143	Sociology of African American Problems (SB, C)	3
WST105	Women of Color in America (C)	3

ACADEMIC CERTIFICATE IN COMMUNICATION COMPETENCE IN THE WORKPLACE (30 CREDITS) MAJOR CODE: 6219

The Academic Certificate (AC) in Communication Competence in the Workplace is an interdisciplinary program of study that provides intensive study of written and oral communication skills in different contexts including interpersonal communication, small group interaction, team-building, problem solving, public speaking and presentation skills, conflict resolution, assertiveness, and leadership. Students develop skills to enhance their professional, social, and personal interactions, and become more competitive and effective in the workforce.

Required Courses (21 credits)

COM110	Interpersonal Communication	3
+COM225	Public Speaking	3
+COM230	Small Group Communication	3
+COM282AC	Volunteerism for Speech Communication: A Service Learning Experience	3
CRE101	Critical and Evaluative Reading I (3) OR Equivalent as Indicated by Assessment	3
ENG101	First Year Composition (3) OR	
ENG107	First-Year Composition for ESL (3)	3
ENG102	First Year Composition (3) OR	
ENG108	First Year Composition for ESL (3)	3

Restricted Electives (9 credits)

If choosing BPC110 or CIS105 only one can be applied.

BPC110	Computer Usage and Applications	3
CIS105	Survey of Computer Information Systems	3
+COM259	Communication in Business and Professions	3
COM263	Elements of Intercultural Communication	3
+GBS233	Business Communication	3
+SWU292	Effective Helping in a Diverse World	3
+ENG111	Technical Writing	3
IBS109	Cultural Dimension for International Trade	3

Free Electives (3 credits)

Any approved General Education course in the Cultural Awareness [C] value (3) OR

COM+++++	Any COM communication course (3)	3

ACADEMIC CERTIFICATE IN COMMUNICATION SKILLS FOR NON-NATIVE ENGLISH SPEAKERS (30 CREDITS) MAJOR CODE: 6222

The Academic Certificate (AC) in Communication Skills for Non-Native English Speakers is an interdisciplinary program of study designed to extend traditional ESL coursework. It provides Non-Native English Speakers with oral and written communication skills including interpersonal communication, small group interaction, team-building, problem solving, public speaking and presentation skills, conflict resolution, assertiveness, and leadership. Students develop skills to enhance their professional, social, and personal interactions, and become more competitive and effective in the workforce.

Required Courses (21 credits)

ENG101	First Year Composition (3) OR	
ENG107	First-Year Composition for ESL (3)	3
ENG102	First Year Composition (3) OR	
ENG108	First Year Composition for ESL (3)	3
COM100	Introduction to Human Communication (3) OR	
COM110	Interpersonal Communication (3)	3
COM120	Pronunciation of American Speech	3
+COM221	Oral Fluency in American Speech	3
+COM282AC	Volunteerism for Speech Communication: A Service Learning Experience	3
CRE101	Critical and Evaluative Reading I (3) OR Equivalent as Indicated by Assessment	3

Restricted Electives (9 credits)

If choosing BPC110 or CIS105 only one can be applied.

BPC110	Computer Usage and Applications	3
CIS105	Survey of Computer Information Systems	3
+COM230	Small Group Communication	3
+COM259	Communication in Business and Professions	3
+GBS233	Business Communication	3
+ENG111	Technical Writing	3
IBS109	Cultural Dimension for International Trade	3
+SWU292	Effective Helping in a Diverse World	3

Any approved General Education course in the cultural awareness [C] value (3) OR

COM+++++	Any COM Communication course (3)	3

ACADEMIC CERTIFICATE IN ORAL COMMUNICATION FLUENCY FOR NON-NATIVE ENGLISH SPEAKERS (15 CREDITS) MAJOR CODE: 6223

The Academic Certificate (AC) in Oral Communication Fluency for Non-Native English Speakers is a concentrated program of study in communication and oral fluency designed to extend traditional ESL coursework. It provides Non-Native English Speakers with intense practice in pronunciation and fluency of American speech as well as experience in all communication contexts including interpersonal communication, small group interaction, problem solving, and public speaking. Students develop skills to enhance their professional, academic, and social interactions to become more competitive and effective in the academic environment and in the workplace.

Required Courses (12 credits)

COM110	Interpersonal Communication	3
COM120	Pronunciation of American Speech	3
+COM221	Oral Fluency in American Speech	3
+COM282AC	Volunteerism for Speech Communication: A Service Learning Experience	3

Restricted Electives (3 credits)

Any approved General Education course in the cultural awareness [C] value. 3

ACADEMIC CERTIFICATE IN GLOBAL CITIZENSHIP (15 CREDITS) MAJOR CODE: 6212

The interdisciplinary Academic Certificate (AC) in Global Citizenship enhances students' understanding of the world around them and current social issues such as economic and social justice, human and civil rights, world and regional conflicts, environmental degradation, cultural diversity, and political change. Through a combination of coursework and experiential learning, students develop skills in critical thinking, inquiry, and discourse while becoming more informed, socially responsible, and engaged citizens of their communities, country, and world. The certificate includes specialized tracks in the impact of diverse cultures on American life: Impact of Diverse Cultures on American Life; Political and Economic Interdependence of the International Community; Global Study of Cultures, Religions, and Values; Regional Study of Cultures, Religions, and Values; and Science, technology and the world.

Required Courses (7 credits)

GLO298AA	Special Projects	1

Select 6 credits from the following courses:

ASB102	Introduction to Cultural and Social Anthropology (3)
COM263	Elements of Intercultural Communication (3)
ECN213	The World Economy (3)
GCU121	World Geography I: Eastern Hemisphere (3)
GCU122	World Geography II: Western Hemisphere (3)
HIS243	History of World Religions (3) OR
REL243	World Religions (3)
POS120	World Politics (3)
PSY132	Psychology & Culture (3)

Restricted Electives (8-9 credits)

Students will choose 8-9 credits from one of the four tracks:

Any prefixed course(s) except courses used to satisfy Required Courses area.

Track 1 – Impact of Diverse Cultures on American Life: (9 credits)

Courses for Track 1 must be selected from the following disciplines:
AIS, ASB, CCS, COM, EDU, ENH, HIS, HUM, IGS, MCO, MHL, PSY, REL, SOC, SPH, WST

Courses selected under Track 1 must satisfy both of the following General Education Requirements:
Awareness Area C AND
Core Areas SB OR HU OR L

Track 2 – Political and Economic Interdependence of the International Community (9 credits)

Courses for Track 2 must be selected from the following disciplines:
ECN, IBS, POS, SBU

Courses selected under Track 2 must satisfy both of the following General Education Requirements:
Awareness Area G AND
Core Area SB

Track 3 – Global Study of Cultures, Religions, and Values (9 credits)

Courses for Track 3 must be selected from the following disciplines:
ASB, COM, DAH, ENH, GCU, HIS, HUM, IGS, MHL, PHI, PSY, REL, SOC

Courses selected under Track 3 must satisfy both of the following General Education Requirements:
Awareness Area G AND
Core Areas SB OR HUM OR L

Foreign Languages: All of the following 201, 202, 203, or 204-level classes are also acceptable under Track 3:
ARB, FRE, GER, HEB, ITA, JPN, RUS, SPA

Track 4 – Science, Technology, and the World (8-9 credits)

ASB231	Introduction to Archaeological Field Methods	4
ASM104	Bones, Stones, and Human Evolution	4
BIO105	Environmental Biology	4
BIO107	Introduction to Biotechnology	4
CHM107	Chemistry and Society	3
GLG110	Geological Disasters and the Environment	3
GPH111	Introduction to Physical Geography	4
+GPH210	Introduction to Environmental Geography	3
PHS120	Introduction to Physical Science: Astronomy, Meteorology, Geology and Oceanography	4
SOC180	Social Implications of Technology	3

ACADEMIC CERTIFICATE IN WOMEN'S STUDIES (15 CREDITS) MAJOR CODE: 6225

The Women's Studies program, an intensive interdisciplinary liberal arts certificate program, provides students with tools and opportunities to discuss and critique historical and contemporary theories and practices of feminism(s). The curriculum enables students to write well, think critically and analyze problems effectively. Students complete a variety of courses focusing on women's experiences and perspectives, exploring topics such as history, culture, class, race, ethnicity, sexuality and gender in order to help bring about equality, understanding, and peace. These courses are culturally responsive to the diversity of one half of the world's people, their work, and their impact on multicultural societies.

Required Courses (3 credits)

WST100	Women and Society	3

Restricted Electives (12 credits)

ASB211	Women in Other Cultures	3
ENH/WST284	19th Century Women Writers	3
ENH/WST285	Contemporary Women Writers	3
HIS201	History of Women in America	3
HLR/WST286	Women and Health: Body/Mind/ Spirit/Connection	3
HUM/WST209	Women and Films	3
+PSY235	Psychology of Gender Differences	3
+PSY258	Domestic Problems and Crises	3
REL/WST290	Women and Religion	3
SOC212	Gender and Society	3
WST105	Women of Color in America	3
WST110	Women and Gender: A Feminist Psychology	3
WST120	Gender, Class, and Race	3
WST128	Law and Violence Against Women	3
WST160	Women and Early American Experience	3
WST161	American Women Since 1920	3
WST200	Essential Feminist Writing	3
WST261	Native Women's Literature: The Americas	3

TEACHER EDUCATION: MARICOPA COMMUNITY COLLEGE DISTRICT-WIDE OFFERINGS

In direct response to the ever growing need for highly qualified P-12 teachers and in support of the many communities it serves, the Maricopa Community College District has made a strong commitment to contributing to the recruitment and training of early childhood, elementary, secondary, and special education school teachers. With quality curriculum and excellent instruction as the primary focus of its faculty, the Maricopa colleges are well positioned to provide state and national leadership in the quality and nature of instruction thus helping students to become excellent teachers through the offering of current and responsive teacher education coursework.

The District also supports professional development for certified teachers through the offering of coursework, seminars, workshops and specialized training. This includes Bilingual Education, Computer Science, English as a Second Language (ESL), Math Specialist, Middle School, Reading Specialist, and Structured English Immersion (SEI).

In support of this commitment, the Maricopa Community College District offers teacher education coursework, degrees, and/or programs at all ten Maricopa Colleges.*

TEACHER EDUCATION OPTIONS AVAILABLE TO STUDENTS

Instructional Aide/Associate/Paraprofessional Preparation

- *Associate in Arts in Elementary Education (AAEE):* Designed for the student who plans to transfer to an Elementary Education, Special Education, Early Childhood Education or Multicultural/Multilingual program at any partner institution and/or who plans to become a classroom instructional aide. The degree transfers as a block without loss of credit to Arizona's public universities. (Offered at all ten Maricopa Community Colleges)
- *Associate in Applied Science (AAS) in Teacher Assisting:* Prepares students for employment as an assistant to the classroom teacher in grades K-12. It provides foundation work, which will allow the aide to pursue a higher degree in the field of education. (Offered at EMCC & GWCC)
- *Associate of Applied Science (AAS) in Instructional Assistance:* Prepares students to work as instructional assistants. The program emphasizes the philosophical, cultural, and linguistic processes involved in teaching children. Students develop knowledge and skills required of the instructional assistant through a combination of courses in methodology and practicum experience. (Offered at MCC & PC)
- *Associate in Transfer Partnership (ATP) in K-12 Classroom Instructional Support:* Designed for students planning on becoming an Instructional Associate/ Paraprofessional in K-12. Transfers as a block without loss of credit to Charter Oak State College. (Offered at RSC)
- *Certificate of Completion (CCL) in Instructional Assistance:* Provides coursework which focuses on meeting the educational needs of learners. All Certificate Program requirements can be used toward completion of the Instructional Assistance AAS Program. (Offered at MCC & PC)

- *Associate in Arts in Elementary Education (AAEE):* Designed for the student who plans to transfer to an Elementary Education, Special Education, Early Childhood Education or Multicultural/Multilingual program at any partner institution and/or who plans to become a classroom instructional aide. The degree transfers as a block without loss of credit to Arizona's public universities. (Offered at all 10 Maricopa Community Colleges)
- *Associate in Transfer Partnership (ATP) in Elementary Education:* Designed for students planning to transfer into Elementary Education at Arizona State University West Campus. Transfers as a block without loss of credit. (Offered at all 10 Maricopa Community Colleges)

Elementary and Special Education Teacher Preparation

- *Associate in Arts in Elementary Education (AAEE):* Designed for the student who plans to transfer to an Elementary Education program and Special Education at any partner institution and/or who plans to become a classroom instructional aide. The degree transfers as a block without loss of credit to Arizona's public universities. (Offered at all 10 Maricopa Community Colleges)

Elementary, Secondary & Special Education Teacher Preparation

- *Baccalaureate Partnership Program with Northcentral University:* Designed for students in elementary, secondary, and special education who will transfer to Northcentral University after completing 90 credits at the community college. (Offered at RSC)
- *Aztec/Education:* Housed in the Office of Program Articulation, this program assists and supports students throughout the first two years of their bachelor's degree in elementary, secondary, or special education. (Offered at GCC)
- *Dynamic Learning Teacher Education Program:* A four-semester cohort model designed to prepare future teachers to transform inner city schools. It is based on current research on teaching and learning and utilizes a team-taught interdisciplinary curriculum with strong partnerships with community schools and Arizona State University. (Offered at SMCC)
- *Inspire.teach:* A program that supports and encourages the choice of teaching as a profession. It reflects a commitment among secondary, community college, and university partners to inspire students from under-represented groups to explore, pursue and excel in teaching careers. (Offered at EMCC)
- *The Teacher Connection:* Designed to identify, connect, and support individuals as they work toward careers in teaching. It reflects a commitment among Cave Creek Unified School District, Paradise Valley Unified School District, Paradise Valley Community College, and ASU West's College of Education to inspire a diverse population of students to explore, pursue, and excel in teaching careers. (Offered at PVCC)
- *Teaching and Learning Communities (TLC) Education Program:* A student support program structured in a 4-semester plan with courses selected to enhance students' knowledge of teaching as a career and to prepare for certification. (Offered at MCC)
- *General Studies and Subject Matter Courses:* Designed to fulfill lower division general education requirements for students planning to transfer to public or private community colleges or universities. (Offered at all Maricopa Community Colleges)
- *Post Baccalaureate Teacher Prep Programs:* Prepares students with a baccalaureate degree to become a certified Elementary (K-8), Secondary (7-12), or Special Education (K-12) teacher. The programs are approved by the Arizona Department of Education. (All programs offered online at RSC; elementary (K-8) offered on campus at SCC)
- *Urban Teacher Corps:* A teacher development program that supports urban classified school district employees in Phoenix to successfully complete a bachelor's degree in Education and return to their school districts as teachers. After completion of lower division courses, UTC participants transfer to the initial Teacher Certification program at Arizona State University, Tempe. (Offered at PC)

Master's Degree Partnerships for Students who Complete the Rio Salado College and Scottsdale Community College Teacher Prep Programs

- *Master's Degree Partnership with North Central University:* 18 credits of the post baccalaureate teacher prep program can be applied toward the 36 credits required for an online MS in Education Degree. (Offered at RSC)
- *Master's Degree Partnership with Plymouth State University:* 18 credits of the post baccalaureate teacher prep program can apply toward the 33 credits required for an online MS in Education Degree. (Offered at RSC, SCC)

Professional Development for Certified Teachers

- *Certificate of Completion (CCL) in Bilingual Endorsement:* Designed for certified teachers pursuing bilingual endorsement. Includes all coursework required for state-issued Bilingual Endorsement as specified by the Arizona Department of Education. Valid Arizona teaching certificate is required for state endorsement. (Offered at MCC, PC)
- *Certificate of Completion (CCL) in English as a Second Language (ESL) Endorsement:* Designed for certified teachers pursuing ESL endorsement. Includes all coursework required for state-issued English as a Second Language Endorsement as specified by the Arizona Department of Education. Valid teaching certificate is required for state endorsement (Offered at MCC, PC)

- *Certificate of Completion (CCL) in Reading Specialist Endorsement:* Qualifies certified teachers for the Reading Specialist Endorsement as specified by the Arizona Department of Education. Includes all coursework required for those with valid Arizona teaching certificates to qualify for the Reading Specialist Endorsement in Arizona. (Offered at MCC)
- *Professional Development Endorsement Courses for K-12 Teachers:* Courses have been designed and are accepted by the Arizona Department of Education and lead to endorsements in Computer Science, Structured English Immersion (SEI), English as a Second Language (ESL), Math Specialist, Reading Specialist, and Middle Grade. (All courses offered online at RSC; MCC offers Reading, ESL, SEI, Math and Middle Grade on campus; SCC offers Reading, ESL, and SEI on campus EMCC offers SEI on campus)
- *Master's Degree Partnership with North Central University:* 15 credits of identified endorsement coursework can be applied toward the 36 credits required for an online MS in Education Degree. (Offered at RSC)

** Note: (1) Refer to specific college catalog for degree, program and course information. (2) Students are strongly encouraged to seek academic advisement prior to enrolling.*

EARLY CHILDHOOD EDUCATION & FAMILY STUDIES OPTIONS AVAILABLE TO STUDENTS

It is important to note that there is a wide range of difference in educational requirements for early childhood professionals both locally and nationally. Check with the contact person at the college you are planning to attend prior to enrolling in coursework.

Associate Degrees

- *Associate of Applied Science (AAS) in Early Childhood Education:* Prepares individuals to work with children in early childhood programs, with a specialization in either center-based, family childcare, or administration of early childhood programs. Courses are scheduled to accommodate those who are already working in the field. (Offered at GCC, RSC)
- *Associate in Applied Science (AAS) in Early Childhood Education:* Designed to prepare students for employment as early childhood teachers in a variety of educational programs. Students learn effective teaching skills as they apply developmentally appropriate early childhood educational theory in the classroom setting. Courses have been selected with a focus on developing an educational career ladder. (Offered at PVCC)
- *Associate in Applied Science (AAS) in Early Childhood Development:* Designed to meet the needs of individuals who are interested in working in early childhood. The program emphasizes working with multi-linguistic and multi-cultural children. Upon completion students will be equipped to work effectively with children and families in both school and home environments and also initiate upward career movement or improve existing skills. (Offered at SMCC)
- *Associate in Applied Science (AAS) in Early Childhood Development:* Prepares students to enter a professional field which encompasses many services provided directly to young children, birth to age 8, and their families. (Offered at SCC)
- *Associate in Applied Science (AAS) in Early Care and Education:* The Early Care and Education program is based upon an inclusive vision of high-quality services for all children. Provided area has a sequence of lively, interactive classes and a variety of field experiences, which greatly expand the student's understanding of children. Unique student teaching opportunities are offered in the Evelyn H. Warren Child Development Lab, a multi-age preschool that is accredited by the National Association for the Education of Young Children. (Offered at MCC)
- *Associate in Applied Science (AAS) in Early Childhood Education and Administration:* Designed to meet the needs of persons interested in pursuing careers in early childhood education or currently employed in preschools, child care centers, extended day programs, agencies, or other early-childhood care facilities. Students specializing in this area develop the abilities to administer all facets of an early childhood program, along with the knowledge of child development and early childhood education. Personal characteristics for this field are love of children, patience, creativity, and interest in techniques for enhancing interpersonal relationships with children and adults. (Offered at PC)
- *Associate in Applied Science (AAS) in Family Life Education:* Prepares individuals to enter the family life education, human development, or child and family organizations field at the paraprofessional level. (Offered at GCC and RSC)
- *Associate in Applied Science (AAS) in Family Development:* Prepares students to work with families, identify needs, and acquire resources that strengthen family functioning. Includes skills in assessing and controlling needed resources, decision making, problem solving, communication, parenting, and child development education. (Offered at PC)
- *Associate in Transfer Partnership (ATP) in Early Childhood Teacher Education:* Designed for students planning on becoming certified teachers in Early Childhood Education (birth through 3rd grade). Transfers as a block without loss of credit to Northern Arizona University. (Offered at GCC, MCC, RSC, SCC)

Post Baccalaureate Programs

- *Post Baccalaureate Early Childhood Teacher Education Program:* Designed for individuals with a baccalaureate degree who want to become an early childhood teacher. The program enables students to obtain an Arizona Department of Education (ADE) early childhood teaching certificate that meets Arizona requirements to teach in a public school program, including children from birth through third grade. (Offered at RSC)

Professional Development in Early Childhood Education

- *Early Childhood Endorsement Coursework:* Courses are accepted by the Arizona Department of Education and lead to Early Childhood Endorsement for individuals who have a current elementary or special education teaching certificate, or are about to receive one. The Early Childhood Endorsement meets Arizona requirements to teach in a public school program, including children from birth through third grade. (Offered at RSC, MCC)
- *Child Development Associate (CDA) Coursework*: Courses are accepted by the Council of Professional Recognition toward fulfillment of CDA requirements. (Offered at EMCC, MCC, PVCC)

Academic Certificates

- *Academic Certificate (AC) in Early Childhood Education:* Designed to provide students with an understanding of universal concepts and basic practices which are the foundation for early childhood care and education. The Certificate includes courses identified as core elements of early care and education such as health, safety, nutrition, curriculum, family values, community, diversity, professionalism, guidance and discipline, and child development as well as general education courses relevant to early childhood education. (Offered at RSC)

Certificates of Completion

- *Certificate of Completion (CCL) in Early Childhood Education:* Designed for those who are interested in studying and working with young children. It prepares individuals to work with children in early child programs, with a specialization in either center-based or family child care. Courses are scheduled to accommodate those who are already working in the field. (Offered at GCC)
- *Certificate of Completion (CCL) in Early Childhood Education:* Designed to prepare students for employment as early childhood teachers in a variety of educational programs. Students learn effective teaching skills as they apply developmentally appropriate early childhood educational theory in the classroom setting. Courses have been selected with a focus on developing an educational career ladder. (Offered at PVCC)
- *Certificate of Completion (CCL) in Early Childhood Development:* Prepares individuals to assume entry-level positions within preschool, child care and family support programs. (Offered at SCC)
- *Certificate of Completion (CCL) in Early Childhood Development:* Designed to meet the needs of individuals who are interested in working in early childhood. Emphasis on working with multi-linguistic and multi-cultural children. Upon completion students will be equipped to work effectively with children and families in both school and home environments and also initiate upward career movement or improve existing skills. (Offered at SMCC)
- *Certificate of Completion (CCL), Montessori (AMS) National Montessori Certification:* (Offered at SMCC)
- *Certificate of Completion (CCL) in Early Care Specialist:* The Early Care curriculum prepares students for entry-level positions in early childhood programs. The sequence of coursework is designed to increase understanding of education and care of young children. (Offered at MCC)
- *Certificate of Completion (CCL) in Early Childhood Education and Administration:* Designed to meet the needs of persons interested in pursuing careers in early childhood education or currently employed in preschools, child care centers, extended day programs, agencies, or other early-childhood care facilities. Students specializing in this area develop the abilities to administer all facets of an early childhood program, along with the knowledge of child development and early childhood education. Personal characteristics for this field are love of children, patience, creativity, and interest in techniques for enhancing interpersonal relationships with children and adults. (Offered at PC)
- *Certificate of Completion (CCL) in Early Childhood Classroom Management:* Designed for understanding infants, toddlers & preschool children and managing their early childhood classroom settings. Focuses on key areas related to early childhood. (Offered at PC)
- *Certificate of Completion (CCL) in Curriculum for Young Children:* Focuses on developmentally appropriate methods and uses of creative art media; science skills and experience; rhythmic, music, and creative movement; language and literacy activities; math and logical thinking experiences; and multicultural/anti-bias activities.(Offered at PC)
- *Certificate of Completion (CCL) in Family Development:* Prepares students to work with families, identify needs, and acquire resources that strengthen family functioning. Includes skills in assessing and controlling needed resources, decision making, problem solving, communication, parenting, and child development education. (Offered at PC)
- *Certificate of Completion (CCL) in Infant Toddler Development:* Prepares individuals to serve children from birth through age three years and their families within preschool, child care and family support programs. (Offered at SCC)
- *Certificate of Completion (CCL) in Parent Education:* Prepares individuals to enter the family life education with a focus on parent education. (Offered at GCC, MCC, RSC)
- *Certificate of Completion (CCL) in Adolescent Studies:* Designed to prepare individuals preparing to work or those who are employed in professions that require interaction with adolescents and/or adolescent-related issues such as school personnel, parents, health educators, etc. (Offered at PC)

** Note: (1) Refer to specific college catalog for degree, program and course information. (2) Students are strongly encouraged to seek academic advisement prior to enrolling.*

College Contact Information

Chandler Gilbert Community College (CGCC)

Teacher Education:
Sharon Fagan (Pecos Campus) **480-732-7124**
sharon.fagan@cgcmail.maricopa.edu

Early Childhood Education:
Jennifer Peterson (CGCC) **480-857-5535**
jennifer.peterson@cgcmail.maricopa.edu

Estrella Mountain Community College (EMCC)

Teacher Education:
Marsha Carlen **623-935-8479**
marsha.carlen@estrellamountain.edu

Early Childhood Education:
Marsha Carlen **623-935-8479**
marsha.carlen@estrellamountain.edu

Glendale Community College (GCC)

Teacher Education:
Nancy Oreshack **623-845-3265**
nancy.oreshack@gcmail.maricopa.edu

Early Childhood Education:
Dr. Carlos Nunez **623-845-3178**

Mesa Community College (MCC)

Teacher Education:
Julie Garner **480-461-7890**
julie.garner@mcmail.maricopa.edu

Dr. Nora Reyes **480-461-7781**
nora.reyes@mcmail.maricopa.edu

Early Childhood Education:
Dr. Annapurna Ganesh **480-461-7305**
aganesh@mail.mc.maricopa.edu

Paradise Valley Community College (PVCC)

Teacher Development Center:
Harriet Betts **602-787-6562**
harriet.betts@pvmail.maricopa.edu

Teacher Education:
Debbie Voll **602-787-6659**
debbie.voll@pvmail.maricopa.edu

Early Childhood Education:
Christie Colunga **602-787-7731**
christie.colunga@pvmail.maricopa.edu

Ana Trejo **602-787-6790**
ana.trejo@pvmail.maricopa.edu

Phoenix College (PC)

Teacher Education:
Eddie Genna **602-285-7651**

Early Childhood Education:
Alverta McKenzie **602-285-7292**
alverta.mckenzie@pcmail.maricopa.edu

Rio Salado College (RSC)

Teacher Education: **480-517-8580**
academic.advisement@email.rio.maricopa.edu

Early Childhood Education:
Dr. Diana Abel **480-517-8122**
diana.abel@riomail.maricopa.edu

Scottsdale Community College (SCC)

Teacher Education:
Dr. Bobbie Sferra **480-423-6217**

Early Childhood Education:
Dr. Rosanne Dlugosz **480-423-6204**

South Mountain Community College (SMCC)

Teacher Education:
Dr. Eufemia Amabisca **602-243-8019**
eufemia.amabisca@smcmail.maricopa.edu

Dr. Yvonne Montiel **602-243-8023**
yvonne.montiel@smcmail.maricopa.edu

Early Childhood Education:
Joy Mills **480-305-5783**
joy.mills@smcmail.maricopa.edu

Montessori Director:
Billie Larime **602-305-5601**
billie.larime@smcmail.maricopa.edu

COLLEGE OF ATTENDANCE

Completion of teacher education coursework for the various degrees, certificates, and programs available can be met through the completion of teacher education coursework taken at any Maricopa Community College. Refer to specific college catalogs and course schedules for available offerings.

COMMON COLLEGE REQUIREMENTS FOR STUDENTS ENROLLED IN TEACHER EDUCATION COURSEWORK

Students taking Teacher Education Courses are expected to:

- Receive a grade of "C" or better in all coursework.
- Participate in site-based practicums, field experiences or service learning. This may include observation, tutoring, and some basic teaching. Work with the person identified by the college to coordinate the site-based school placements.
- Be fingerprinted, if required. Some school districts require this before students are allowed to participate in a site-based school experience. The cost of fingerprinting is the sole responsibility of the student. Contact each individual college for specific information.
- Meet additional health requirements.
- Pay course fees. Refer to specific college course schedules and catalogs.

UNIVERSITY TRANSFER STUDENTS

Students planning to transfer to a college/university other than Arizona State University (ASU), University of Arizona (UOA), or Northern Arizona University (NAU) to obtain a teacher education degree may also take their prerequisite coursework at any Maricopa College. For information on transferability of coursework that meets the universities' requirements for admission into their teacher preparation baccalaureate programs, students must contact an adviser at that college/university.

TEACHER EDUCATION SCHOLARSHIP AVAILABILITY

The National Association of Community College Teacher Education Programs (NACCTEP) has a national scholarship program. The purpose of the NACCTEP National Scholarship Program is to provide financial assistance to community college students who are studying to become teachers. This scholarship is promoted through the National Association of Community College Teacher Education Programs and is facilitated by the National Center for Teacher Education. Awards are $1000 over the course of two semesters and will be made available through college financial aid institutions. Visit **http://www.nacctep.org** for additional information.

The Professional Career Pathway Project (PCPP) is sponsored by the Arizona Department of Economic Security Child Care Administration. This program offers family child care and center-based caregivers the opportunity to apply for funding to cover the cost of the tuition/fees for college coursework. The PCPP offers students a seamless pathway to meet the requirements for the Child Development Associate (CDA) Credential, the National Association for Family Child Care (NAFCC) Accreditation, and the Certificate of Completion. (EMCC, GCC, MCC, PVCC, SCC, SMCC)

Early Childhood Education Scholarship Opportunities information is available at each college. Make contact with the designated college Early Childhood contact person directly. Scholarship opportunities vary with each program.

MCCCD Occupational Programs Matrix 2009-2010

DESCRIPTION

The Maricopa County Community College Occupational Program Matrix identifies all programs currently available for offering within the 10 community colleges and two skill centers of the district. The programs are grouped under broad occupational areas as requested by the colleges. For specific information regarding individual programs, contact the college(s) listed as participating institutions.

AGRICULTURE

AGRIBUSINESS SALES AND SERVICE

Pest Management Aide — MC

AGRICULTURAL PRODUCTION AND MANAGEMENT

Agribusiness — GC, MC
(See Agribusiness Sales and Service and Horticulture sections for additional programs and related areas)
Urban Horticulture — GC, MC
(See Horticulture section for additional programs and related areas)

EQUINE TRAINING AND MANAGEMENT

Equine Science — SC
Equine training and Management — SC
Veterinary Technology/Animal Health — MC

HORTICULTURE

Landscape Aide — MC
Landscape and Pest Management — GC
Landscape and Turf Technology — GC
Landscape Specialist — MC
(See Agricultural Production and Management section for additional programs and related areas)
Workforce Development: Horticulture Level I — RS

BUSINESS

ACCOUNTING

Accounting — GC, GW, PC, CG, SM, EM, PV
Accounting – Specialized Para-Professional — PV
Bookkeeping — SC
Microcomputer Accounting — GW, PC, PV, SM, CG, EM
(See Business Administration for additional programs and related areas)
Paraprofessional Accounting — GC

BUSINESS ADMINISTRATION

Business — MC, SC
Business (Fastrack) — SC
General Business — CG, GC, GW PC, PV
(See Management and Finance section for additional programs and related areas)
Import/Export Trade — GW
International Business — GW, PV
International Trade — MCC

COMPUTER AND INFORMATION SCIENCES

Advanced Computer Usage and Applications — RS
Advanced Web Designer — MC
Computer Applications Technology — EM
Computer Applications: Microsoft Office Specialist/Advanced — MC
Computer Applications: Microsoft Office Specialist/Basic — MC
Computer Hardware and Desktop Support — CG, EM, GW, MC, PC, SC
Computer Hardware and Network Support — SC
Computer Information Systems — GC, MC, PC, PV, SC, SM
Computer Networking Technology — PV
Computer Programming — MC
Computer Systems Maintenance — PV
Computer Technology — RS
Computer Usage and Applications — RS
Database Development — SC
Desktop Publishing — EM
Geographic Information Systems — MC
Help Desk Specialist — GC
Information Assurance — MC
Information Security — EM, GC, GW
Information Security Administration — EM, GC, GW
Information Security Technology — EM, GC, GW
Information Security Wireless Networks — EM, GC, GW
Information Technology — CG
Information Technology Support — SM
Information Technology: Cisco Networking Professional — SM
Information Technology: Network Server — SM
Information Technology: Network Security — SM
Information Technology: Programming and Systems Analysis — SM
Information Technology: Web and Graphic Design — SM
Linux Associate — EM, GC, GW, MC
Linux Networking Administration — EM, GC, GW, MC
Linux Professional — CG, EM, GC, GW, MC, PV
Microcomputer Applications — GC
(See Office Occupations section for additional programs and related areas)
Microcomputer Applications: Office Specialist/Core Level — CG
(See Office Occupations section for additional programs and related areas)
Microcomputer Applications: Office Specialist/Expert Level — CG
(See Office Occupations section for additional programs and related areas)
Microcomputer Business Applications — CG, GC
(See Office Occupations section for additional programs and related areas)
Information Technology: Computer Applications Specialist — SM
Microsoft Database Administration — CG
Microsoft Desktop Support Technology — EM, GC, GW, MC, PV, SC
Microsoft Networking Technology — EM, GC, GW, PV, SC
Microsoft Office Specialist — PV
Microsoft Product Specialist — CG, EM, GC, GW, PV, SC
Microsoft Applications Development — GW, MC, PV, SC
Microsoft Systems Administration — EM, GC, GW, PV, SC
Microsoft Systems Engineer — EM, GC, GW, PV, SC
Network Administration — SC
Network Administration: CISCO Network Associate — MC
Network Administration: Microsoft Windows NT — MC
Network Administration: Microsoft Windows — MC
Network Administration: Novell — MC
Network Administration: UNIX-Solaris — MC
Network Professional — RS
Network Security — MC
Networking — RS
Networking Administration: Cisco — CG, EM, GC, GW, SM
Networking System Administration — MC
Networking Technology: Cisco — CG, EM, GC, GW, SM
Oracle Database Administrator — EM, GC
Oracle Database Operations — CG
Personal Computer Applications — SC
Programming and System Analysis — CG, EM, GC, GW, MC, PC, PV, SC
Programming — RS
Software Development — SC
Technology Troubleshooting and A+ Preparation — RS
Web Design — GC, GW, PV, RS, SC
Web Designer — MC
Web Designer: Advanced — MC
Web Developer — GC, GW, MC, PC, PV, EM
Web Development — SC
Web Server Administrator — MC

FINANCE

Banking and Finance — PC, EM
Real Estate — GC, MC, PC
Real Estate: Prelicense — PC
Home Inspection — MC
Real Estate Residential Appraisal — MC
Licensed Real Estate Appraiser — MC
Residential Appraisal Trainee — MC
Certified Residential Appraiser — MC

MANAGEMENT

Business Management — SM
Credit Union Management — PC
General Business — PC, CG, GC, GW, PV
Human Resources Management — PC
Management I — PC
Management II — PC
Management — PC, MC, SC
Middle Management — GC, PV
Military Leadership — RS
Public Administration — RS
Public Administration: Legal Services — RS
Public Relations — GC, MC
(See Middle Management section for additional programs and related areas)
Public Works Leadership — EM
Project Management — MC
Retail Management — CG, GC, GW, EM, MC, PC, PV, RS, SC, SM
Retail Management and Marketing — SC
Retail Sales Manager — MC
Small Business — MC
Small Business Entrepreneurship — GC, SM
Small Business Management — EM, SC
Supervision — GC
Supervision and Management I — SM
Supervision and Management II — SM
Tribal Development — SC

MARKETING

Marketing	MC, PC, SC
Marketing I	PC
Marketing II	PC
Salesmanship	MC

MEDIA TECHNOLOGY

Animation: Advanced Imaging and Animation	GC
Animation: Drawing for Animation	GC
Animation: Imaging and Design Foundation	GC
Broadcast Production	SC
Digital Arts: Digital Illustration	MC
Digital Arts: Digital Photography	MC
Digital Arts: Graphic Design	MC
Digital Arts: Web Design	MC
Digital Photography	PC
Editing	SC
Film Analysis and Criticism	SC
Film Production	SC
Game Technology	GW, MC
Journalism	GC, MC, PC, PV, SC, SM
Media Arts: Computer Art/Illustration	CG, PC, PV
Media Arts: Desktop Publishing	PC
Media Arts: Digital Animation	PC
Media Arts: Digital Imaging	CG, PC
Media Arts: Web Design	PC
Motion Picture/Television Production	SC
Multimedia	GC
Multimedia and Business Technology	MC
Multimedia Technology	MC
Screenwriting	SC
Video Production Technology	GC
Web Publishing Design: Design and Authoring	GC
Web Publishing Design: Foundation	GC

MIDDLE MANAGEMENT

Public Relations	MC

(See Management section for additional programs and related areas)

OFFICE OCCUPATIONS

Administrative Office Coordinator	GC
Administrative Office Professional	PV
Administrative Technology	GW
Business Technology Specialist	GW
Computer Applications	PC
Data Entry Clerk	EM, GC
General Office Secretary	EM, GC
Paralegal Studies	PC
Legal Secretarial	PC
Legal Studies	MC
Medical Office Support	PC
Medical Office Support: Basic Clerical	PC
Medical Office Support: Basic Transcription	PC
Office Automation Systems	SC, SM
Office Coordinator	GC
Office Fundamentals	SC
Office Support I	PC
Office Support II	PC
Office Support	PC
Office Technology	GW
Realtime Reporting-Advanced Placement Broadcast Captioning	GW
Realtime Reporting-Advanced Placement CART	GW
Realtime Reporting-Broadcast Captioning	GW
Realtime Reporting-CART	GW
Realtime Reporting-Judicial	GW
Realtime Reporting Scoping	GW
Receptionist	EM, GC
Technology Support Analyst Level I	MC
Word Processing	SC

TOTAL QUALITY MANAGEMENT

Automobile Insurance: Customer Service	RS
Automobile Policy: Customer Service	RS
Credit Counseling: Customer Service	RS
Customer Service Management	EM
Human Services-Assistance: Customer Service	RS
Human Services-Long Term Care: Customer Service	RS
Human Services-Specialist: Customer Service	RS
Insurance-Customer Service	RS
Insurance Claims and Losses: Customer Service	RS
Motor Vehicle: Customer Service	RS
Organizational Leadership	CG, EM, GW, MC, PV, RS
Organizational Management	CG, GW, MC, RS
Pharmacy Benefits Management: Customer Service	RS
Pharmacy: Customer Service	SM
Quality Customer Service	GW, RS
Quality Process Leadership	GW, RS
Travel Agency: Customer Service	RS
Utilities Customer Service	RS

HEALTH OCCUPATIONS

ALLIED HEALTH

Advanced Behavioral Health Sciences	GC, SM
Basic Behavioral Health	GC, SM
Biomedical Research Technology	CG, GW, SM
Clinical Laboratory Sciences	PC
Community Health Advocate, Diabetes	MC, SC
Computed Tomography	GW
Developmental Disabilities Specialist	GC, CG
Diagnostic Medical Ultrasound	GW
Direct Care Practice	MC
Electroneurodiagnostics	GW
Health Information	PC
Health Information Technology	PC
Health Services Management	GW
Health Unit Coordinating	GW
Histologic Technology	PC
Hospital Central Service Technology	GW
Laboratory Assisting	PC
Magnetic Resonance Imaging	GW
Medical Assisting	PC
Medical Coding: Hospital-Based	PC
Medical Coding: Physician Based	PC
Medical Front Office	PC
Medical Radiography	GW
Medical Transcription	GW
Medical Transcription Level 1	GW
Nuclear Medicine Technology	GW
Patient Care Technician	PC
Perioperative Nursing	GW
Phlebotomy	PC
Physical Therapist Assisting	GW
Radiation Therapy	GW
Recovery	SM
Respiratory Care	GW
Speech Language Pathology	EM
Surgical Technology	GW

DENTAL

Clinical Dental Assisting	RS
Dental Assisting	PC
Dental Hygiene	PC, MC
Dental Office Management	PC

EMERGENCY MEDICAL TECHNOLOGY

Advanced Emergency Medical Technology (Paramedic)	GC, PC, PV, SC
Basic Emergency Medical Technology	GC, MC, PC, PV, SC
Community Emergency Response Team (CERT): Level I	PC
Emergency Communications and Deployment	PC
Emergency Response and Operations	CG, EM, GC, MC, PC, PV, SC
Intermediate Emergency Medical Technology	MC, PC

(See Allied Health section for additional programs and related areas)

Paramedicine	MC
Secondary Basic Emergency Medical Technology	PC

NURSING

Advanced Nursing	SM
Fast Track Practical Nursing	GW
Nurse Assisting	CG, EM, GW, MC, PC, PV, SC, RS
Nursing	CG, EM, GC, GW, MC, PC, PV, SC, RS, EM
Practical Nursing	CG, GW, MC, PC, PV, SC, RS, EM

COLLEGE ACRONYMS / NAME:

CG . . . . . Chandler Gilbert Community College
EM . . . . . Estrella Mountain Community College
GC . . . . . Glendale Community College
GW. . . . . GateWay Community College
MC. . . . . Mesa Community College
PC . . . . . Phoenix College
PV . . . . . Paradise Valley Community College
RS . . . . . Rio Salado College
SC . . . . . Scottsdale Community College
SM . . . . . South Mountain Community College

FAMILY AND CONSUMER SCIENCES

EARLY CHILDHOOD EDUCATION

Adolescent Development	GC, MC, RS
Adolescent Studies	PC
Adult Development and Aging	GC, MC, RS
Child and Family Organizations Management and Administration	GC, MC, RS
Curriculum for Young Children	PC
Early Care and Education	MC
Early Care Specialist	MC
Early Childhood Administration and Management	GC, MC, RS, SM
Early Childhood Classroom Management	PC
Early Childhood Development	SC, SM
Early Childhood Development: Montessori	SM
Early Childhood Education	PV, GC, RS
Early Childhood Education and Administration	PC
Family Development	PC
Family Life Education	GC, MC, SC, RS
Family Support	PC
Infant/Toddler Development	SC
Parent Education	GC, MC, RS, SC

COMMUNITY RE-ENTRY

Workforce Development and Community Re-Entry	RS

EDUCATION

Bilingual Endorsement	MC, PC
eLearning Design Specialist	RS
ESL Endorsement	MC, PC
Instructional Assistance	MC, PC
Reading Specialist Endorsement	MC
Teacher Assisting	EM

FAMILY AND CONSUMER SCIENCE

Nutrition for Fitness and Wellness	GC, MC

FASHION DESIGN

Alteration Specialist	MC
Apparel Construction	PC
Costume Design and Production	MC
Costuming	PC
Fashion Design	PC
Fashion Design Level I	PC
Fashion Design Level II	PC
Fashion Illustration	PC
Pattern Design Level I	PC
Pattern Design Level II	PC

FOOD AND NUTRITION

Advanced Professional Culinary Arts	SC
Baking and Pastry	EM
Basic Culinary Studies	EM
Commercial Baking	PC
Commercial Food Preparation	PC
Culinary Fundamentals	SC
(See Hospitality section for additional programs and related areas)	
Culinary Studies	EM, PC, MC
Dietetic Technology	CG, PV
Food Service Administration	PC
Professional Food and Beverage Service	PC
Workforce Development: Culinary Arts	RS

INTERIOR DESIGN

Interior Design	MC, PC, SC
Interior Design: Advanced	MC
Interior Design: Professional Level	SC
Kitchen and Bath Design	PC

MERCHANDISING

Fashion Merchandising	PC
Fashion Merchandising & Design	MC
Image Consultant	MC

SERVICE OCCUPATIONS

ADMINISTRATION OF JUSTICE

Administration of Justice	EM, GC, PC, PV
Administration of Justice-Comprehensive	PC
Administration of Justice-Fundamentals	PC
Administration of Justice Studies	CG, MC, SC
Advanced Corrections	RS
Basic Corrections	RS
Corrections	RS
Crime and Accident Scene Photography	PC
Crime and Intelligence Analysis	CG
Crime Scene Investigation	SC
Crime Scene Technology	SC
Cyber Forensics Technician	MC
Detention Services	RS
Evidence Technology	EM, PC
Fingerprint Classification and Identification	PC
Forensic Investigation	MC
Forensic Science Technology	PC
Forensic Science: Crime Lab	SC
Global Citizenship	MC
Homeland Security	CG
Information Security Forensics	EM, GC, GW, SM
Judicial Studies	MC
Justice Studies	CG, MC, PV, SC
Law Enforcement	SC
Law Enforcement Field Training	RS
Law Enforcement Investigator	GC
Law Enforcement Technology	RS
Law Enforcement Training Academy	GC, CG
Police Academy Preparation Level I	SC
Police Science	MC, SC
Police Supervision	GC
Public Safety Technology	RS
Victimology	MC

FIRE SCIENCE

Basic Firefighter	MC, PV, EM
Driver Operator	MC
Emergency Management	GC, GW, MC, PV, SM
Fire Academy	GC, SC
Fire Officer I	MC
Fire Science	CG, GC, PC, PV, RS
Fire Science Technology	GC, MC, SC, PV, EM, CG
Firefighter Operations	GC, MC, PC, PV, SC

HOSPITALITY

Airline Operations	RS
Airline Operations: Ground Operations	RS
Airline Operations: Initial Flight Attendant	RS
Airline Operations: Passenger Services	RS
Airline Operations: Reservations	RS
Airline Operations: Reservations and Ticketing Operations	RS
Airline Operations: Vacations	RS
Culinary Arts	SC
(See Food & Nutrition section for additional programs and related areas)	
Hospitality and Tourism/Golf Management	SC
Hospitality and Tourism/Hotel Management	SC
Hospitality and Tourism/Restaurant Management	SC
Hospitality and Tourism/Spa and Wellness Center Management	SC
Hospitality and Tourism/Tourism Development and Management	PC, SC
Hospitality/Hotel Management	EM

LIBRARY MEDIA TECHNOLOGY

Library Information Technology	MC
Library Information Technology: Advanced	MC
Library Information Technology: Basic	MC
Library Information Technology: Practitioners	MC
Library Information Technology: School Library Media Center	MC

MORTUARY SCIENCE

Mortuary Science	MC

MUSIC

Audio Production Technologies	GC, MC, PC, PV, SC
Dance Technology	SC
Music	PC
Music Business	CG, GC, GW, MC, PC, PV, SC, SM
Sound Design	MC, GC, PV, SC

PARKS, RECREATION, LEISURE AND FITNESS STUDIES

Recreation Management	MC, PC, SC

HEALTH AND PHYSICAL EDUCATION/FITNESS

Group Fitness Instructor	GC, MC
Personal Trainer	GC, MC
Strength and Conditioning Personal Trainer	CG, EM, GC, GW, MC, PV, SC, SM
Strength, Nutrition and Personal Training	CG, EM, GC, GW, MC, PV, SC, SM
Teaching, Healing, Meditation & Stress Management	PV
Therapeutic Massage	CG, PC
Yoga Instruction	SC

SOCIAL SCIENCES

Clinical Research Coordinating	GW

SOCIAL SERVICES

Gerontology	PC
Gerontology: Aging Services Management	PC
Gerontology: Eldercare	PC
Gerontology: Foundations	PC
Gerontology: Generalist	PC
Gerontology: Program Development	PC

TECHNOLOGY AND TRADE INDUSTRIAL

AIR CONDITIONING AND REFRIGERATION

Air Conditioning/Refrigeration/Facilities	GW
Residential and Light Commercial Air Conditioning	GW

APPRENTICESHIP RELATED INSTRUCTION

Bricklaying	GW
Carpentry	GW
Construction Management	PC
Construction Trades: Millwright	GW
Construction Trades: Painting	GW
Construction Trades: Sheet Metal	GW
Electricity	GW
Heat and Frost Insulation	GW
Heavy Equipment Operations	GW
Ironworking	GW
Mechanical Trades: Heating, Ventilating and Air Conditioning	GW
Mechanical Trades: Plumbing	GW
Mechanical Trades: Sheet Metal	GW
Meter Technology	CG
Millwright	GW
Painting	GW
Pipefitter-Refrigeration	GW
Plumbing	GW
Power Plant Technology	GW, EM, GC
Roofing	GW
Sheet Metal	GW
Steamfitting	GW

ARCHITECTURE/CONSTRUCTION/DRAFTING

Architectural CADD Level III	MC
Architectural Detailing CADD Level III	MC
Architectural Drafting	PC
Architectural Technology	SC
Architecture	MC
Basic CAD	GC
CAD Application	GC
CAD/CAM/CNC I	MC
CAC/CAM/CNC II	MC
Computer Aided Design and Drafting CADD Level I	MC
Computer Aided Drafting	MC, PC
Commercial Drafting CADD Level II	MC
Construction	MC
Construction Drafting I	MC
Construction Drafting II	MC
Construction Drafting III	MC
Construction Drafting CADD Level III	MC
Electro/Mechanical Drafting	MC
Electromechanical Manufacturing Technology	MC
Graphic Design	GC, SC
Industrial Design	GW
Industrial Design Technology: Design Specialist: Solid Works	GW
Manufacturing Productivity	MC
Manufacturing Productivity: CNC CAD/CAM Programming	GW
Manufacturing Productivity: CNC Operation	GW
Manufacturing Productivity: Conventional Machines Level I	GW
Manufacturing Productivity: Conventional Machines Level II	GW.
Manufacturing Productivity: Engineering Graphics	GW
Manufacturing Productivity: Quality Assurance	GW
Manufacturing Productivity: Process Improvement	GW
Manufacturing Productivity: Team Leadership	GW
Mechanical Drafting	MC
Micro Circuit Mask Design	MC
Residential Drafting CADD Level II	MC
Surveying and Civil Drafting CADD Level II	MC

AVIATION AND AERONAUTICS

Aircraft Construction Technology	CG
Aircraft Maintenance Technology	CG
Aircraft Maintenance Technology (Part 147)	CG
Airframe Maintenance (Part 147)	CG
Airway Science Technology, Flight Emphasis	CG
Aviation Electronics Maintenance Technology	CG
Avionics Technology	CG
Composite Technology	CG
Flight Technology	CG
Powerplant Maintenance (Part 147)	CG
Sheet Metal Structures Technology	CG

AUTOMOTIVE TECHNOLOGY

Air Conditioning	MC
Air Conditioning and Electrical Accessories	GW
Automotive Chassis	GC
Automotive Drive Trains	GW
Automotive Electrical Systems	MC
Automotive Engines and Drive Trains	GC
Automotive Engine Performance Diagnosis & Air Conditioning	GC
Automotive Performance Technology	MC
Automotive Suspension, Steering and Brakes	GW
Automotive Technology	GC, GW
Brakes, Alignment, Suspension and Steering	MC
Caterpillar Technician Training	MC
Engine Performance and Diagnosis	GW, MC
Transmissions and Power Trains	MC
Workforce Development: Automotive Technology Level I	RS
Workforce Development: Automotive Technology Level II	RS

BUILDING AND CONSTRUCTION

Building Inspection	EM, MC
Building Safety and Construction Technology	PC
Building Safety Technology	SC
Civil Engineering Technology	PC
Plan Review	MC
Pre-Contractor Licensing	MC
Workforce Development: Carpentry Level I	RS
Workforce Development: Carpentry Level II	RS
Workforce Development: Furniture Construction/Refinishing Level I	RS
Workforce Development: Furniture Construction/Refinishing Level II	RS

COMMERCIAL ART/ADVERTISING ART

Computer Graphic Design	PC
(See Media Technology section for additional programs and related areas)	
Workforce Development: Graphic Arts Level I	RS

ELECTRONICS/ELECTRICAL TECHNOLOGY

Broadband Telecommunications	RS
Broadband Telecommunications: Account Services	RS
Broadband Telecommunications: Field Operations	RS
Computer and Networking Technology	GC
Electric Utility Design Technology	CG
Electrical Technology	GW
Electromechanical Automation Technology	MC
Electronics Engineering Technology	MC
Electronics Technology	MC
Industrial Education	GC, MC
Industrial Operations Technology	EM, GW
Network Maintenance	GC
Telecommunications Technology	SM
Workforce Development: Electrical Level I	RS
Workforce Development: Electrical Level II	RS

ENGINEERING

Surveying Technology	PC

COLLEGE ACRONYMS / NAME:

CG . . . . . Chandler Gilbert Community College
EM . . . . . Estrella Mountain Community College
GC . . . . . Glendale Community College
GW. . . . . GateWay Community College
MC. . . . . Mesa Community College
PC . . . . . Phoenix College
PV . . . . . Paradise Valley Community College
RS . . . . . Rio Salado College
SC . . . . . Scottsdale Community College
SM . . . . . South Mountain Community College

ENVIRONMENTAL TECHNOLOGY

Biotechnology	MC
Biotechnology and Molecular Biosciences	GC
Environmental Science Technology	GW
Geospatial Technologies	MC
Hazardous Materials Response	PC
Hydrologic Studies	GW
Occupational Safety and Health Technology	GW
Wastewater Treatment	GW
Water Distribution and Collection	GW
Water Purification Technology	GW
Water Technologies	GW
Water Technologies Level 1	GW
Water Technologies Level 2	GW
Water Technologies Level 3	GW
Water Technologies Level 4	GW
Water Treatment	GW

MANUFACTURING

Automated Manufacturing Systems	CG
Manufacturing Engineering Technology	MC
Manufacturing Management	MC
Manufacturing Technology	MC

MACHINIST

Machining and Product Development Technology	MC
Machining I	MC
Machining II	MC
Tractor-Trailer Driving	GC

WELDING TECHNOLOGY

Welding	MC, PC
(See Manufacturing section for additional programs and related areas)	
Workforce Development: Welding Level I	RS
Workforce Development: Welding Level II	RS

Maricopa Skill Center Areas/Programs/ Certificates

The Maricopa Skill Center (MSC), a division of GateWay Community College, offers entry-level courses and programs for hands-on job training at 1245 E. Buckeye Road, Phoenix. The more than 200 courses and 60 non-credit programs at Maricopa Skill Center certificates are open-entry / open-exit, and self-paced. Several of our programs hold credit articulation agreements with ASU and GateWay Community College and most programs culminate in leading industry certifications.

ACCOUNTING
Accounting Associate Certificate Program
Accounting Clerk Certificate Program
Accounts Payable Clerk Certificate Program
Accounts Receivable / Payable Clerk Certificate Program
Payroll Clerk Certificate Program

ADMINISTRATIVE ASSISTANT
Administrative Assistant Certificate Program
Administrative Clerk Certificate Program

COMPUTER AIDED DRAFTING
AutoCAD Draftsmen 2-D Technician Certificate Program
AutoCAD Draftsmen 2-D, 3-D, & Solids Technician Certificate Program

COMPUTER REPAIR & NETWORKING
Computer Support Specialist Certificate Program

COSMETOLOGY
Aesthetician Certificate Program
Cosmetologist Certificate Program
Nail Technician Certificate Program

CUSTOMER SERVICE
Call Center Operator Certificate Program
Customer Service Specialist Certificate Program

INFORMATION PROCESSOR & DATA ENTRY
Data Entry Operator Certificate Program
Information Processor Specialist Certificate Program
Legal Administrative Assistant

PRINTING
Digital Press Operator Certificate Program
Offset Press Operator Certificate Program

SOLDERING
IPC Certified Soldering

TRAVEL & TOURISM
Reservations & Hospitality Representative Certificate Program
Travel & Tourism Specialist Certificate Program

MEDICAL ASSISTANT
Medical Administrative Assistant Certificate Program
Medical Assistant Front & Back Office Certificate Program
Medical Biller/Coder Certificate Program

NURSING
Practical Nursing Certificate Program

AUTO BODY
Auto Body Basic Metal Repair & Refinishing Certificate Program
Auto Body Basic Metal Repair Certificate Program
Auto Body Basic Refinishing Certificate Program

AUTOMATION TECHNOLOGY
Automation Technology Certificate Program

CONSTRUCTION TRADES
Construction Trades with Introduction to HVAC Certificate Program
Construction Trades Worker I Certificate Program
Construction Trades Worker II Certificate Program
Maintenance Carpentry Worker Certificate Program
Maintenance Electrician Worker Certificate Program
Maintenance Electrician Worker with Introduction to HVAC Certificate Program
Maintenance Plumbing Worker Certificate Program

CULINARY ARTS
Baker Certificate Program
Cook Certificate Program

INDUSTRIAL SPRAY PAINTER
Industrial Spray Painter Certificate Program

MACHINE TRADES
CNC Machinist Certificate Program
Machinist's Assistant Certificate Program
Manual Machinist Certificate Program

MEAT CUTTER
Apprentice Meat Cutter Certificate Program
Meat & Deli Counterperson Certificate Program
Meat Department Helper Certificate Program
Meat Room Cleanup Certificate Program
Portion Control Cutter Certificate Program
Self-service Meat Wrapper Certificate Program

WELDING
Arc Welder Certificate Program
Combination Welder - 2 Process Certificate Program
Combination Welder - 3 Process Certificate Program
Combination Welder - 3 Process with Intro to Pipe Welding Certificate Program
Combination Welder - 4 Process Certificate Program
Flux Core Welder Certificate Program
MIG Welder Certificate Program
TIG Welder/TIG Fingertip Welder Certificate Program

ACCOUNTING
Small Business Accounting Course Bundle

ONLINE/HYBRID DELIVERY PROGRAMS
Automation Technology Certificate Program

South West Skill Center at EMCC Certificates

The SouthWest Skill Center at Estrella Mountain Community College, located at 3000 North Dysart Road, Avondale, offers entry-level courses and programs for hands-on job training.

Our Programs are listed below and reference any certificate issued by that program:

DISTRIBUTION LOGISTICS TECHNICIAN PROGRAM
Certified Distribution Logistics Technician

EMERGENCY MEDICAL TECHNOLOGY PROGRAM
Emergency Medical Technician

MEDICAL ASSISTANT PROGRAM (CERTIFICATE PROGRAMS)
Medical Assistant Front Office/Back Office
Medical Assistant Front Office
Medical Assistant Back Office
Medical Billing & Coding
Phlebotomy

NURSING PROGRAMS (CERTIFICATE PROGRAMS)
Nurse Assistant Program
Practical Nurse Program

Health Care Integrated Educational System (HCIES)

HEALTH SCIENCES DIVISION OFFICE SB 132 480.423.6225

In collaboration and partnership with the health care community and its response to the dynamic changes occurring in the health care arena and health care professions' practice, the Maricopa Community Colleges integrated the curriculum of all allied health and nursing programs. All HCIES program pathways and educational offerings emphasize the achievement of relevant competencies and provide value to the individual, the employer, and the community. As a result, graduates of the various HCIES program pathways will meet the community's demand for a flexible, multi-skilled health care workforce that meets employer and consumer needs. Refer to individual college catalogs for specific health care program pathways. For further information, http://healthcare.maricopa.edu is a comprehensive information source.

HCIES ASSUMPTION OF RISK/ RELEASE OF LIABILITY

Most of the program pathways of the HCIES include a program of study in a clinical training environment which may contain exposures to risks inherent in patient-oriented educational experiences such as, but not limited to, bodily injury or communicable and infectious diseases. Students enrolling in clinical educational courses will be asked to sign a statement assuming all risks inherent in their coursework.

USE OF CONFIDENTIAL INFORMATION

Students enrolled in program pathways of the HCIES will have learning experiences in a health care setting where they will have access to confidential information. Prior to beginning any clinical studies, the students will be asked to sign an agreement to adhere to the requirements of those clinical sites and applicable law, including the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

HCIES COLLEGE OF ATTENDANCE

As the programs within the HCIES are integrated across the Maricopa Community College District, college of attendance requirements for the completion of the health care program pathways can be met through the completion of coursework taken at all the Maricopa Community Colleges and Skill Centers.

REQUIREMENT OF BACKGROUND CHECK

Students enrolled in most of the HCIES pathways will be in clinical learning experiences, working with children, elderly persons, and other vulnerable populations. Arizona State law and healthcare agency policies require evidence of clear background checks prior to entering such learning experiences. Students seeking admission to some health programs will be required to provide a current Fingerprint Clearance Card at the time of application to or enrollment in clinical courses, according to program guidelines. The Fingerprint Clearance Card must remain in effect for the duration of time of program enrollment. It is advised that students carry proof of the clearance at all times during any agency learning experience.

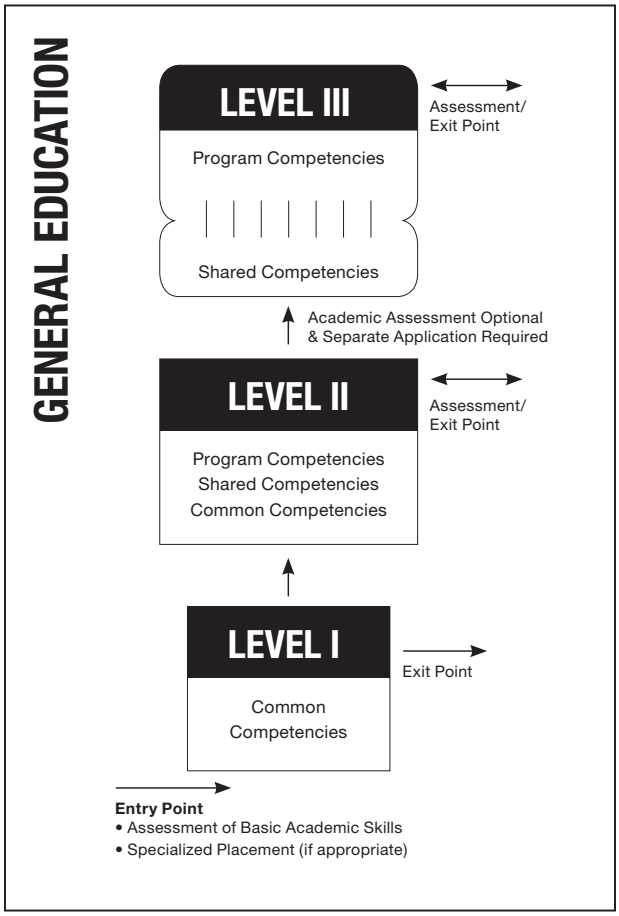
Note: Even though the Fingerprint Clearance Card is valid for 6 years, certain State licensing boards may require a new background check or clearnance card upon request for State licensure or certification.

WAIVER OF LICENSURE/CERTIFICATE GUARANTEE

Many of the HCIES programs prepare graduates for application for State or National certificates or licenses. In some professions, such licensure and certification is required prior to employment or practice in the profession. Graduation from an HCIES program does not guarantee the receipt of a license or certificate to practice in the field of study.

MCCCD HEALTH CARE INTEGRATED EDUCATIONAL SYSTEM

To respond to the dynamic changes occurring in health care arena and health professions' practice, the MCCCD has integrated the curriculum of all allied health and nursing programs and identified common, shared, or program competencies for specific Health Care pathways.



Notes:

1. Students are responsible for completing General Studies coursework required for their particular Health Care Pathway.
2. All students must successfully demonstrate required reading, writing, and mathematics competencies. Academic remediation is available.
3. It may be possible for some students to meet Health Care Competency requirements for Level I and Level II common competencies through assessment of prior experience and/or education.
4. Completion of Level I and Level II does not guarantee admission into Level III Health Care Pathways.

Chandler Gilbert (CGCC), Estrella Mountain (EMCC), GateWay (GWCC), Glendale (GCC), Mesa (MCC), Phoenix (PC), Paradise Valley (PVCC), Rio Salado (RSC), Scottsdale (SCC), South Mountain (SMCC), and the Maricopa Skill Center (MSC) and the Southwest Skill Center at EMCC (SWSC/EMCC) offer health care courses. Not all courses are offered at all sites. Please contact the specific college for more information regarding the availability of courses and course schedule information.

LEVEL I – Common Competencies 2.0 Credits

ALL Health Care Students must satisfactorily achieve the Level I Common Competencies found in the following courses.

HCC130AA	Health Care Today	0.5
HCC130AB	Workplace Behavior in Health Care	0.5
HCC130AC	Personal Wellness and Safety	0.5
HCC130AD	Communication/Teamwork in Health Care Org.	0.5

LEVEL II – Common Competencies Credits Vary

ALL Health Care Students must satisfactorily achieve the Level II Common Competencies. See your advisor for which Medical Terminology course satisfies your pathway's course requirements.

HCC130AE	Legal and Ethical Issues in Health Care	0.5
HCC130AF	Decision Making in the Health Care Setting	0.5
HCC145AA	Medical Terminology for Health Care Workers I	1.0
HCC145AB	Medical Terminology for Health Care Workers II	.0
HCC145AC	Medical Terminology for Health Care Workers III	1.0

LEVEL II – Shared and Program Competencies Credits Vary

Required of only certain health occupations program pathways. Refer to specific program pathway curriculum or check with a program advisor. Shared Competencies are shared by several health program pathways. Program competencies are specific to individual health occupations program pathways.

LEVEL III – Shared and Program Competencies* Credits Vary

Shared Competencies are shared by several Health Care Pathways. Program Competencies are specific to individual Health Care Pathways. These are required for certain Health Occupations Program Pathways. Refer to specific Pathway requirements or check with an advisor.

*Certain Health Care Pathways require satisfactory achievement of all Level I and II Common Competencies prior to being admitted and registering for courses in Level III. Admission into Level III Health Care Pathways is based on meeting additional requirements and involves a separate admission process. See your advisor for more information.

Level II Health Care

Pathways Examples**
Clinical Research Coordinating (GWCC)
Community Health Advocate for Diabetes (MCC)
Dental Assisting (PC, RSC)
Dental Office Management (PC)
Diagnostic Medical Ultrasound (GWCC)
Direct Care Practice (MCC)
Health Information Technology (PC)
Health Services Management (GWCC)
Health Unit Coordinating (GWCC)
Histology Technician (PC)
Hospital Central Service (GWCC)
Laboratory Assisting (PC)
Medical Assisting (MSC, PC, SWSC/EMCC)
Medical Billing (PC)
Med. Coding: Physician/Hospital Based (PC)
Med. Transcription (GWCC, SWSC/EMCC)
Nuclear Medicine Technology (GWCC)
Nurse Assisting (GCC, GWCC, MCC, MSC, PC, PVCC, RSC, SCC, SWSC/EMCC)
Patient Care Technician (PC)
Perioperative Nursing (GWCC)
Phlebotomy (PC)
Surgical Technician First Assistant (GWCC)
Surgical Technology (GWCC)
Teaching Healing Meditation and Stress Management (PVCC)
Therapeutic Massage (CGCC, PC)
**subject to change

Level III Health Care

Pathways Examples**
Dental Hygiene (PC, RSC)
Dental Office Management (PC)
Diagnostic Medical Ultrasound (GWCC)
Direct Care Practice (MCC)
Health Information Technology (PC)
Histology Technician (PC)
Medical Assisting (MSC, PC, SWSC/EMCC)
Medical Radiography (GWCC)
Nuclear Medicine Technology (GWCC)
Nursing (GWCC, SWSC/EMCC)
Nuclear Medicine Technology (GWCC)
Nursing (GCC, GWCC, MCC, PC, PVCC, RSC, SCC)
Physical Therapist Assisting (GWCC)
Practical Nursing (GCC, GWCC, MCC, MSC, PC, PVCC, RSC, SCC, SWSC/EMCC)
Health Services Management (GWCC)
Respiratory Care (GWCC)
Surgical Technology (GWCC)
Therapeutic Massage (CGCC, PC)

Career and Technical Programs

WORKPLACE OUTCOMES

ADMINISTRATION OF JUSTICE STUDIES
AAS Administration of Justice Studies. . .111
CCL Legal Studies 112
AAS Emergency Management 112
AAS Judicial Studies 112
CCL Judicial Studies 113
AAS Police Science 113
CCL Police Science 114
CCL Victimology 114
CCL Forensic Investigation 114

AGRIBUSINESS
AAS Agribusiness 114
CCL Pest Management Aide 115

ARCHITECTURE
AAS Architecture 115
CCL Residential Drafting CADD Level II . .117
CCL Commercial Drafting CADD Level II . . 117
CCL Architectural Detailing CADD Level III 117
CCL Architectural CADD Level III. 118

AUTOMOTIVE
AAS Automotive Performance Technology. .118
CCL Air Conditioning 119
CCL Automotive Electrical Systems. 119
CCL Brakes, Alignment, Suspension, and Steering 119
CCL Engine Performance and Diagnosis . .119
CCL Transmissions and Power Trains . . .119

BIOTECHNOLOGY
AAS Biotechnology 120
CCL Biotechnology 120

BUSINESS
AAS Business 121
CCL International Trade 123
CCL Management 123
CCL Marketing. 123
CCL Project Management 123
CCL Computer Applications: Microsoft Office Specialist/Basic . . .124
CCL Computer Applications: Microsoft Office Specialist/Advanced 124
CCL Technology Support Analyst Level I . .125
CCL Technology Support Analyst Level II . .125
AAS Retail Management 125
CCL Retail Management 126
CCL Salesmanship 126
CCL Small Business 126
AAS General Business 127
CCL General Business 127
AAS Organizational Management 128
CCL Organizational Leadership 128

CATERPILLAR
AAS Caterpillar Technician Training 129

CHILD AND FAMILY STUDIES
AAS Early Care and Education. 129
CCL Early Care Specialist 130
AAS Early Childhood Administration and Management. 130

COMMUNITY HEALTH ADVOCATE
CCL Community Health Advocate, Diabetes. 131

COMPUTER INFORMATION SYSTEMS
AAS Computer Information Systems 132
CCL Computer Programming. 132
AAS Programming and System Analysis. . 133
CCL Programming and System Analysis. . 134
AAS Web Developer. 134
AAS Game Technology. 135
CCL Game Technology. 135
AAS Web Designer. 136
CCL Web Designer. 136

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CCL Advanced Web Designer 136
AAS Web Server Administrator 137
CCL Web Server Administrator 137
AAS Multimedia and Business Technology 138
CCL Multimedia Technology 138

CONSTRUCTION
AAS Construction 139
CCL Computer Aided Design & Drafting CADD Level I 140
CCL Survey & Civil Drafting CADD Level II 140
CCL Construction Drafting CADD Level III 141
CCL Home Inspection 141
CCL Building Inspection 141
CCL Plan Review 141
CCL Pre-Contractor Licensing 142

CULINARY STUDIES
AAS Culinary Studies 142
CCL Culinary Studies 143

DENTAL HYGIENE EDUCATION
AAS Dental Hygiene 143

DIGITAL ARTS
AAS Digital Arts 145
CCL Digital Arts: Web Design 146
CCL Digital Arts: Digital Illustration 146
CCL Digital Arts: Digital Photography . . 146
CCL Digital Arts: Graphic Design 146

DRAFTING
AAS Electro-Mechanical Drafting 147
CCL Electro-Mechanical Drafting 147
CCL Computer Aided Drafting 148
CCL Mechanical Drafting 148

EDUCATION STUDIES
CCL ESL Endorsement 148
CCL Reading Specialist Endorsement . . 149

ELECTROMECHANICAL AUTOMATION
AAS Electromechanical Automation Technology 149
CCL Electromechanical Automation Technology 149

ELECTRONICS TECHNOLOGY
AAS Electronics Technology 150
CCL Electronics Technology 150
AAS Electronic Engineering Technology . . 151

EMERGENCY MANAGEMENT
AAS Emergency Response and Operations . . 151
CCL Basic Firefighter 152
CCL Driver Operator 153
CCL Fire Officer I 153
CCL Firefighter Operations 153
CCL Emergency Management 153
CCL Basic Emergency Medical Technology 153

FASHION MERCHANDISING AND DESIGN
AAS Fashion Merchandising and Design . . 154
CCL Costume Design and Production . . 155
CCL Image Consultant 155
CCL Retail Sales Manager 155
CCL Alteration Specialist 156

GEOGRAPHIC INFORMATION SYSTEMS
AAS Geospatial Technologies 156
CCL Geographic Information System 157

HORTICULTURE
AAS Urban Horticulture 158
CCL Landscape Aide 158
CCL Landscape Specialist 159

INDUSTRIAL EDUCATION
AAS Industrial Education 159

INFORMATION ASSURANCE
AAS Information Assurance 160
CCL Information Assurance 161
CCL Cyber Forensics Technician 161

INTERIOR DESIGN
AAS Interior Design 161
CCL Home Furnishings and Materials . . 162
CCL Interior Design: Advanced 162

JOURNALISM
AAS Journalism 163
AAS Public Relations 164

LIBRARY SCIENCE AND TECHNOLOGY
AAS Library Information Technology . . . 164
CCL Library Information Technology, Basic . . 166
CCL Library Information Technology: Advanced 166
CCL Library Information Technology: Practitioners 167
CCL Library Information Technology: School Library Media Center 167

MACHINE TECHNOLOGY
AAS Machining and Product Development . . 167

MANUFACTURING TECHNOLOGY
AAS Manufacturing Engineering Technology 168
AAS Manufacturing Technology 168
CCL Electromechanical Manufacturing Technology 169
CCL CAD/CAM/CNC I 169
CCL CAD/CAM/CNC II 170
CCL Machining I 170
CCL Machining II 170
CCL Manufacturing Management 170

MICRO CIRCUIT MASK DESIGN
AAS Micro Circuit Mask Design 171
CCL Micro Circuit Mask Design 171

MORTUARY SCIENCE
AAS Mortuary Science 172

MUSIC
AAS Audio Production Technologies 172
CCL Audio Production Technologies 173
CCL Sound Design 173
AAS Music Business 174
CCL Music Business 174

NETWORK ADMINISTRATION
CCL Computer Hardware and Desktop Support 175
AAS Linux Networking Administration . . . 175
CCL Linux Associate 176
CCL Linux Networking Administration . . 177
CCL Linux Professional 177
AAS Microsoft Applications Development . . 178
CCL Microsoft Applications Development . . 179
CCL Microsoft Desktop Support Technology 179
AAS Network System Administration 179
CCL Network Administration: CISCO Network Associate 180
CCL Network Administration: CISCO Network Professional 181
CCL Network Administration: Microsoft Windows 181
CCL Network Administration: UNIX-Solaris 182
CCL Network Security 182

NURSING
CCL Nurse Assisting 182
CCL Practical Nursing 183
AAS Nursing 185

PHYSICAL EDUCATION
CCL Nutrition for Fitness and Wellness . . 187
AAS Strength, Nutrition, and Personal Training 187
CCL Strength and Conditioning Personal Trainer 188
AAS Recreation Management 188
CCL Recreation Management 189
CCL Group Fitness Instructor 190

REAL ESTATE
AAS Certified Residential Appraiser 190
CCL Real Estate 191
CCL Residential Appraisal Trainee 191
CCL Licensed Real Estate Appraiser . . 192

VETERINARY TECHNOLOGY
AAS Veterinary Technology/Animal Health . . 192

WELDING
AAS Welding 193
CCL Welding 194
CCL Manufacturing Welding 194

Workplace Outcomes

MCC is committed to helping students develop the skills and qualities that today's employers value. For that reason, all of our career and technical programs are designed around the following outcomes:

Ethics
The ability to commit to standards of personal and professional integrity, honesty, and fairness

Interpersonal Skills
The ability to utilize oral, writing, and listening skills to effectively interact with others

Critical Thinking
The ability to analyze and evaluate information and utilize a variety of resources in making decisions or solving problems

Organization
The ability to prioritize, meet deadlines and complete assignments in a timely manner, adapt to a constantly changing workload and environment, and identify realistic goals and inventions for short- and long-term planning

Team Work
The ability to collaborate with others toward the accomplishment of common goals

Technology Literacy
The ability to use technology and understand its value and purpose in the workplace

Personal and Professional Responsibilities
The ability to assess the range of one's abilities, accept responsibility for setting realistic goals, and implement a plan for personal and professional well-being

Administration of Justice Studies Certificates/Degrees

- **Associate in Applied Science (AAS) in Justice Studies**
- **Certificate of Completion (CCL) in Legal Studies**
- **Associate in Applied Science (AAS) in Emergency Management**
- **Associate in Applied Science (AAS) in Judicial Studies**
- **Certificate of Completion (CCL) in Judicial Studies**
- **Associate in Applied Science (AAS) in Police Science**
- **Certificate of Completion (CCL) in Police Science**
- **Certificate of Completion (CCL) in Victimology**
- **Certificate of Completion (CCL) in Forensic Investigation**

Department Chairperson: Ellyn Ness
Contact: (480) 461-7050

ASSOCIATE IN APPLIED SCIENCE (AAS) IN ADMINISTRATION OF JUSTICE STUDIES (64 CREDITS) MAJOR CODE: 3398

The Associate in Applied Science (AAS) in Administration of Justice Studies is an interdisciplinary program that prepares students for a variety of careers in the criminal justice field, including law enforcement, corrections, probation, and social services in community-based organizations and agencies.

Required Courses (24 credits)

AJS101	Introduction to Criminal Justice	3
AJS109	Substantive Criminal Law	3
AJS212	Juvenile Justice Procedures	3
AJS225	Criminology	3
AJS230	The Police Function	3
AJS240	The Correction Function	3
AJS260	Procedural Criminal Law	3
AJS275	Criminal Investigation I	3

Restricted Electives (15-18 credits)

AJS+++++	Administration of Justice Studies (Note: any AJS courses) **OR**
JUD+++++	Judicial Studies (Note: any JUD course)

General Education Requirements (25-27 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **AND**	
+ENG102	First-Year Composition (3)	6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**	
+COM225	Public Speaking (3) **OR**	
+COM230	Small Group Communication (3)	3

Critical Reading

+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment	3

+ indicates course has prerequisites and/or corequisites.

Mathematics
+MAT102 Mathematical Concepts/Applications (3) **OR**
+MAT120 Intermediate Algebra (5) **OR**
+MAT121 Intermediate Algebra (4) **OR**
+MAT122 Intermediate Algebra (3) **OR**
equivalent as indicated by assessment **OR** approved math courses which are required in a specific AAS program **OR** satisfactory completion of a higher level mathematics course 3-5

Humanities and Fine Arts
AJS123 Ethics and the Administration of Justice 3

Social and Behavioral Sciences
Any approved general education course from the Social and Behavioral Sciences area 3

Natural Sciences
Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION (CCL) IN LEGAL STUDIES (18 CREDITS) MAJOR CODE: 5635

The Certificate of Completion (CCL) in Legal Studies, an interdisciplinary study of law, prepares students to "think like lawyers." The emphasis on case analysis, critical thinking, reasoning by analogy, and oral advocacy will benefit all types of students: from those who want to attend law school, to professionals who crave a specialized area of knowledge, to those who simply want to learn about law in general.

Required Courses (18 credits)

AJS109 Substantive Criminal Law. 3
AJS201 Rules of Evidence 3
AJS217 Court Procedures. 3
AJS260 Procedural Criminal Law 3
GBS206 Business Law (UCC). 3
GBS207 Business Law (General Corporate). 3

ASSOCIATE IN APPLIED SCIENCE (AAS) IN EMERGENCY MANAGEMENT (64 CREDITS) MAJOR CODE: 3018

The Associate in Applied Science (AAS) in Emergency Management provides the student with knowledge and skills required to conduct a comprehensive emergency management program. The student will be prepared for positions such as Emergency Manager, Emergency Management Planner, Emergency Operations Coordinator, Environmental Compliance Planner, and Emergency Management Specialist, working in state, local, federal, and international governments, business and industry, military installations, and health care facilities.

Required Courses (24 credits)

AJS101 Introduction to Criminal Justice 3
AJS/FSC139 Emergency Response to Terrorism 3
AJS/FSC146 Disaster Recovery Operations 3
AJS/FSC147 Emergency Preparedness 3
AJS/FSC148 Fundamentals of Emergency Management. 3
AJS/FSC149 Hazard Mitigation 3
FSC105 Hazardous Materials/First Responder . .3
FSC224 Incident Command Systems 3

Restricted Electives (15-18 credits)

AJS195 International and Domestic Terrorism . .3
AJS225 Criminology 3
AJS270 Community Relations 3
AJS275 Criminal Investigation I 3
+FSC211 Fundamentals of Flammable Hazardous Materials 3
+FSC212 Dangerous and Explosive Hazardous Materials 3
AJS+++++ Any Administration of Justice Studies course
FSC+++++ Any Fire Science Technology course

General Education Requirements (25-27 credits)

First-Year Composition
+ENG101 First-Year Composition (3) **AND**
+ENG102 First-Year Composition (3) 6

Oral Communication
Any approved general education course in the Oral Communication area. 3

Critical Reading
Any approved general education course in the Critical Reading area 3

Mathematics
+MAT102 Mathematical Concepts/Applications (3) **OR** satisfactory completion of higher level mathematics course 3-5

Humanities and Fine Arts
AJS123 Ethics and the Administration of Justice 3

Social and Behavioral Sciences
AJS258 Victimology and Crisis Management . . .3

Natural Sciences
Any approved general education course from the Natural Sciences area 4

ASSOCIATE IN APPLIED SCIENCE (AAS) IN JUDICIAL STUDIES (64 CREDITS) MAJOR CODE: 3394

The Associate in Applied Science (AAS) degree in Judicial Studies will address skills and knowledge necessary for pursuing a career in the court system. In addition, the degree is designed for those individuals currently employed in the court who want to enhance or expand their job skills. Program of study will explore the laws, court structure, management, role of the judiciary and other areas that impact on the court.

Required Courses (33 credits)

AJS101 Introduction to Criminal Justice 3
AJS109 Substantive Criminal Law. 3
AJS119 Computer Applications in Justice Studies 3
AJS201 Rules of Evidence 3

+ indicates course has prerequisites and/or corequisites.

AJS210	Constitutional Law	3
AJS258	Victimology and Crisis Management	3
AJS260	Procedural Criminal Law	3
JUD101	The Courts in Arizona	1
JUD103	Role of the Court Staff	1
JUD107	Civil Procedure in Arizona Courts	2
JUD109	Judicial Writing	1
JUD111	Sentencing Misdemeanants	1
JUD113	Court Management	2
JUD115	Injunctive Actions	2
JUD119	Alternative Dispute Resolution	1
JUD121	Appeals	1

Restricted Electives (6-9 credits)

Select 9 credits from the following list of courses:

AJS+++++	Administration of Justice Studies (Any AJS module)	
LAS+++++	Legal Assisting (Any LAS module)	
POS+++++	Political Science (Any POS module)	6-9

General Education (25 credits)

First-Year Composition		
+ENG101	First-Year Composition (3) **OR**	
+ENG107	First-Year Composition for ESL (3) **AND**	
+ENG102	First-Year Composition (3) **OR**	
+ENG108	First-Year Composition for ESL (3)	6
Oral Communication		
COM100	Introduction to Human Communication **OR**	
+COM225	Public Speaking (3)	3
Critical Reading		
+CRE101	Critical and Evaluative Reading I	3
Mathematics		
+MAT102	Mathematical Concepts & Applications (3) **OR** satisfactory completion of a higher-level mathematics course.	3
Humanities & Fine Arts		
AJS123	Ethics in Criminal Justice	3
Social and Behavioral Sciences		
	Any approved general education course from the Social and Behavioral Sciences Area	3
Natural Sciences		
	Any approved general education course from the Natural Sciences Area	4

CERTIFICATE OF COMPLETION (CCL) IN JUDICIAL STUDIES (15 CREDITS) MAJOR CODE: 5002

The Certificate of Completion (CCL) in Judicial Studies will address specific skills and knowledge needed to pursue a career in the court system. The CCL is also designed fro those individuals currently employed in the course who want to enhance or expand their job skills. Program of study will explore the court structure, management, role of the judiciary and other areas that impact on the court.

Required Courses (15 credits)

AJS101	Introduction to Criminal Justice	3
JUD101	The Courts in Arizona	1
JUD103	Role of the Court Staff	1
JUD107	Civil Procedure in Arizona Courts	2
JUD109	Judicial Writing	1
JUD111	Sentencing Misdemeanants	1
JUD113	Court Management	2
JUD115	Injunctive Actions	2
JUD119	Alternative Dispute Resolution	1
JUD121	Appeals	1

ASSOCIATE IN APPLIED SCIENCE (AAS) IN POLICE SCIENCE (64 CREDITS) MAJOR CODE: 3107

The Associate of Applied Science (AAS) in Police Science prepares students to enter a career in law enforcement. The program emphasizes laws, the criminal justice system, investigations, patrol, and other functions specific to law enforcement. The curriculum combines coursework in police science with General Education components.

Required Courses (24 credits)

AJS101	Introduction to Criminal Justice	3
AJS109	Substantive Criminal Law	3
AJS151	Firearms I	1
+AJS153	Firearms II/Handguns	1
AJS205	Criminal Justice Report Writing	3
AJS230	The Police Function	3
AJS260	Procedural Criminal Law	3
AJS270	Community Relations	3
AJS275	Criminal Investigation I	3
AJS290BU	Family Violence	1

Restricted Electives (15-18 credits)

AJS+++++	Any Administration of Justice Studies course **OR**	
JUD+++++	Any Judicial Studies course **OR**	
First Year Composition		
+ENG101	First-Year Composition (3) **OR**	
+ENG107	First-Year Composition for ESL (3) **AND**	
+ENG102	First-Year Composition (3) **OR**	
+ENG108	First-Year Composition for ESL (3)	6
Oral Communication		
COM100	Introduction to Human Communication (3) **OR**	
+COM225	Public Speaking (3) **OR**	
+COM230	Small Group Communication (3)	3
Critical Reading		
+CRE101	Critical and Evaluative Reading I (3) **OR**. equivalent as indicated by assessment	3
Mathematics		
+MAT102	Mathematical Concepts/Applications **OR** Satisfactory completion of Higher level mathematics course	3
Humanities and Fine Arts		
AJS123	Ethics and the Administration of Justice	3
Social and Behavioral Sciences		
AJS258	Victimology and Crisis Management	3
Natural Sciences		
	Any approved general education course in the Natural Sciences area	4

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN POLICE SCIENCE (18 CREDITS) MAJOR CODE: 5107

The Certificate of Completion (CCL) in Police Science is designed for students who are interested in pursuing a course of study specifically focused on law enforcement. The certificate program specializes in training and education related to the duties of law enforcement. The program is designed for the student with no Arizona police academy experience.

Required Courses (18 credits)

AJS101	Introduction to Criminal Justice	3
AJS151	Firearms I	1
+AJS153	Firearms II/Handguns	1
AJS205	Criminal Justice Report Writing	3
AJS230	The Police Function	3
AJS270	Community Relations	3
AJS275	Criminal Investigation I	3
AJS290BU	Family Violence	1

CERTIFICATE OF COMPLETION (CCL) IN VICTIMOLOGY (15 CREDITS) MAJOR CODE: 5392

The Certificate of Completion (CCL) in Victimology prepares students for professional careers in victim advocacy. This specialized area of study includes crisis intervention, community services, victim rights, and other areas that relate to victimology. This certificate is also useful for police officers, firefighters, counselors, social workers, probation officers, and others who deal with victims.

Required Courses (15 credits)

AJS101	Introduction to Criminal Justice	3
AJS123	Ethics and the Administration of Justice	3
AJS225	Criminology	3
AJS258	Victimology and Crisis Management	3
+AJS282AA	Volunteerism for Administration of Justice: A Service Learning Experience	1
AJS290BU	Family Violence	1
AJS290BV	Victim Assistance	1

CERTIFICATE OF COMPLETION (CCL) IN FORENSIC INVESTIGATION (18 CREDITS) MAJOR CODE: 5488

The Certificate of Completion (CCL) in Forensic Investigation provides the student with a specialization in forensic investigation as it relates to crime. The curriculum presents a specialized scope of knowledge about photography, collection and preservation of evidence, and investigative strategies. The program provides students with an important knowledge base for investigative specialization in a wide range of disciplines and careers.

Required Courses (18 credits)

AJS215	Criminalistics Physical Evidence	3
AJS216	Criminalistics: Biological Evidence	3
AJS241	Police Photography	3
AJS275	Criminal Investigation I	3
AJS290AI	Theories of Criminal Behavior	1
AJS290AU	Child Abuse Investigation	1
AJS290BH	Sex Crimes Investigation	1
ASM275	Introduction to Forensic Anthropology	3

Agribusiness Certificates/Degrees

- **Associate in Applied Science (AAS) in Agribusiness**
- **Certificate of Completion (CCL) in Pest Management Aide**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141
Program Director: SueAn Stewart
Contact: (480) 461-7125

ASSOCIATE IN APPLIED SCIENCE (AAS) IN AGRIBUSINESS (64 CREDITS) MAJOR CODE: 3014

The Associate in Applied Science (AAS) in Agribusiness prepares students with skills necessary to engage in the business of Agribusiness. Opportunities-As the cost of farming increases, fewer individuals will be able to get started in farming. The number of large corporate and partnership farms will increase. Since these types of farms are usually operated by farm managers, employment of farm managers is expected to increase as fast as the average of all occupations through the mid-1980-s and beginning farmers may find opportunities in this field. Program-This two-year Agribusiness Program emphasizes the technology of production and management. The program is designed to prepare the individual to become employed as farm hands, herdsmen, technicians, supervisors, managers, or owners in farming, ranching, and dairying. In addition the program prepares the individuals for jobs with government agencies or other agencies involved with the technical phases of the Animal Science Industry.

Required Courses (11 credits)

AGB139	Agribusiness Computer Operations	3
AGS164	Plant Growth and Development	4
AGS260	Origin and Composition of Soils	3

Restricted Electives (19-27 credits)

Students will choose one of the three tracks (19-27 credits)

Track I - Pest Management (19 credits)

AGS170	Pesticides	0.5
AGS171	Insect Identification	0.5
AGS172	Household Pests	0.5
AGS173	Wood Destroying Pests	0.5
AGS174	Regulations: Federal and State	0.5
AGS175	Pesticide Safety and Use of Equipment	0.5
AGS176	Environment and Toxicology of Pesticides	0.5
AGS177	Aquatic Pest Control	0.5
AGS178	General Pest Control	0.5
AGS179	Terrestrial Weed Control	0.5
AGS183	Urban Plant Identification and Use	3
AGS268	Insect, Weed and Pest Control	4
AGS284	Lawn and Turf Care	3
AGS296WD	Cooperative Education	4

+ indicates course has prerequisites and/or corequisites.

Track II - Ranch and Livestock Management (27 credits)

AGB132	Agribusiness Accounting and Office Management 3
+AGS165AA	Crop Science 3
ANS110AA	Introduction to Animal Science 3
+ANS115	Livestock Selection and Evaluation 3
+ANS212	Livestock Production and Management . .3
ANS213	Animal Feeding. 3
+ANS222	Animal Anatomy and Physiology. 3
+ANS223	Animal Diseases 3
+AGB290	Internship. 3

Track III - General Business (21 credits)

+AGB290	Internship. 3
AGB130	Establishing and Running an Agribusiness 3
AGS168	Grounds Equipment Management 3
AGS186	Greenhouse Management and Construction 3
ANS110AA	Introduction to Animal Science 3
ANS212	Livestock Production and Management . .3
EQS105	Principles of Equine Science. 3

Free Electives (9 credits)

Select from the following prefixes:

ANS+++++	Animal Science any ANS course 4-9
AGS+++++	Agricultural Science any AGS course . . 4-9
AGB+++++	Agribusiness any AGB course 4-9

General Education Requirements (25 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **AND**
+ENG102	First-Year Composition (3) 6

Oral Communication

COM100	Introduction to Human Communication . . 3

Critical Reading

+CRE101	Critical and Evaluative Reading I. 3

Mathematics

+MAT102	Mathematical Concepts/Applications (3) **OR** higher level mathematics course . . .3

Humanities and Fine Arts

	Any approved general education course in the Humanities and Fine Arts area . . .3

Social and Behavioral Sciences

ECN211	Macroeconomic Principles 3

Natural Sciences

+CHM130	Fundamental Chemistry (3) **AND**
+CHM130LL	Fundamental Chemistry Laboratory (1). .4

CERTIFICATE OF COMPLETION (CCL) IN PEST MANAGEMENT AIDE (13 CREDITS) MAJOR CODE: 5020

The Certificate of Completion (CCL) in Pest Management Aide prepares students to work as pest control technicians in urban environments. The program develops knowledge and skills required to pass certification exams in pest control.

Required Courses (13 credits)

AGS164	Plant Growth and Development 4
AGS170	Pesticides 0.5
AGS171	Insect Identification. 0.5
AGS172	Household Pests. 0.5
AGS173	Wood Destroying Pests 0.5
AGS174	Regulations: Federal and State 0.5
AGS175	Pesticide Safety and Use of Equipment 0.5
AGS176	Environment and Toxicology of Pesticides 0.5
AGS177	Aquatic Pest Control 0.5
AGS178	General Pest Control 0.5
AGS179	Terrestrial Weed Control. 0.5
AGS268	Insect, Weed and Pest Control 4

Architecture Certificates/Degrees

- **Associate in Applied Science (AAS) in Architecture**
- **Certificate of Completion (CCL) in Residential Drafting CADD Level II**
- **Certificate of Completion (CCL) in Commercial Drafting CADD Level II**
- **Certificate of Completion (CCL) in Architectural Detailing CADD Level III**
- **Certificate of Completion (CCL) in Architectural CADD Level III**

Department Chairperson: Janice Pierson
Contact: (480) 461-7724
Program Director: Mehrzad Khorsandi
Contact: (480) 461-7257

ASSOCIATE IN APPLIED SCIENCE (AAS) IN ARCHITECTURE (67 CREDITS) MAJOR CODE: 3802

The Associate in Applied Science (AAS) in Architecture prepares students to work as technicians in the areas related to architectural design or architectural drafting or urban development. An architecture design and architecture drafting technician may work in many types of design related (architecture, engineering, construction, and interior design) firms/agencies using board and/or computer in designing and documenting residential and/or commercial buildings. An urban development technician may work for an urban planning or land development or real estate or landscape company/agency.

Program Prerequisites (3-5 credits)

+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3). 3-5

+ indicates course has prerequisites and/or corequisites.

Required Courses (18-20 credits)

ARC120	Design Fundamentals I	3
ARC160	Site Planning	3
CNS130	Computer Aided Design and Drafting	3
CNS180	Building Construction Methods, Materials, & Equipment	3
CNS181	Cost Estimating I	3
+MAT150	College Algebra/Functions (5) **OR**	
+MAT151	College Algebra/Functions (4) **OR**	
+MAT152	College Algebra/Functions (3)	3-5

Restricted Electives (27 credits)

Students will choose one of the three tracks:

Track I - Architecture Design (27 credits)

AGL189	Landscape Design I	3
ARC100	Introduction to Environmental Design	3
ARC140	Rendering and Portfolio Development	3
+ARC161	Residential Architecture Drafting	3
+ARC162	Advanced Residential Architecture Drafting	3
+ARC163	Commercial Architecture Drafting	3
+ARC164	Advanced Commercial Architecture Drafting	3
ARC165	Introduction to Architecture Professional Practice and Ethics	3
+ARC225	Fundamentals of Architectural Detailing	3
+ARC282++	Volunteerism for Architecture: A Service-Learning Experience	1-3
+ARC290++	Architecture Internship	1-3
+ARC296++	Cooperative Education	1-4
+ARC298++	Special Projects	1-3
BLT140	Environmentally Responsible Building	3
BLT262	Introduction International Residential Code (IRC)	3
+CNS201	Construction Management Office Operation	3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction & Architecture (CADD II)	3
+CNS240	Advanced Computer Aided Design & Drafting (CADD) for Construction & Architecture (CADD III)	3
+CNS285	Introduction to Residential Plan Review	3

Track II - Architectural Drafting (27 credits)

ARC140	Rendering and Portfolio Development	3
ARC150	Architectural Desktop I	3
+ARC161	Residential Architecture Drafting	3
+ARC162	Advanced Residential Architecture Drafting	3
+ARC163	Commercial Architecture Drafting	3
+ARC164	Advanced Commercial Architecture Drafting	3
ARC165	Introduction to Architecture Professional Practice and Ethics	3
+ARC225	Fundamentals of Architectural Detailing	3
+ARC226	Advanced Architectural Detailing	3
+ARC282++	Volunteerism for Architecture: A Service-Learning Experience	1-3
+ARC290++	Architecture Internship	1-3
+ARC296++	Cooperative Education	1-4
+ARC298++	Special Projects	1-3
BLT140	Environmentally Responsible Building	3
BLT262	Introduction International Residential Code (IRC)	3
+CNS201	Construction Management Office Operation	3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction & Architecture (CADD II)	3
+CNS240	Advanced Computer Aided Design & Drafting (CADD) for Construction & Architecture (CADD III)	3
+CNS285	Introduction to Residential Plan Review	3

Track III - Urban Development (27 credits)

AGL189	Landscape Design I	3
+ARC161	Residential Architecture Drafting	3
+ARC162	Advanced Residential Architecture Drafting	3
+ARC282++	Volunteerism for Architecture: A Service Learning Experience	1-3
+ARC290++	Architecture Internship	1-3
+ARC296++	Cooperative Education	1-4
+ARC298++	Special Projects	1-3
BLT140	Environmentally Responsible Building	3
BLT262	Introduction Code (IRC)	3
BLT263	General Building Code	3
CNS175	Working Drawing Analysis, Blue Print Reading	3
+CNS201	Construction Management Office Operation	3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction & Architecture (CADD II)	3
+CNS240	Advanced Computer Aided Design &Drafting (CADD) for Construction & Architecture (CADD III)	3
+CNS285	Introduction to Residential Plan Review	3
+CNS286	Introduction to Commercial Plan Review	3
REA179	Real Estate Principles I	3
+REA180	Real Estate Principles II	3
+REA281	Principles of Real Estate Law	3

General Education Requirements (22 credits)

First-Year Composition	Any approved general studies course in the First-Year Composition area	6
Oral Communication		
COM100	Introduction to Human Communication	3
Critical Reading		
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment	3
Mathematics	Met by MAT150, MAT151, or MAT152 in required courses area	

+ indicates course has prerequisites and/or corequisites.

Humanities and Fine Arts		
	Any approved general studies course in the Humanities and Fine Arts area	3
Social and Behavioral Sciences		
	Any approved general studies course in the Social and Behavioral Sciences area	3
Natural Sciences		
+PHY111	General Physics I	4

CERTIFICATE OF COMPLETION (CCL) IN RESIDENTIAL DRAFTING CADD LEVEL II (24 CREDITS) MAJOR CODE: 5349

The Certificate of Completion (CCL) in Residential Drafting CADD Level II prepares students to work as architectural drafting technicians in a variety of residential design and drafting companies/agencies. Students will enhance their computer and board drafting skills/knowledge and also train on residential specific drafting skills to perform intermediate level drafting technician responsibilities.

Required Courses (24 credits)

+ARC161	Residential Architecture Drafting	3
+ARC162	Advanced Residential Architecture Drafting	3
+ARC225	Fundamentals of Architectural Detailing	3
+ARC282AC	Volunteerism for Architecture: A Service Learning Experience (3) **OR**	
+ARC290AC	Architecture Internship (3) **OR**	
+ARC296WC	Cooperative Education (3) **OR**	
+ARC298AC	Special Projects (3)	3
BLT262	Introduction International Residential Code (IRC)	3
CNS130	Computer Aided Design and Drafting	3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction and Architecture (CADD II)	3
+CNS240	Advanced Computer Aided Design & Drafting (CADD) for Construction and Architecture (CADD III)	3

CERTIFICATE OF COMPLETION (CCL) IN COMMERCIAL DRAFTING CADD LEVEL II (27 CREDITS)

The Certificate of Completion (CCL) in Commercial Drafting CADD Level II prepares students to work as architectural drafting technicians in a variety of commercial (non-residential) design and drafting companies/agencies. Students will enhance their computer and board drafting skills/knowledge and also train on commercial specific drafting skills to perform intermediate level drafting technician responsibilities.

Required Courses (27 credits)

+ARC163	Commercial Architecture Drafting	3
+ARC164	Advanced Commercial Architecture Drafting	3
+ARC226	Advanced Architectural Detailing	3
+ARC282AC	Volunteerism for Architecture: A Service Learning Experience (3) **OR**	
+ARC290AC	Architecture Internship (3) **OR**	
+ARC296WC	Cooperative Education (3) **OR**	
+ARC298AC	Special Projects (3)	3
BLT263	General Building Code	3
CNS130	Computer Aided Design and Drafting	3
CNS180	Building Construction Methods, Materials, & Equipment	3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction and Architecture (CADD II)	3
+CNS240	Advanced Computer Aided Design & Drafting (CADD) for Construction and Architecture (CADD III)	3

CERTIFICATE OF COMPLETION (CCL) IN ARCHITECTURAL DETAILING CADD LEVEL III (33 CREDITS) MAJOR CODE: 5352

The Certificate of Completion (CCL) in Architectural Detailing CADD Level III prepares students to work as architectural detailers within architectural firms/agencies. This certificate develops student knowledge and skills required to perform residential and commercial detailing responsibilities via computer and/or board drafting.

Required Courses (33 credits)

+ARC161	Residential Architecture Drafting	3
+ARC162	Advanced Residential Architecture Drafting	3
+ARC163	Commercial Architecture Drafting	3
+ARC164	Advanced Commercial Architecture Drafting	3
+ARC225	Fundamentals of Architectural Detailing	3
+ARC226	Advanced Architectural Detailing	3
+ARC282AC	Volunteerism for Architecture: A Service Learning Experience (3) **OR**	
+ARC290AC	Architecture Internship (3) **OR**	
+ARC296WC	Cooperative Education (3) **OR**	
+ARC298AC	Special Projects (3)	3
CNS130	Computer Aided Design and Drafting	3
CNS180	Building Construction Methods, Materials, & Equipment	3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction and Architecture (CADD II)	3
+CNS240	Advanced Computer Aided Design & Drafting (CADD) for Construction and Architecture (CADD III)	3

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN ARCHITECTURAL CADD LEVEL III (27 CREDITS) MAJOR CODE: 5354

The Certificate of Completion (CCL) in Architectural CADD Level III prepares students to work as advanced architectural computer technicians within architectural firms/agencies. The program develops knowledge and skills required to perform various computer needed responsibilities for all types of residential and commercial construction. Students will develop knowledge and skills of two architectural software applications and residential/commercial drafting.

Required Courses (27 credits)

ARC150	Architectural Desktop I	3
+ARC161	Residential Architecture Drafting	3
+ARC162	Advanced Residential Architecture Drafting	3
+ARC163	Commercial Architecture Drafting	3
+ARC164	Advanced Commercial Architecture Drafting	3
+ARC282AC	Volunteerism for Architecture: A Service Learning Experience (3) **OR**	
+ARC290AC	Architecture Internship	3
+ARC296WC	Cooperative Education (3) **OR**	
+ARC298AC	Special Projects (3)	3
CNS130	Computer Aided Design and Drafting	3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction & Architecture (CADD II)	3
+CNS240	Advanced Computer Aided Design & Drafting (CADD) for Construction & Architecture (CADD III)	3

Automotive

- **Associate in Applied Science (AAS) in Automotive Performance Technology**
- **Certificate of Completion (CCL) in Air Conditioning**
- **Certificate of Completion (CCL) in Automotive Electrical Systems**
- **Certificate of Completion (CCL) in Brakes, Alignment, Suspension, and Steering**
- **Certificate of Completion (CCL) in Engine Performance and Diagnosis**
- **Certificate of Completion (CCL) in Transmissions and Power Trains**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141
Program Director: Joe Rauscher
Contact: (480) 461-7136

ASSOCIATE IN APPLIED SCIENCE (AAS) IN AUTOMOTIVE PERFORMANCE TECHNOLOGY (69 CREDITS) MAJOR CODE: 3482

The Associate in Applied Science (AAS) in Automotive Performance Technology prepares students to work as automotive mechanics and technicians who diagnose, service, test, and repair complex, computer controlled automotive electrical systems. The program emphasizes knowledge and skills in reading, math, problem solving, and writing that are necessary to perform automotive diagnosis and service.

Required Courses (45 credits)

APT101	Automotive Service Operations	2
APT131	Automotive Power Trains	6
APT141	Alignment, Steering and Suspension	6
APT151	Automotive Brake Systems	4
APT161	Automotive Electrical & Electronic Systems I	4
APT171	Automotive Air Conditioning	4
APT181	Engine Performance and Diagnosis I	6
+APT262	Automotive Electrical & Electronic Systems II	4
+APT282	Engine Performance and Diagnosis II	6
GTC107	Technical Mathematics I	3

Restricted Electives (3 credits)

AUT270++	Automotive Technology Internship (1-3) (any module) **OR**	
AUT282++	Volunteerism for Automotive: A Service-Learning Experience (1-3) (any module) **OR**	
AUT296++	Cooperative Education (1-4) (any module) **OR**	
AUT298++	Special Projects (1-3) (any module)	1-4

General Education Requirements (21-22 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **OR**	
+ENG107	First-Year Composition for ESL (3) **AND**	
+ENG102	First-Year Composition (3) **OR**	
+ENG108	First-Year Composition for ESL (3) **OR**	
+ENG111	Technical Writing (3)	6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**	
COM110	Interpersonal Communication (3) **OR**	
+COM225	Public Speaking (3) **OR**	
+COM230	Small Group Communication (3)	3

Critical Reading

+CRE101	Critical and Evaluative Reading I (3) at "C" level or above **OR** equivalent as indicated by assessment	3

Mathematics

Met by GTC107 in required courses area

+ indicates course has prerequisites and/or corequisites.

Humanities and Fine Arts
Any approved general education course in the Humanities and Fine Arts area 2-3
Social and Behavioral Sciences
Any approved general education course in the Social and Behavioral Sciences area 3
Natural Sciences
Any approved general education course in the Natural Sciences area 4

CERTIFICATE OF COMPLETION (CCL) IN AIR CONDITIONING (13 CREDITS) MAJOR CODE: 5443

The Certificate of Completion (CCL) in Air Conditioning prepares students to work as automotive technicians who diagnose, service, test, and repair complex, highly technical air conditioning systems. The program emphasizes skill in reading, writing, problem solving, and math that are necessary for success in the automotive service industry.

Required Courses (13 credits)

APT101	Automotive Service Operations	.2
APT161	Automotive Electrical & Electronic Systems I	.4
APT171	Automotive Air Conditioning	.4
GTC107	Technical Mathematics I	.3

CERTIFICATE OF COMPLETION (CCL) IN AUTOMOTIVE ELECTRICAL SYSTEMS (13 CREDITS) MAJOR CODE: 5449

The Certificate of Completion (CCL) in Automotive Electrical Systems prepares students to work as automotive technicians who diagnose, service, test, and repair complex, computer-controlled automotive electrical systems. The program emphasizes knowledge and skills in reading, math, problem solving, and writing that are necessary to perform automotive diagnosis and service.

Required Courses (13 credits)

APT101	Automotive Service Operations	.2
APT161	Automotive Electrical & Electronic Systems I	.4
+APT262	Automotive Electrical & Electronic Systems II	.4
GTC107	Technical Mathematics I	.3

CERTIFICATE OF COMPLETION (CCL) IN BRAKES, ALIGNMENT, SUSPENSION, AND STEERING (15 CREDITS) MAJOR CODE: 5459

The Certificate of Completion (CCL) in Brakes, Alignment, Suspension, and Steering prepares students to work as automotive technicians who diagnose, service, test, and repair automotive brake, alignment, suspension, and steering systems. The program emphasizes practical experience in a realistic laboratory that simulates an automotive service shop.

Required Courses (15 credits)

APT101	Automotive Service Operations	.2
APT141	Alignment, Steering and Suspension	.6
APT151	Automotive Brake Systems	.4
GTC107	Technical Mathematics I	.3

CERTIFICATE OF COMPLETION (CCL) IN ENGINE PERFORMANCE AND DIAGNOSIS (17 CREDITS) MAJOR CODE: 5478

The Certificate of Completion (CCL) in Engine Performance and Diagnosis prepares students to work as automotive mechanics and technicians who diagnose, service, test, and repair engines and their components.

Required Courses (17 credits)

APT101	Automotive Service Operations	.2
APT181	Engine Performance and Diagnosis I	.6
+APT282	Engine Performance and Diagnosis II	.6
GTC107	Technical Mathematics I	.3

CERTIFICATE OF COMPLETION (CCL) IN TRANSMISSIONS AND POWER TRAINS (11 CREDITS) MAJOR CODE: 5467

The Certificate of Completion (CCL) in Transmissions and Power Trains prepares students to work as automotive mechanics and technicians who diagnose, service, test, and maintain transmission and power train components. The program features hands-on experience in a laboratory setting that simulates an automotive shop.

Required Courses (11 credits)

APT101	Automotive Service Operations	.2
APT131	Automotive Power Trains	.6
GTC107	Technical Mathematics I	.3

Biotechnology Certificates/Degrees

- **Associate in Applied Science (AAS) in Biotechnology**
- **Certificate of Completion (CCL) in Biotechnology**

Department Chairperson: Saundra Minckley
Contact: (480) 461-7117
Program Director: Stan Kikkert
Contact (480) 461-7862

+ indicates course has prerequisites and/or corequisites.

ASSOCIATE IN APPLIED SCIENCE (AAS) IN BIOTECHNOLOGY (64 CREDITS) MAJOR CODE: 3004

The Associate in Applied Science (AAS) in Biotechnology prepares students for careers as technical assistants in federal, state, and local government laboratories, biomedical, pharmaceutical, and bioengineering laboratories, agriculture and horticulture, microbiology, environmental and academic laboratories. The program provides students with a working knowledge of biotechnology by focusing on competency and technical expertise with state-of-the-art laboratory protocol and critical consideration of current topics in biotechnology. Students gain practical experience through an internship.

Program Prerequisites (0-12 credits)

+CHM130	Fundamental Chemistry (3) **AND**
+CHM130LL	Fundamental Chemistry Laboratory (1) **OR** one year of high school chemistry . . 4
+CRE101	Critical and Evaluative Reading I (3) **OR**.
+CRE111	Critical Reading for Business and Industry (3) **OR** equivalent as indicated by assessment. 0-3
+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3) **OR** equivalent as indicated by assessment . . 0-5

Required Courses (49-51 credits)

BIO181	General Biology (Majors) I 4
BIO211AA	Biotechnology Seminar: Biomedical Applications 1
+BIO212AA	Biotechnology I 5
+BIO212AB	Biotechnology II 5
+BIO212AC	Biotechnology III 5
+BIO220	Biology of Microorganisms. 4
+BIO240	General Genetics 4
+BIO244	General Genetics Laboratory 1
+BIO249	Applied Biosciences: Biotechnology Internship 4
+CHM151	General Chemistry I 3
+CHM151LL	General Chemistry I Laboratory. 1
+CHM152	General Chemistry II 3
+CHM152LL	General Chemistry II Laboratory 1
+CHM230	Fundamental Organic Chemistry 3
+CHM230LL	Fundamental Organic Chemistry Lab . .1
+CHM260	Fundamental Biochemistry. 3
+CH260LL	Fundamental Biochemistry Laboratory . .1
+MAT150	College Algebra/Functions (5) **OR**
+MAT151	College Algebra/Functions (4) **OR**
+MAT152	College Algebra/Functions (3) 3-5

General Education Requirements (15 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **OR**
+ENG107	First-Year Composition for ESL (3) **AND**
+ENG102	First-Year Composition (3) **OR**
+ENG108	First-Year Composition for ESL (3) 6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**
COM100AA	Introduction to Human Communication Part I (1) **AND**
COM100AB	Introduction to Human Communication Part II (1) **AND**
COM100AC	Introduction to Human Communication Part III (1) **OR**
+COM225	Public Speaking (3) **OR**
+COM230	Small Group Communication (3) 3

Critical Reading

Met by CRE courses in program prerequisites area

Mathematics

Met by MAT courses in program prerequisites area

Humanities and Fine Arts

PHI213 Medical and Bio-Ethics. 3

Social and Behavioral Sciences

Any approved general education course from the Social and Behavioral Sciences area 3

Natural Sciences

Met by CHM courses in required course area

CERTIFICATE OF COMPLETION (CCL) IN BIOTECHNOLOGY (41 CREDITS) MAJOR CODE: 5079

The Certificate of Completion (CCL) in Biotechnology prepares students for careers as technical assistants in federal, state, and local government laboratories, biomedical, pharmaceutical, and bioengineering laboratories, agriculture and horticulture, microbiology, environmental and academic laboratories. The program provides students with a working knowledge of biotechnology by focusing on competency and technical expertise with state-of-the art laboratory protocol and critical consideration of current topics in biotechnology. Students gain practical experience through an internship.

Program Prerequisites (0-9 credits)

High School Diploma or GED

+CHM130	Fundamental Chemistry (3) **AND**
CHM130LL	Fundamental Chemistry Laboratory (1) **OR** one year of high school chemistry 4
+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3) **OR** equivalent as indicated by assessment . . 0-5

Required Courses (41 credits)

BIO181	General Biology (Majors) I 4
BIO211AA	Biotechnology Seminar: Biomedical Applications 1
+BIO212AA	Biotechnology I 5
+BIO212AB	Biotechnology II 5
+BIO212AC	Biotechnology III 5
+BIO220	Biology of Microorganisms. 4

+ indicates course has prerequisites and/or corequisites.

+BIO240	General Genetics	4
+BIO244	General Genetics Laboratory	1
+BIO249	Applied Biosciences: Biotechnology Internship	4
+CHM151	General Chemistry I	3
+CHM151LL	General Chemistry I Laboratory	1
+CHM152	General Chemistry II	3
+CHM152LL	General Chemistry II Laboratory	1

Business Certificates/Degrees

- **Associate in Applied Science (AAS) in Business**
- **Certificate of Completion (CCL) in International Trade**
- **Certificate of Completion (CCL) in Management**
- **Certificate of Completion (CCL) in Marketing**
- **Certificate of Completion (CCL) in Project Management**
- **Certificate of Completion (CCL) in Computer Applications: Microsoft Office Specialist/Basic**
- **Certificate of Completion (CCL) in Computer Applications: Microsoft Office Specialist/ Advanced**
- **Certificate of Completion (CCL) in Technology Support Analyst Level I**
- **Certificate of Completion (CCL) in Technology Support Analyst Level II**
- **Certificate of Completion (CCL) in Retail Management**
- **Certificate of Completion (CCL) in Salesmanship**
- **Certificate of Completion (CCL) in Small Business**
- **Associate in Applied Science (AAS) in General Business**
- **Certificate of Completion (CCL) in General Business**
- **Associate in Applied Science (AAS) in Organizational Management**
- **Certificate of Completion (CCL) in Organizational Leadership**

Department Chairperson: Linda Collins
Contact (480) 461-7077

ASSOCIATE IN APPLIED SCIENCE (AAS) IN BUSINESS (68 CREDITS) MAJOR CODE: 3852

The Associate in Applied Science (AAS) in Business prepares students for entry-level careers in a field of their choice: business communication, management, marketing, management information systems, real estate, international trade, multimedia technology, web technology, project management, small business or game technology. The program includes both general education and business coursework.

Required Courses (30 credits)

ACC109	Accounting Concepts	3
**BPC110	Computer Usage and Applications (3) **OR**	3
CIS105	Survey of Computer Information Systems (3)	3
GBS151	Introduction to Business (3) **OR**	3
IBS101	Introduction to International Business (3)	3
GBS205	Legal, Ethical & Regulatory Issues/Business	3
+GBS233	Business Communication	3
MGT251	Human Relations in Business	3
MKT271	Principles of Marketing	3
OAS108	Business English	3
TQM101	Quality Customer Service	3
TQM240	Project Management in Quality Organizations	3

Restricted Electives (13-16 credits)

Students must select one of the following ten tracks:

Track I - Business Communication (15 credits)

COM110	Interpersonal Communication	3
+COM259	Communication in Business and Professions	3
+COM263	Elements of Intercultural Communication	3
+ENG111	Technical Writing	3
MKT101	Introduction to Public Relations	3

Track II - Management (16 credits)

MGT229	Management and Leadership I	3
+MGT230	Management and Leadership II	3
MGT147	Supply Chain Management	3
MGT276	Personnel/Human Resources Management	3
TQM230	Teamwork Dynamics	2
TQM235	Motivation, Evaluation, and Recognition Systems	2

Track III - Marketing (15 credits)

MKT101	Introduction to Public Relations	3
MKT263	Advertising Principles	3
MKT267	Principles of Salesmanship	3
MKT268	Merchandising	3
+MKT273	Marketing Research	3

+ indicates course has prerequisites and/or corequisites.

Track IV - Management Information Systems (15 credits)

CIS117DM	Microsoft Access: Database Management . . 3
+CIS150AB	Object-Oriented Programming Fundamentals 3
+CIS159	Visual Basic Programming I. 3
+CIS250	Management of Information Systems. . .3
+CIS162AD	C# Level I (3) **OR**
+CIS259	Visual Basic Programming II (3) 3

Track V - Real Estate (15 credits)

REA179	Real Estate Principles I 3
+REA180	Real Estate Principles II 3
+REA282	Real Estate Finance (3) **OR**
+REA285	Real Estate Selling (3). 3
+REA283	Property Management (3) **OR**
REA270	Basic Appraisal Principles (2) **AND**
REA273	Residential Market Analysis Highest and Best Use (1). 3
+REA288	Real Estate Investment Strategy (3) **OR**
REA271	Basic Appraisal Procedure (2) **AND**
REA274	Residential Appraiser Site Valuation and Cost Approach (1). 3

Track VI - International Trade (15 credits)

IBS109	Cultural Dimension for International Trade 3
+IBS116	Export/Import Management 3
+IBS118	International Marketing Management . .3
+IBS123	U.S. Custom and Export Licensing Regulations 3
+IBS140	International Financial Management . . .3

Track VII - Multimedia Technology (15 credits)

+CIS/MMT140	Survey of Multimedia Technology 2
BPC/CIS120DC	Flash: Digital Animation 3
BPC/CIS120DK	Introduction to Digital Video Editing. . .3
+MTC/TCM120	Introduction to Sound Design for Film and Video. 3
+CIS108	Electronic Portfolio Development. 1
BPC/CIS120DB	Computer Graphics: Adobe Illustrator (3) **OR**
BPC/CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR**
BPC/CIS120DG	Fireworks: Web Graphics (3) 3

Track VIII - Web Technology (15 credits)

CIS120DB	Computer Graphics: Adobe Illustrator (3) **OR**
CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR**
CIS120DG	Fireworks: Web Graphics (3) 3
CIS133DA	Internet/Web Development Level I. 3
+CIS233DA	Internet/Web Development Level II 3
CIS233DC	Internet Web Publishing: Dreamweaver . .3
+CIS235	e-Commerce (3) **OR**
CIS120DC	Flash: Digital Animation (3). 3

Track IX - Project Management (14 credits)

BPC/CIS224	Project Management Microsoft Project for Windows 3
+MGT242	Project Scope and Procurement Management 2
+MGT243	Project Time and Cost Management. . . .2
MGT244	Project Risk and Quality Management. . .2
+MGT245	Project, Human Resources and Communications Management 2
+MGT246	Principles of Project Management 3

Track X - Small Business (13-14 credits)

+ACC115	Computerized Accounting 2
CIS131AA	Doing Business on the Internet. 1
+CIS133CA	Internet/Web Development Level I-C. . .1
EPS250	Introduction to Entrepreneurship (2) **AND**
EPS295	The Business Plan for Business Start-Up (2) **OR**
MGT253	Owning and Operating a Small Business (3). 3-4
SBS204	Small Business Marketing and Advertising 2
SBS213	Hiring and Managing Employees 1
SBS214	Small Business Customer Relations 1
SBS230	Financial and Tax Management for Small Business. 2

Track XI - Game Technology (15 credits)

+CIS107	The Electronic Game Industry 3
+CIS151	Computer Game Development Level I . .3
ART/ADA170	Three-Dimensional Computer Design . .3
BPC/CIS120DC	Flash: Digital Animation 3
BPC/CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR**
BPC/CIS120DB	Computer Graphics: Adobe Illustrator (3) . . 3

General Education Requirements (25-27 credits)

First-Year Composition

	Any approved general education course from the First-Year Composition Area . .6

Oral Communication

	Any approved general education course from the Oral Communication area 3

Critical Reading

+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment . .3

Mathematics

+MAT120	Intermediate Algebra (5) **OR** 5
+MAT121	Intermediate Algebra (4) **OR** 4
+MAT122	Intermediate Algebra Accelerated (3) **OR** . . 3 satisfactory completion of a higher level mathematics courses 3-5

Humanities and Fine Arts

	Any approved general education course from the Humanities and Fine Arts area. .3

Social and Behavioral Sciences

SBU200	Society and Business. 3

Natural Sciences

	Any approved general education course from the Natural Sciences area 4

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN INTERNATIONAL TRADE (21-23 CREDITS) MAJOR CODE: 5999

Program Director: Preston Cameron
Contact: (480) 461-7714

The Certificate of Completion (CCL) in International Trade program prepares students for entry- and mid-level positions in international business. It is also designed to provide advanced knowledge and skills for those already working in the field of international business.

Required Courses (21-23 credits)

IBS109	Cultural Dimension for International Trade	3
IBS116	Export/Import Management	3
IBS118	International Marketing Management	3
IBS123	US Customs & Export Licensing Regulations	3
IBS140	International Financial Management	3
MGT147	Supply Chain Management	3
ARB+++	Any ARB/Arabic course (3-4) **OR**	3-4
FRE+++	Any FRE/French course (3-4) **OR**	3-4
GER+++	Any GER/German course (3-4) **OR**	3-4
ITA+++	Any ITA/Italian course (3-4) **OR**	3-4
JPN+++	Any JPN/Japanese course (3-5) **OR**	3-5
SPA+++	Any SPA/Spanish course (3-4)	3-4

CERTIFICATE OF COMPLETION (CCL) IN MANAGEMENT (18 CREDITS) MAJOR CODE: 5088

Program Director: Preston Cameron
Contact: (480) 461-7714

The Certificate of Completion (CCL) in Management prepares students to work in first-line or operational-level management positions. The program is also designed for those already working in management who want to advance and update their managerial knowledge and skills.

Required Courses (18 credits)

MGT147	Supply Chain Management	3
MGT229	Management and Leadership I	3
+MGT243	Project Time and Cost Management	2
MGT244	Project Risk and Quality Management.	2
MGT251	Human Relations in Business	3
MGT276	Personnel/Human Resources Management	3
TQM230	Teamwork Dynamics	2

CERTIFICATE OF COMPLETION (CCL) IN MARKETING (18 CREDITS) MAJOR CODE: 5394

Program Director: Preston Cameron
Contact: (480) 461-7714

The Certificate of Completion (CCL) in Marketing provides students with knowledge and skills in the field of marketing. The program is designed to meet the needs of those who want to enter a career in marketing as well as those who are already working in the marketing field who wants to advance and update their training.

Required Courses (18 credits)

MKT101	Introduction to Public Relations	3
MKT263	Advertising Principles	3
MKT267	Principles of Salesmanship	3
MKT268	Merchandising	3
MKT271	Principles of Marketing	3
+MKT273	Marketing Research	3

CERTIFICATE OF COMPLETION (CCL) IN PROJECT MANAGEMENT (14 CREDITS) MAJOR CODE: 5477

Program Director: Preston Cameron
Contact: (480) 461-7714

The Certificate of Completion (CCL) in Project Management prepares the student for career opportunities as a project manager and provides those working as project managers with the skills required to prepare for project management certification exams. This program covers principles, requirements, benefits, and tools of project management.

Program Prerequisites (2 credits)

TQM240	Project Management in Quality Organizations (2) **OR** departmental approval	0-2

Required Courses (14 credits)

BPC/CIS224	Project Management Microsoft Project for Windows	3
+MGT242	Project Scope and Procurement Management	2
+MGT243	Project Time and Cost Management	2
+MGT244	Project Risk and Quality Management	2
+MGT245	Project Human Resources and Committee Management	2
+MGT246	Principles of Project Management	3

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN COMPUTER APPLICATIONS: MICROSOFT OFFICE SPECIALIST/BASIC (16-21 CREDITS) MAJOR CODE: 5146

Program Director: David Harris
Contact: (480) 461-7304

The Certificate of Completion (CCL) in Computer Applications: Microsoft Office Specialist/Basic program provides basic skills in computer software applications for entry-level employment in a wide variety of occupations. Coursework includes basic software applications in word processing, electronic spreadsheets, database management, electronic messaging/personal information management, presentation graphics, and project management. This certificate program is designed to assist students in preparing for core examinations for certification as a Microsoft Office Specialist.

Required Courses (13-18 credits)

GBS104	Quality Telephone Techniques 1
OAS101	Computer Typing I: Keyboarding and Formatting. 3
OAS108	Business English. 3

Students will select one of two tracks:

Track I (6 credits)

BPC110	Computer Usage and Applications 3
BPC210	Advanced Computer Usage and Applications 3

Track II (9-11 credits)

BPC100CD	Living Online (1) **OR**
BPC106AH	MS Outlook: Level I (.5) **AND**
+BPC106BH	Microsoft Outlook: Level II (.5). 1
BPC/CIS114AE	Excel: Level I (1) **AND**
+BPC/CIS114BE	Excel: Level II (1) **OR**
BPC/CIS114DE	Excel Spreadsheet (3) 2-3
BPC/CIS117AM	Database Management: Microsoft Access-Level I (1) **AND**
+BPC/CIS117BM	Database Management: Microsoft Access-Level II (1) **OR**
BPC/CIS117DM	Microsoft Access: Database Management (3) 2-3
BPC/CIS118AB	Powerpoint: Level I. 1
+BPC/CIS118BB	Powerpoint: Level II 1
BPC/OAS135DK	Word: Level I 2

Restricted Electives (3 credits)

BPC100AD	Computing Fundamentals. 1
BPC100BD	Key Software Applications. 1
BPC100CD	Living Online 1
BPC/CIS121AE	Windows Operating System: Level I . . 1
OAS103AA	Computer Typing: Skill Building. 1
OAS118	10-Key By Touch 1

CERTIFICATE OF COMPLETION (CCL) IN COMPUTER APPLICATIONS: MICROSOFT OFFICE SPECIALIST/ADVANCED (19-21 CREDITS) MAJOR CODE: 5147

Program Director: David Harris
Contact: (480) 461-7304

The Certificate of Completion (CCL) in Computer Applications: Microsoft Office Specialist/Advanced program provides advanced skills in computer software applications for a wide variety of occupations. Coursework includes advanced software applications in word processing, electronic spreadsheets, and other office skills. This certificate program is designed to assist students in preparing for the expert examinations for certification as a Microsoft Office Specialist.

Required Courses (16-18 credits)

GBS104	Quality Telephone Techniques 1
OAS101	Computer Typing I: Keyboarding and Formatting 3
OAS108	Business English. 3
TQM101	Quality Customer Service 3

Students will select one of two tracks:

Track I (6 credits)

+BPC210	Advanced Computer Usage and Applications 3
+BPC250	Post Advanced Computer Usage and Applications 3

Track II (8 credits)

BPC100CD	Living Online (1) **OR**
BPC106AH	MS Outlook: Level I (.5) **AND**
+BPC106BH	Microsoft Outlook: Level II (.5). 1
BPC/CIS114AE	Excel: Level I (1) **AND**
+BPC/CIS114BE	Excel: Level II (1) **AND**
+BPC/CIS114CE	Excel: Level III (1) **OR**
BPC/CIS114DE	Excel Spreadsheet (3) 3
BPC/OAS135DK	Word: Level I 2
+BPC/OAS235DK	Word: Level II. 2

Restricted Electives (3 credits)

+ACC115	Computerized Accounting 2
BPC101AC	Introduction to Handheld Devices 1
BPC110	Computer Usage and Applications. . . . 3
BPC/OAS111AA	Computer Keyboarding I 1
BPC/CIS121AE	Windows Operating System: Level I . . 1
+BPC/CIS122AE	Windows Operating System: Level II . . 1
BPC123	Introduction to Speech Recognition (SR) 1
BPC/CIS133AA	Internet/Web Development Level I-A . . 1
+BPC/CIS133BA	Internet/Web Development Level I-B . . 1
+CIS233AA	Internet/Web Development Level II-A . . 1
+CIS233BA	Internet/Web Development Level II-B . . 1
+OAS103AA	Computer Typing: Skill Building I. . . . 1

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN TECHNOLOGY SUPPORT ANALYST LEVEL I (16 CREDITS) MAJOR CODE: 5997

Program Director: David Harris
Contact: (490) 461-7304

The Certificate of Completion (CCL) in Technology Support Analyst Level I is designed to prepare students who are interested in becoming part of the technology help desk support system to any office configuration. The curriculum will equip students with marketable skills for adaptation to the specific tasks and troubleshooting techniques of the automated office.

Required Courses (16 credits)

Students must earn a grade of "C" or better for each course listed in the "Required Courses" area.

BPC110	Computer Usage and Applications	3
BPC/CIS121AE	Windows Operating System: Level I	1
BPC/OAS111AA	Computer Keyboarding I	1
BPC125	Microcomputer Set Up and Maintenance	1
BPC/CIS133DA	Internet/Web Development Level I	3
GBS104	Quality Telephone Techniques	1
OAS108	Business English	3
TQM101	Quality Customer Service	3

CERTIFICATE OF COMPLETION (CCL) IN TECHNOLOGY SUPPORT ANALYST LEVEL II (17 CREDITS) MAJOR CODE: 5231

Program Director: David Harris
Contact: (480) 461-7304

The Certificate of Completion (CCL) in Technology Support Analyst Level II is designed to prepare students with advanced help desk support skills to prepare them for advancement to higher-level positions within the help desk technology support environment.

Required Courses (17 credits)

Students must earn a grade of "C" or better for each course listed in the "Required Courses" area.

+BPC/CIS122AE	Windows Operating System: Level II	1
+BPC210	Advanced Computer Usage and Applications	3
+BPC225	Computer Configuration and Enhancement	1
+BPC250	Post-Advanced Computer Usage and Applications	3
CIS109AM	Networking Technology I	2
+CIS233AC	The Internet Web Publishing: Dreamweaver Level I	1
+GBS233	Business Communications	3
ITS172	Viruses and Other Malicious Software	1
+OAS101AC	Computer Typing I: Production & Manuscript	1
+OAS103AA	Computer Typing: Skill Building I	1

ASSOCIATE IN APPLIED SCIENCE (AAS) IN RETAIL MANAGEMENT (64 CREDITS) MAJOR CODE: 3048

The Associate in Applied Science (AAS) in Retail Management is designed to prepare individuals working in the retail management, food industry, and related fields, for the mid-level management position challenges of the future. The curriculum encompasses business essentials and also emphasizes the skill sets needed for effective management and communication in the work environment. Instruction will provide the background and knowledge necessary for students to develop the judgment skills they must exercise as business managers.

Required Courses (39 credits)

ACC111	Accounting Principles I	3
+ACC230	Uses of Accounting Information I	3
+ACC240	Uses of Accounting Information II	3
BPC110	Computer Usage and Applications (3) **OR**	
CISI05	Survey of Computer Information Systems (3)	3
COM110	Interpersonal Communication (3) **OR**	
IND133	Speaking in Business (3)	3
GBS110	Human Relations in Business and Industry (3) **OR**	
MGT251	Human Relations in Business (3)	3
GBS131	Business Calculations (3) **OR**	
+GBS161	Mathematics of Business (3)	3
GBS205	Legal, Ethical, and Regulatory Issues in Business	3
+GBS233	Business Communication	3
MGT101	Techniques of Supervision (3) **OR**	
MGT229	Management and Leadership I (3)	3
MGT179	Utilizing the Human Resources Department (3) **OR**	
MGT276	Personnel/Human Resources Management (3)	3
MKT268	Merchandising	3
MKT271	Principles of Marketing	3

General Education (25 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **OR**	
+ENG107	First-Year Composition for ESL (3) **AND**	
+ENG102	First-Year Composition (3) **OR**	
+ENG108	First-Year Composition for ESL (3) **OR**	
+ENG111	Technical Writing (3)	6

+ENG102 or +ENG108 recommended for students pursuing a BAS degree at an Arizona university.

Oral Communication

+COM230	Small Group Communication	3

Critical Reading

+CRE101	Critical and Evaluative Reading I (3) **OR**. Equivalent by assessment	3

Mathematics

+MAT102	Mathematical Concepts/Applications (3) **OR** Satisfactory completion of a higher level mathematics course	3

+ indicates course has prerequisites and/or corequisites.

Humanities and Fine Arts		
	Any approved general education course from the Humanities and Fine Arts area.	3
Social and Behavioral Sciences		
SBU200	Society and Business	3
Natural Sciences		
	Any approved general education course from the Natural Sciences area.	4

CERTIFICATE OF COMPLETION (CCL) IN RETAIL MANAGEMENT (33 CREDITS) MAJOR CODE: 5286

Program Director: Preston Cameron
Contact: (480) 461-7714

The Certificate of Completion (CCL) in Retail Management is designed to prepare individuals working in the food industry, and related fields, for the management challenges of the future. The curriculum encompasses several business essentials and also emphasizes the skill sets needed for effective management and communication in the work environment.

Required Courses (33 credits)

ACC111	Accounting Principles I	3
BPC110	Computer Usage & Applications (3) **OR**	3
CIS105	Survey of Computer Information Systems (3)	3
+ENG101	First-Year Composition (3) **OR**	3
+ENG107	First-Year Composition for ESL (3)	3
GBS110	Human Relations in Business and Industry (3) **OR**	3
MGT251	Human Relations in Business (3)	3
GBS131	Business Calculations (3) **OR**	3
+MAT102	Mathematical Concepts & Applications (3)	3
GBS233	Business Communication	3
COM110	Interpersonal Communication (3) **OR**	3
IND133	Speaking in Business (3)	3
MGT101	Techniques of Supervision (3) **OR**	3
MGT229	Management and Leadership (3)	3
MGT179	Utilizing the Human Resources Department (3) **OR**	3
MGT276	Personnel/Human Resources Management (3)	3
MKT268	Merchandising	3
MKT271	Principles of Marketing	3

CERTIFICATE OF COMPLETION (CCL) IN SALESMANSHIP (18 CREDITS) MAJOR CODE: 5281

Program Director: Preston Cameron
Contact: (480) 461-7714

The Certificate of Completion (CCL) in Salesmanship prepares students for a career in sales. The program is designed to meet the needs of those who want to begin a sales career as well as those already working in the field who want to advance and update their knowledge and skills.

Required Courses (18 credits)

COM110	Introduction to Human Communication (3) **OR**	
+COM230	Small Group Communication (3)	3
+GBS233	Business Communication	3
MGT251	Human Relations in Business	3
MKT267	Principles of Salesmanship	3
+MKT277	Advanced Sales	3
TQM101	Quality Customer Service	3

CERTIFICATE OF COMPLETION (CCL) IN SMALL BUSINESS (13-14 CREDITS) MAJOR CODE: 5191

Program Director: Preston Cameron
Contact: (480) 461-7714

The Certificate of Completion (CCL) in Small Business provides a bundling of relevant courses for small business owners and recognition for having completed this program in the form of a certificate. Small business owners seek to expand, refine, and update their knowledge and skills to apply to their own businesses.

Program Prerequisites (4 credits)

ACC107	Bookkeeping Theory and Practice	4

Required Courses (13-14 credits)

+ACC115	Computerized Accounting	2
CIS131AA	Doing Business on the Internet	1
+CIS233AB	Internet Web Publishing: FrontPage Level I	1
EPS250	Introduction to Entrepreneurship (2) **AND**	
EPS295	The Business Plan for Business Start-Up (2) **OR**	
MGT253	Owning and Operating a Small Business (3)	3-4
SBS204	Small Business Marketing and Advertising	2
SBS213	Hiring and Managing Employees	1
SBS214	Small Business Customer Relations	1
SBS230	Financial Tax Management for Small Business	2

+ indicates course has prerequisites and/or corequisites.

ASSOCIATE IN APPLIED SCIENCE (AAS) IN GENERAL BUSINESS (61-63 CREDITS) MAJOR CODE: 3148

The Associate in Applied Science (AAS) in General Business program meets the needs of students who wish a broad overview of business and desire not to enroll in a specialized curriculum in business. The program is designed to acquaint students with major subject areas of business, to improve the student's business vocabulary, and to provide students with an understanding of influencing factors in business decision making and activities. In addition, this program could aid a student in recognizing a specific business field to be pursued in future studies. Although many courses will transfer to a four-year institution, some courses do not. This curriculum is not designed to meet the needs of students who wish to transfer to a four-year institution. A Certificate of Completion (CCL) is also available.

Program Prerequisites (3 credits)

+CRE101	Critical and Evaluative Reading I (3) **OR** Equivalent by Assessment. 3

Required Courses (21 credits)

ACC111	Accounting Principles I. 3
CIS105	Survey of Computer Information Systems 3
GBS110	Human Relations in Business and Industry (3) **OR**
MGT175	Business Organization and Management (3) **OR**
MGT251	Human Relations in Business (3) 3
GBS151	Introduction to Business 3
GBS205	Legal, Ethical & and Regulatory Issues in Business 3
+GBS233	Business Communication 3
MKT271	Principles of Marketing. 3

Restricted Electives (18 credits)

Any ACC, GBS, MGT, or MKT prefixed courses not listed in the Required Courses area.

ACC+++++	Any ACC Accounting prefixed courses not listed under Required Courses area. 1-18
BPC/CIS114DE	Excel Spreadsheet 3
BPC/CIS117DM	Microsoft Access: Database Management. . 3
BPC/CIS133DA	Internet/Web Development Level I. 3
GBS+++++	Any GBS General Business course(s) except courses used to satisfy Required Courses area. 1-18
IBS+++++	Any IBS International Business course(s). 1-18
MGT+++++	Any MGT Management course(s) except courses used to satisfy Required Courses area. 1-18
MKT+++++	Any MKT Marketing course(s) except courses used to satisfy Required Courses area. 1-18
REA+++++	Any REA Real Estate course(s) 1-18
SBS+++++	Any SBS Small Business Management course(s) 1-18

General Education (22-24 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **OR**
+ENG107	First-Year Composition for ESL (3) **AND**
+ENG102	First-Year Composition (3) **OR**
+ENG108	First-Year Composition for ESL (3) 6

Oral Communication

Any approved general education course in the Oral Communication area. 3

Critical Reading

+Met by +CRE101 in Program Prerequisites area. 0

Mathematics

+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3). 3-5

Humanities and Fine Arts

Any approved general education course in the Humanities and Fine Arts area. . .3

Social & Behavioral Sciences

ECN211	Macroeconomic Principles (3) **OR**
ECN212	Microeconomic Principles (3) **OR**
SBU200	Society and Business (3) 3

Natural Sciences

Any approved general education course in the Natural Sciences area.. 4

CERTIFICATE OF COMPLETION (CCL) IN GENERAL BUSINESS (21 CREDITS) MAJOR CODE: 5683

The Certificate of Completion (CCL) in General Business will provide business training for various entry-level positions in business. The courses include an introduction to business concepts, accounting and computer principles, and legal issues related to business. An Associate in Applied Science (AAS) is also available.

Required Courses (12 credits)

ACC111	Accounting Principles I. 3
CIS105	Survey of Computer Information Systems 3
GBS151	Introduction to Business 3
GBS205	Legal, Ethical and Regulatory Issues in Business 3

Restricted Electives (9 credits)

Any ACC or GBS prefixed courses not listed in the Required Courses area.

ACC+++++	Any ACC Accounting prefixed courses not listed under the Required Courses area. 1-9
GBS+++++	Any GBS General Business prefixed courses not listed under Required Courses area. 1-9

+ indicates course has prerequisites and/or corequisites.

IBS+++++	Any IBS International Business prefixed courses. 1-9
MGT+++++	Any MGT Management prefixed courses. 1-9
MKT+++++	Any MKT Marketing prefixed courses 1-9
REA+++++	Any REA Real Estate prefixed courses. 1-9
SBS+++++	Any SBS Small Business Management prefixed courses. 1-9
BPC/CIS114DE	Excel Spreadsheet 3
BPC/CIS117DM	Microsoft Access: Database Management. . 3
BPC/CIS133DA	Internet/Web Development Level I. 3

ASSOCIATE IN APPLIED SCIENCE (AAS) IN ORGANIZATIONAL MANAGEMENT (61 CREDITS) MAJOR CODE: 3727

Program Director: Preston Cameron
Contact: (480) 461-7714

The Associate in Applied Science (AAS) in Organizational Management provides students with a customized selection of courses specific to the student's individual needs in addition to the knowledge and skills needed in today's changing workplace. The program develops leadership and communication skills and techniques for planning, directing, and evaluating business situations, with an emphasis on effective allocation of time, money, materials, space, and personnel. The curriculum combines coursework in leadership with a general education component.

Required Courses (17-18 credits)

Certificate of Completion in Organizational Leadership. 17-18

Restricted Electives (19-22 credits)

Students must choose 19-22 industry/job-specific courses from any MCCCD occupational program and have them approved by a department chair. These industry/job specific course credits must include a minimum of 9 credits with a common subject. 19-22

General Education Requirements (25-27 credits)

First-Year Composition
Any approved general education course from the First-Year Composition area. . .6

Oral Communication
Any approved general education course from the Oral Communication area 3

Critical Reading
Any approved general education course from the Critical Reading area 3

Mathematics
Any approved general education course from the Mathematics area 3-5

Humanities and Fine Arts
Any approved general education course from the Humanities and Fine Arts area . . 3

Social and Behavioral Sciences
Any approved general education course from the Social and Behavioral Sciences area 3

Natural Sciences
Any approved general education course from the Natural Sciences area. 4

CERTIFICATE OF COMPLETION (CCL) IN ORGANIZATIONAL LEADERSHIP (17-18 CREDITS) MAJOR CODE: 5731

Program Director: Preston Cameron
Contact: (480) 461-7714

The Certificate of Completion (CCL) in Organizational Leadership provides students with knowledge and skills needed in today's changing workplace. The program develops leadership and communication skills and techniques for planning, directing, and evaluating business situations. This program also emphasizes procedures for effective allocation of time, money, materials, space, and personnel.

Required Courses (17-18 credits)

CIS105	Survey of Computer Information Systems (3) **OR**
BPC110	Computer Usage and Application (3) . . .3
GBS110	Human Relations in Business/Industry (3) **OR**
MGT251	Human Relations in Business (3) 3
GBS151	Introduction to Business 3
GBS233	Business Communications 3
MGT175	Business Organization and Management (3) **OR**
TQM240	Project Management in Quality Organizations (2) 2-3
MGT101	Techniques of Supervision (3) **OR**
MGT229	Management and Leadership I (3) 3

Caterpillar Degree

- **Associate in Applied Science (AAS) in Caterpillar Technician Training**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141
Program Director: Joe Rauscher
Contact: (480) 461-7136

+ indicates course has prerequisites and/or corequisites.

ASSOCIATE IN APPLIED SCIENCE (AAS) IN CATERPILLAR TECHNICIAN TRAINING (76 CREDITS) MAJOR CODE: 3005

The Associate in Applied Science (AAS) in Caterpillar Technician Training prepares students to use advanced technology to service and repair Caterpillar machines and equipment. Students become skilled in electronically controlled engines, sophisticated computer-based diagnosis, and state-of-the-art hydraulics and transmissions, as well as other high demand skills. The program combines general education curriculum, specialized technological coursework, and practical experience to prepare students to work in authorized Caterpillar service facilities.

Program Prerequisites (3 credits)

GTC107	Technical Mathematics I	3

Required Courses (55 credits)

CTT110	Introduction to Caterpillar Service Industry	3
CTT111	Caterpillar Engine Fundamentals	4
CTT112	Hydraulic Fundamentals	3
CTT113	Fuel Systems	3
CTT114	Basic Electrical Fundamentals	3
CTT115	Air Conditioning Fundamentals	3
CTT116	Power Trains I	3
+CTT117	Machine Hydraulic Systems	3
+CTT118	Caterpillar Dealer Internship I	3
+CTT119	Caterpillar Dealer Internship II	3
+CTT200	Power Trains II	3
CTT201	Machine Electronics	3
+CTT202	Engine Diagnostics and Repair	3
CTT203	Machine Diagnostics	3
CTT204	Machine Specific Systems	3
+CTT205	Caterpillar Dealer Internship III	3
+CTT206	Caterpillar Dealer Internship IV	3
GTC129	Manufacturing Welding	3

General Education Requirements (21 credits)

First-Year Composition		
+ENG101	First-Year Composition (3) **AND**	
+ENG111	Technical Writing (3)	6
Oral Communication		
	Any approved general education course in the Oral Communication area	3
Critical Reading		
	Any approved general education course in the Critical Reading area	3
Mathematics		
GTC108	Technical Mathematics II	3
Humanities & Fine Arts		
	Any approved general education course in the Humanities & Fine Arts area	3
Social and Behavioral Sciences		
	Any approved general education course in the Social and Behavioral Sciences area	3
Natural Sciences	(Waived)	

Child and Family Studies Certificates/Degrees

- **Associate in Applied Science (AAS) in Early Care and Education**
- **Certificate of Completion (CCL) in Early Care Specialist**
- **Associate in Applied Science (AAS)s (AAS) in Early Childhood Administration and Management**

Department Chairperson: Dr. Nora Amavisca Reyes
Contact: (480) 461-7781
Program Director: Annapurna Ganesh
Contact: (480) 461-7305

ASSOCIATE IN APPLIED SCIENCE (AAS) IN EARLY CARE AND EDUCATION (64 CREDITS) MAJOR CODE: 3357

The Associate in Applied Science (AAS) in Early Care and Education is based upon an inclusive vision of high-quality services for all children. Mesa Community College (MCC) provides a sequence of lively, interactive classes and a variety of field experiences, which greatly expand the student's understanding of children. Unique student teaching opportunities are offered in the Evelyn H. Warren Child Development Lab, a multi-age preschool that is accredited by the National Association for the Education of Young Children.

Required Courses (36 credits)

CFS102	Emergency Care for Child Care Providers	1
CFS176	Child Development	3
+CFS212	Creative Activities for the Young Child	3
EED200	Foundations of Early Childhood Education	3
EED212	Guidance, Management and the Environment	3
EED215	Early Learning: Health, Safety, Nutrition and Fitness	3
EED220	Child, Family, Community & Culture	3
EED222	Introduction to the Exceptional Young Child	3
+EED255	Portfolio Development and Writing for the Profession	3
+EED260	Early Childhood Infant/ Toddler Internship	1
+EED261	Early Childhood Preschool Internship	1
+EED270	Early Learning Development	3
+EED278	Early Learning: Curriculum and Instruction	3
+EED280	Standards, Observation and Assessment in Early Education	3

Restricted Electives (3-5 credits)

+CFS+++++	Note: (any CFS course)	3-5
+ECH+++++	Note: (any ECH course)	3-5
+EED+++++	Note: (any EED course)	3-5
+ITD+++++	Note: (any ITD course)	3-5

+ indicates course has prerequisites and/or corequisites.

General Education Requirements (25-27 credits)

First-Year Composition
- +ENG101 First-Year Composition (3) **AND**
- +ENG102 First-Year Composition (3) 6

Oral Communication
- COM110 Interpersonal Communication (3) **OR**
- +COM225 Public Speaking (3) **OR**
- +COM230 Small Group Communication (3) 3

Critical Reading
- +CRE101 Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment . .0-3

Mathematics
- +MAT102 Mathematical Concepts/Applications (3) **OR**
- MAT120 Intermediate Algebra with Review (5) **OR**
- MAT121 Intermediate Algebra (4) **OR**
- MAT122 Intermediate Algebra Accelerated (3) **OR** equivalent as indicated by assessment **OR** approved mathematics courses which are required in a specific AAS program **OR** completion of a higher level mathematics course 3-5

Humanities & Fine Arts
- ENH291 Children's Literature 3

Social and Behavioral Sciences
- CFS157 Marriage and Family Life 3

Natural Sciences
- Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION (CCL) IN EARLY CARE SPECIALIST (30 CREDITS) MAJOR CODE: 5358

The Certificate of Completion (CCL) in Early Care Specialist curriculum prepares students for an entry-level position in early childhood programs. The sequence of coursework is designed to increase understanding of education and care of young children.

Required Courses (27 credits)

- CFS102 Emergency Care for Child Care Providers 1
- CFS176 Child Development 3
- +CFS212 Creative Activities for the Young Child . .3
- EED212 Guidance, Management and the Environment 3
- EED200 Foundations of Early Childhood Education. 3
- +EED270 Early Learning Development (3) **OR**
- EED220 Child, Family, Community and Culture (3) **OR**
- EED222 Introduction to the Exceptional Young Child (3). 3
- EED215 Early Learning: Health, Safety, Nutrition and Fitness. 3
- EED255 Portfolio Development and Writing for the Profession. 3
- +EED260 Early Childhood Infant/Toddler Internship. 1
- +EED261 Early Childhood Preschool Internship . .1
- +EED278 Early Learning: Curriculum and Instruction. 3

Restricted Electives (3 credits)

- +CFS+++++ Note: (any CFS course). 3-5
- +ECH+++++ Note: (any ECH course) 3-5
- +EED+++++ Note: (any EED course) 3-5
- +ITD+++++ Note: (any ITD course) 3-5

ASSOCIATE IN APPLIED SCIENCE (AAS) IN EARLY CHILDHOOD ADMINISTRATION AND MANAGEMENT (63-65 CREDITS) MAJOR CODE: 3109

The Associate in Applied Sciences (AAS) in Early Childhood Administration and Management is an integrated program of study that provides an educational foundation in early childhood education plus administrative and management courses specifically related to the business needs and practices of early childhood directors, owners and other management-level staff.

Required Courses (35 credits)

- CFS206 Child and Family Organizations: Management and Administration 3
- CFS207 Organization and Community Leadership in Child and Family Organizations. 3
- CFS208 Child and Family Organizations: Fiscal Management and Grant Writing 3
- EED200 Foundations of Early Childhood Education. 3
- EED212 Guidance, Management and the Environment 3
- EED215 Early Learning: Health, Safety, Nutrition and Fitness. 3
- EED220 Child, Family, Community and Culture . .3
- EED222 Introduction to the Exceptional Young Child. 3
- +EED260 Early Childhood Infant/Toddler Internship (1) **OR**
- +EED261 Early Childhood Preschool Internship (1) 1
- +EED278 Early Learning: Curriculum and Instruction - Birth/Preschool 3
- +EED280 Observation and Assessment of Typical and Atypical Behaviors. 3
- +FCS250 Portfolio Development and Professional Writing. 3
- +FCS260 Family and Consumer Science Internship. 1

Restricted Electives (3 credits)

Students must select courses from any combination of the following prefixes for a total of 3 credits.

- +CFS+++ Any CFS Child/Family Studies Course. 1-3

+ indicates course has prerequisites and/or corequisites.

+CIS105	Survey of Computer Information Systems 3
+ECH+++	Any ECH Early Childhood Education Course 1-3
+EED+++	Any EED Early Education Course (not in required core). 1-3
+ITD+++	Any ITD Infant/Toddler Development Course 1-3

General Education (25-27 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **AND**
+ENG102	First-Year Composition (3) 6

Oral Communication

+COM207	Introduction to Communication Inquiry (3) **OR**
+COM225	Public Speaking (3) **OR**
+COM230	Small Group Communication (3) **OR**
+GBS233	Business Communication (3) 3

Critical Reading

+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment . .3

Mathematics

+MAT102	Mathematical Concepts/Applications (3) **OR**
+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra Accelerated (3) **OR** Equivalent as indicated by assessment **OR** Approved mathematics course which is required in a specific AAS program **OR** Satisfactory completion of a higher level mathematics course 3-5

Humanities & Fine Arts

ENH291	Children's Literature 3

Social and Behavioral Sciences

CFS205	Human Development. 3

Natural Sciences

	Any approved general education course from the Natural Sciences area 4

Community Health Advocate Certificate

- **Certificate of Completion (CCL) in Community Health Advocate, Diabetes**

Department Chairperson: Debra Bitter
Contact: (480) 461-7262

CERTIFICATE OF COMPLETION (CCL) IN COMMUNITY HEALTH ADVOCATE, DIABETES (13 CREDITS) MAJOR CODE: 5197

The Certificate of Completion (CCL) in Community Health Advocate, Diabetes program prepares students to become advocates for the prevention and education of diabetes among Native Americans of all ages in Arizona. The diabetes-specific curriculum is also relevant to any patient/population confronting this disease. The Community Health Advocate program is applicable to both entry-level and experienced healthcare professionals. The CHA program emphasizes new information on the disease process, as well as recent developments in prevention and management of diabetes.

Required Course (13-14 credits)

+CHA101	Introduction to Diabetes 2
+CHA102	Preventative Stages of Diabetes 3
+CHA103	Transcultural Advocacy 3
HCC130	Fundamentals in Health Care Delivery (3) **OR**
HCC130AA	Health Care Today (0.5) **AND**
HCC130AB	Workplace Behavior in Health Care (0.5) **AND**
HCC130AC	Personal Wellness and Safety (0.5) **AND**
HCC130AD	Communication and Teamwork in the Health Care Organizations (0.5) **AND**
HCC130AE	Legal Issues in Health Care (0.5) **AND**
HCC130AF	Decision Making in the Health Care Setting (0.5). 3
HCC145	Medical Terminology for Health Care Workers (3) **OR**
HCC146	Common Medical Terminology for Health Care Workers (2) 2-3

Computer Information Systems Certificates/Degrees

- **Associate in Applied Science (AAS) in Computer Information Systems**
- **Certificate of Completion (CCL) in Computer Programming**
- **Associate in Applied Science (AAS) in Programming and System Analysis**
- **Certificate of Completion (CCL) in Programming and System Analysis**
- **Associate in Applied Science (AAS) in Web Developer**
- **Certificate of Completion (CCL) in Web Developer**
- **Associate in Applied Science (AAS) in Game Technology**
- **Certificate of Completion (CCL) in Game Technology**
- **Associate in Applied Science (AAS) in Web Designer**
- **Certificate of Completion (CCL) in Web Designer Associate**

+ indicates course has prerequisites and/or corequisites.

- **Certificate of Completion (CCL) in Advanced Web Designer**
- **Associate in Applied Science (AAS) Web Server Administrator**
- **Certificate of Completion (CCL) in Web Server Administrator**
- **Associate in Applied Science (AAS) in Multimedia and Business Technology**
- **Certificate of Completion (CCL) in Multimedia Technology**

Department Chairperson: Linda Collins
Contact: 480) 461-7077
Program Director: Lo-An Tabor-Gaul
Contact: (480) 461-7465

ASSOCIATE IN APPLIED SCIENCE (AAS) IN COMPUTER INFORMATION SYSTEMS (63 CREDITS) MAJOR CODE: 3164

The Associate in Applied Science (AAS) in Computer Information Systems prepares students to work in entry-level positions in computer programming. The program emphasizes knowledge and skills required to design, develop, test, and document structured and object-oriented programs utilizing a variety of programming languages.

Required Courses (32-33 credits)

ACC111	Accounting Principles I. 3
CIS105	Survey of Computer Information Systems 3
BPC/CIS117DM	Microsoft Access: Database Management (3) **OR**
+CIS276	Database Management Systems (3) 3
CIS126DA	UNIX Operating System (3) **OR**
CIS126DL	Linux Operating System (3) **OR**
MST150++	Microsoft Windows Professional (3) **OR**
CIS191DL	Microsoft Windows NT System Administration (3). 3
+CIS150AB	Object-Oriented Programming Fundamentals 3
+CIS159	Visual Basic Programming I. 3
+CIS162AB	C++: Level I 3
+CIS163AA	Java Programming: Level I. 3
+CIS225AB	Object-Oriented Analysis and Design . .3
CIS224	Project Management Microsoft Project for Windows (3) **OR**
TQM240	Project Management in Quality Organizations (2). 2-3
TQM101	Quality Customer Service. 3

Restricted Electives (6 credits)

+CIS162AD	C#: Level I. 3
+CIS167AA	C++Object-Oriented Programming 3
+CIS169	Introduction to Visual Basic for Applications. 3
+CIS259	Visual Basic Programming II 3
+CIS262AB	C++: Level II. 3
+CIS263AA	Java Programming Level II. 3
+CIS282++	Volunteerism for Computer Information Systems: A Service-Learning Experience (1-3) **OR**
+CIS290++	Computer Information Systems Internship (1-3) **OR**
CWE198++	Career/Work Experience (1-3) 3

General Education Requirements (25-27 credits)

First-Year Composition	
+ENG101	First-Year Composition (3) **OR**
+ENG107	First-Year Composition for ESL (3) **AND**
+ENG111	Technical Writing (3) 6
Oral Communication	
+COM230	Small Group Communication. 3
Critical Reading	
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent by assessment. 3
Mathematics	
+MAT150	College Algebra/Functions (5) **OR**
+MAT151	College Algebra/Functions (4) **OR**
+MAT152	College Algebra/Functions (3) 3-5
Humanities and Fine Arts	
	Any approved general education course in the Humanities and Fine Arts area . . .3
Social and Behavioral Sciences	
ECN211	Macroeconomic Principles (3) **OR**
ECN212	Microeconomic Principles (3). 3
Natural Sciences	
	Any approved general education course from the Natural Sciences area. 4

CERTIFICATE OF COMPLETION (CCL) IN COMPUTER PROGRAMMING (27 CREDITS) MAJOR CODE: 5207

The Certificate of Completion (CCL) in Computer Programming prepares students for entry-level positions in computer programming. The program emphasizes knowledge and skills required to design, develop, test, and document structured and object-oriented program utilizing a variety of programming languages.

Required Course (21 credits)

BPC/CIS105	Survey of Computer Information Systems 3
BPC/CIS117DM	Microsoft Access: Database Management (3) **OR**
+CIS276	Database Management Systems (3) 3
+CIS150AB	Object-Oriented Programming Fundamentals 3
+CIS159	Visual Basic Programming I. 3
+CIS162AB	C++: Level I 3
+CIS163AA	Java Programming: Level I. 3
+CIS225AB	Object-Oriented Analysis and Design . .3

Restricted Electives (6 credits)

+CIS259	Visual Basic Programming II 3
+CIS262AB	C++: Level II. 3

+ indicates course has prerequisites and/or corequisites.

+CIS263AA	Java Programming: Level II 3
+CIS282++	Volunteerism for Computer Information Systems: A Service Learning Experience (any module) . . 1-3
+CIS290++	Computer Information Systems Internship (any module) 1-3
CWE198++	Career/Work Experience (any module) 1-3

ASSOCIATE IN APPLIED SCIENCE (AAS) IN PROGRAMMING AND SYSTEM ANALYSIS (62-63 CREDITS) MAJOR CODE: 3844

The Associate in Applied Science (AAS) in Programming and System Analysis program provides an in-depth exploration of different computer language and technical skills. The program includes but is not limited to the following: operating systems, local area networks, business communication, team roles, and dynamics.

Program Prerequisites (3 credits)

+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent by assessment. 3

Required Courses (25-26 credits)

BPC/CIS117DM	Microsoft Access: Database Management (3) **OR**
BPC/CIS117AM	Database Management: Microsoft Access - Level I (1) **AND**
+BPC/CIS117BM	Database Management: Microsoft Access - Level II (1) **AND**
+BPC/CIS117CM	Database Management: Microsoft Access - Level III (1) 3
CIS105	Survey of Computer Information Systems 3
CIS121AB	MS-DOS (1) **OR**
CIS121AE	Windows Operating System: Level I (1) **OR**
CIS126AA	UNIX Operating System: Level I (1) **OR**
CIS126AL	Linux Operating System I (1) 1
+CIS150	Programming Fundamentals (3) **OR**
+CIS150AB	Object-Oriented Programming Fundamentals (3). 3
+CIS159	Visual Basic Programming I. 3
CIS162	C Programming I (3) **OR**
+CIS162AB	C++: Level I (3) **OR**
+CIS162AC	Visual C++: Level I (3) **OR**
+CIS162AD	C#: Level I (3) 3
+CIS190	Introduction to Local Area Networks (3) **OR**
+CNT140	Cisco Networking Basics (4) **OR**
+MST140	Microsoft Networking Essentials (3) . . 3-4
+CIS225	Business Systems Analysis and Design (3) **OR**
+CIS225AB	Object-Oriented Analysis and Design (3) 3
+GBS233	Business Communication 3

Restricted Electives (15 credits)

CIS126DA	UNIX Operating System. 3
+CIS163AA	Java Programming: Level I. 3
+CIS166	Web Scripting/Programming 3
+CIS166AA	Introduction to Java Scripting. 3
+CIS166AB	Web Scripting with Perl/CGI 3
+CIS166AC	Web Scripting with Active Server Pages (ASP).NET 3
+CIS166AD	Web Scripting with Java Server Pages (JSP). 3
+CIS166AE	Web Scripting with PHP: Hypertext Preprocessor (PHP) 3
+CIS169	Introduction to Visual Basic for Applications. 3
+BPC/CIS224	Project Management Microsoft Project for Windows 3
+CIS250	Management Information Systems. 3
+CIS259	Visual Basic Programming II 3
+CIS262	C Programming II 3
+CIS262AB	C++: Level II. 3
+CIS262AC	Visual C++: Level II 3
+CIS263AA	Java Programming: Level II 3
+CIS290AC	Computer Information Systems Internship 3

General Education Requirements (22 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **OR**
+ENG107	First-Year Composition for ESL (3) **AND**
+ENG101	First-Year Composition (3) **OR**
+ENG108	First-Year Composition for ESL (3) 6

Oral Communication

Any approved general education course in the Oral Communication area. 3

Critical Reading

Met by +CRE101 in program prerequisites area

Mathematics

+MAT212 Brief Calculus 3

Humanities & Fine Arts

Any approved general education course in the Humanities and Fine Arts area . . .3

Social and Behavioral Sciences

ECN211	Macroeconomic Principles (3) **OR**
ECN212	Microeconomic Principles (3) **OR**
SBU200	Society and Business (3) 3

Natural Sciences

Any approved general education course from the Natural Sciences area 4

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN PROGRAMMING AND SYSTEM ANALYSIS (24 CREDITS) MAJOR CODE: 5048

The Certificate of Completion (CCL) in Programming and System Analysis program provides an in-depth exploration of different computer language and technical skills. Includes, but is not limited to the following: operating systems, local area networks, team roles, and dynamics. An Associate in Applied Science (AAS) is also available.

Required Courses (21 credits)

CIS105	Survey of Computer Information Systems 3
+BPC/CIS224	Project Management Microsoft Project for Windows 3
CIS126DA	UNIX Operations System (3) **OR**
CIS126DL	Linux Operating System (3) **OR**
MST150	Microsoft Windows Professional (3) **OR**
MST150VI	Microsoft Windows Vista Administration (3) **OR**
MST150XP	Microsoft Windows XP Professional (3). . 3
+CIS150	Programming Fundamentals (3) **OR**
+CIS150AB	Object-Oriented Programming Fundamentals (3). 3
+CIS151	Computer Game Development –Level I (3) **OR**
+CIS159	Visual Basic Programming I (3) **OR**
+CIS162++	Any C Programming: Level I course (3) **OR**
+CIS163AA	Java Programming: Level I (3) 3
+CIS225	Business Systems Analysis and Design (3) **OR**
+CIS225AB	Object Oriented Analysis and Design (3)
+CIS250	Management of Information Systems (3) . . 3
+BPC/CIS217AM	Advanced Microsoft Access: Database Management (3) **OR**
+CIS119DO	Introduction to Oracle: SQL (3) **OR**
+CIS276DA	My SQL Database (3) 3

Restricted Electives (3 credits)

+CIS251	Computer Game Development-Level II . .3
+CIS259	Visual Basic Programming II 3
+CIS262++	Any C Programming: Level II course . .3
+CIS263AA	Java Programming: Level II 3

ASSOCIATE IN APPLIED SCIENCE (AAS) IN WEB DEVELOPER (62 CREDITS) MAJOR CODE: 3084

The Associate in Applied Science (AAS) in Web Developer is designed to give students a set of skills that would allow them to develop interactive and dynamic websites that access data stored in databases. Completing the program may lead to such positions as web technician, web designer, web programmer, and web developer.

Required Courses (25 credits)

CIS133DA	Internet/Web Development Level I. 3
+BPC/CIS224	Project Management Microsoft Project for Windows 3
CIS105	Survey of Computer Information Systems 3
BPC/CIS117DM	Microsoft Access: Database Management 3
+CIS150AB	Object-Oriented Programming Fundamentals 3
+CIS166AA	Introduction to Java Scripting. 3
+CIS233DA	Internet/Web Development Level II 3
+CIS290AA	Computer Information Systems Internship. 1
TQM101	Quality Customer Service. 3

Restricted Electives (12 credits)

BPC/CIS120DC	Flash: Digital Animation 3
CIS126DL	Linux Operating System 3
+CIS159	Visual Basic Programming I. 3
+CIS162AD	C#: Level I. 3
+CIS163AA	Java Programming: Level I 3
+CIS166AB	Web Scripting with Perl/CGI 3
+CIS166AC	Web Scripting with Active Server Pages (ASP).NET. 3
+CIS166AD	Web Scripting with Java Server Pages (JSP). 3
+CIS166AE	Web Scripting with PHP: Hypertext Preprocessor (PHP) 3
+CIS217AM	Advanced Microsoft Access: Database Management 3
+CIS225AB	Object-Oriented Analysis and Design . .3
+CIS234	XML Application Development 3
+CIS250	Management of Information Systems. . .3
+CIS259	Visual Basic Programming II 3
+CIS262AD	C# Level II. 3
+CIS263AA	Java Programming: Level II 3
+MST50	Microsoft Windows Professional (3) **OR**
+MST150XP	Microsoft Windows XP Professional (3). . 3

General Education Requirements (25-27 credits)

First-Year Composition	
	Any approved general education course from the First-Year Composition area. . .6
Oral Communication	
	Any approved general education course in the Oral Communication area. 3
Critical Reading	
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent by assessment. 3
Mathematics	
	Any approved general education course from the Mathematics area 3-5
Humanities & Fine Arts	
	Any approved general education course in the Humanities and Fine Arts area . . .3
Social and Behavioral Sciences	
SBU200	Society and Business. 3
Natural Sciences	
	Any approved general education course from the Natural Sciences area. 4

+ indicates course has prerequisites and/or corequisites.

ASSOCIATE IN APPLIED SCIENCE (AAS) IN GAME TECHNOLOGY (62 CREDITS) MAJOR CODE: 3145

The Associate in Applied Science (AAS) in Game Technology is a discipline that includes the development and management of dynamic environments for games and related visualization applications. The Associate of Applied Science in Game Technology will help prepare students for entry-level career opportunities with studios, corporations, organizations, educational institutions, government agencies, advertising and entertainment industries that require visual and interactive content to support, enhance entertain and/or market their product or service.

The curriculum brings together business concepts and game technology to prepare students for careers as Game Programmer, Environment Artist, Production Artist, Tools Programmer, Character Modeler, Character Animator, Game Designer, Game Developer, or Multimedia Designer/Developer.

Program Prerequisites (0-3 credits)

+CRE101	Critical and Evaluative Reading I (3) **OR** Equivalent as indicated by assessment . .0-3

Required Courses (37 credits)

CIS105	Survey of Computer Information Systems 3
+CIS107	The Electronic Game Industry 3
+CIS151	Computer Game Development – Level I . .3
+ART/ADA170	Three-Dimensional Computer Design (3) **OR**
CIS130DA	3D Studio Max: Modeling (3) 3
+ADA/ART/ MMT184	Computer Animation (3) **OR**
CIS130DB	3D Studio Max: Animation (3) 3
CIS230DA	3D Studio Max Materials 3
BPC/CIS120DC	Flash: Digital Animation 3
BPC/CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR**
BPC/CIS120DG	Fireworks: Web Graphics (3) 3
+CIS220DC	Flash: Advanced Animation and ActionScript. 3
+CIS108	Electronic Portfolio Development. 1
+CIS251	Computer Game Development-Level II . .3
+CIS150AB	Object-Oriented Programming Fundamentals 3
+MMT216	Multimedia Project Management (3) **OR**
BPC/CIS224	Project Management Microsoft Project for Windows (3). 3

Restricted Electives (3 credits)

CIS253	Computer Game Development-Level III . .3
CIS230DB	3D Studio Max: Lighting and Rendering . .3
+MTC/TCM120	Introduction to Sound Design for Film and Video. 3
BPC/CIS120DB	Computer Graphics: Adobe Illustrator . .3

General Education Requirements (22-24 credits)

First-Year Composition	Any approved general education course in the First-Year Composition Area 6
Oral Communication	Any approved general education course in the Oral Communication Area 3
Critical Reading	Met by +CRE101 or equivalent as indicated by assessment in Program Prerequisite area 0
Mathematics	
MAT120	Intermediate Algebra (5) **OR**
MAT121	Intermediate Algebra (4) **OR**
MAT122	Intermediate Algebra (3) **OR** Satisfactory completion of a higher level mathematics course 3-5
Humanities and Fine Arts	Any approved general education course in the Humanities and Fine Arts Area . .3
Social and Behavioral Sciences	
SBU200	Society and Business. 3
Natural Sciences	Any approved general education course from the Natural Sciences Area 4

CERTIFICATE OF COMPLETION (CCL) IN GAME TECHNOLOGY (28 CREDITS) MAJOR CODE: 5637

The Certificate of Completion (CCL) in Game Technology is a discipline that includes the development and management of dynamic environments for games and related visualization applications. The Certificate of Completion in Game Technology will help prepare students for entry-level career opportunities with studios, corporations, organizations, educational institutions, government agencies, advertising and entertainment industries that require visual and interactive content to support, enhance, entertain and/or market their product or service. Possible entry-level or internship positions leading to careers after completing this certificate program may include Graphic Artist, Animator, Production Artist, Modeler, Game Designer, Game Developer, or Multimedia Designer/Developer.

Required Courses (25 credits)

CIS105	Survey of Computer Information Systems 3
+CIS107	The Electronic Game Industry 3
+CIS151	Computer Game Development – Level I . .3
+ART/ADA170	Three-Dimensional Computer Design (3) **OR**
CIS130DA	3D Studio Max: Modeling (3) 3
+ADA/ART/ MMT184	Computer Animation (3) **OR**
CIS130DB	3D Studio Max: Animation (3) 3
BPC/CIS120DC	Flash: Digital Animation 3

+ indicates course has prerequisites and/or corequisites.

BPC/CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR**
BPC/CIS120DG	Fireworks: Web Graphics (3) 3
+CIS220DC	Flash: Advanced Animation and ActionScript. 3
+CIS108	Electronic Portfolio Development. 1

Restricted Electives (3 credits)

+CIS150AB	Object-Oriented Programming Fundamentals 3
+VPT216	Multimedia Project Management 3
+MTC/TCM120	Introduction to Sound Design for Film and Video. 3
BPC/CIS120DB	Computer Graphics: Adobe Illustrator . .3
BPC/CIS224	Project Management Microsoft Project for Windows 3

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE IN WEB DESIGNER (65 CREDITS) MAJOR CODE: 3085

The Associate in Applied Science (AAS) degree in Web Designer is designed to give students a set of skills that could allow them to develop simple websites with static information. Completing the program may lead to such positions as web technician and web designer assistant or to serve as a departmental or personal web publisher.

Required Courses (40 credits)

CIS105	Survey of Computer Information Systems 3
BPC/CIS120DC	Flash: Digital Animation 3
BPC/CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR**
BPC/CIS120DG	Fireworks: Web Graphics (3) 3
CIS133DA	Internet/Web Development Level I. 3
+CIS166AA	Introduction to Java Scripting. 3
+CIS220DC	Flash: Advanced Animation and ActionScript. 3
BPC/CIS224	Project Management Microsoft Project for Windows 3
+CIS233DA	Internet/Web Development Level II 3
+CIS233DC	Internet Web Development: Dream Weaver. 3
+CIS235	e-Commerce 3
+CIS243	Internet/Web Development Level III . . .3
+CIS290AA	Computer Information Systems Internship 1
+CIS298AC	Special Projects 3
TQM101	Quality Customer Service. 3

General Education Requirements (25-27 credits)

First-Year Composition	Any approved general education course from the First-Year Composition area. . .6
Oral Communication	Any approved general education course in the Oral Communication area. 3
Critical Reading	
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent by assessment. 3
Mathematics	Any approved general education course from the Mathematics area 3-5
Humanities & Fine Arts	Any approved general education course in the Humanities and Fine Arts area . . .3
Social and Behavioral Sciences	
SBU200	Society and Business. 3
Natural Sciences	Any approved general education course from the Natural Sciences area. 4

CERTIFICATE OF COMPLETION (CCL) IN WEB DESIGNER (19 CREDITS) MAJOR CODE: 5344

The Certificate of Completion (CCL) in Web Designer is designed to give students a set of skills that could allow them to develop simple websites with static information. Completing the program may lead to such positions as web technician and web designer assistant or to serve as a departmental or personal web publisher.

Required Courses (19 credits)

CIS133DA	Internet/Web Development Level I. 3
CIS105	Survey of Computer Information Systems 3
BPC/CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR** . . . . .
BPC/CIS120DG	Fireworks: Web Graphics (3) 3
+CIS233DA	Internet/Web Development Level II 3
+CIS233DC	Internet Web Development: DreamWeaver 3
+CIS290AA	Computer Information Systems Internship. 1
+CIS298AC	Special Projects 3

CERTIFICATE OF COMPLETION (CCL) IN ADVANCED WEB DESIGNER (31 CREDITS) MAJOR CODE: 5345

The Certificate of Completion (CCL) in Advanced Web Designer is designed to give students a set of skills that would allow them to develop comprehensive and interactive websites and to set up store fronts. Completing the program may lead to such positions as web technician, web designer assistant, web designer, web marketing manager, or web e-commerce manager.

Required Courses (31 credits)

CIS105	Survey of Computer Information Systems 3
CIS133DA	Internet/Web Development Level I. 3
BPC/CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR**
BPC/CIS120DG	Computer Graphics: Macromedia Fireworks (3) 3

+ indicates course has prerequisites and/or corequisites.

BPC/CIS120DC	Flash: Digital Animation	3
+CIS233DC	Internet Web Development Dreamweaver	3
+CIS166AA	Introduction to Java Scripting	3
+CIS233DA	Internet/Web Development Level II	3
+CIS235	e-Commerce	3
CIS243	Internet/Web Development Level III	3
+CIS290AA	Computer Information Systems Internship	1
CIS298AC	Special Projects	3

ASSOCIATE IN APPLIED SCIENCE (AAS) WEB SERVER ADMINISTRATOR (62 CREDITS) MAJOR CODE: 3087

The Associate in Applied Science (AAS) Web Server Administrator is designed to give students a set of skills that would allow them to develop comprehensive and interactive websites as well as to setup and maintain web servers. Completing the program may lead to such positions as web technician, web designer, web programmer, and web server administrator.

Required Courses (31-32 credits)

CIS133DA	Internet/Web Development Level I	3
CIS105	Survey of Computer Information Systems	3
BPC/CIS117DM	Microsoft Access: Database Management	3
+CIS166AA	Introduction to JavaScripting	3
+CIS166AB	Web Scripting with Perl/CGI (3) **OR**	
+CIS166AE	Web Scripting with PHP: Hypertext Preprocessor (PHP) (3)	3
+CIS233DA	Internet/Web Development Level II	3
CIS126DL	Linux Operating System (3) **AND**	
+CIS226AL	Internet/Intranet Server Administration-Linux (3) **OR**	
MST150	Microsoft Windows Professional (3) **OR**	
MST150XP	Microsoft Windows XP Professional (3) **AND**	
+MST152	Microsoft Windows Server (4) **OR**	
+MST152DA	Microsoft Windows 2000 Server (4) **OR**	
+MST152DB	Microsoft Windows 2003 Server (4)	6-7
CIS224	Project Management Microsoft Project for Windows	3
+CIS290AA	Computer Information Systems Internship	1
TQM101	Quality Customer Service	3

Restricted Electives (6 credits)

+CIS233DC	Internet Web Development: Dreamweaver	3
CIS120DC	Flash: Digital Animation	3
CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR**	
CIS120DG	Fireworks: Web Graphics (3)	3
+CIS235	e-Commerce	3
+CIS243	Internet/Web Development Level III	3
+CIS220DC	Flash: Advanced Animation and ActionScript	3
+CIS298AC	Special Projects	3
+CIS234	XML Application Development	3
+CIS250	Management Information Systems	3

General Education Requirements (25-27 credits)

First-Year Composition		
	Any approved general education course from the First-Year Composition area	6
Oral Communication		
	Any approved general education course in the Oral Communication area	3
Critical Reading		
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent by assessment	3
Mathematics		
	Any approved general education course from the Mathematics area	3-5
Humanities & Fine Arts		
	Any approved general education course in the Humanities and Fine Arts area	3
Social and Behavioral Sciences		
SBU200	Society and Business	3
Natural Sciences		
	Any approved general education course from the Natural Sciences area	4

CERTIFICATE OF COMPLETION (CCL) IN WEB SERVER ADMINISTRATOR (25-26 CREDITS) MAJOR CODE: 5342

The Certificate of Completion (CCL) in Web Server Administrator is designed to give students a set of skills that would allow them to develop comprehensive and interactive websites as well as to set up and maintain web servers. Completing the program may lead to such positions as web technician, web designer, web programmer, and web server administrator.

Required Courses (25-26 credits)

CIS133DA	Internet/Web Development Level I	3
CIS105	Survey of Computer Information Systems	3
BPC/CIS117DM	Microsoft Access: Database Management	3
+CIS166AA	Introduction to JavaScripting	3
+CIS166AB	Web Scripting with Perl/CGI (3) **OR**	
+CIS166AE	Web Scripting with PHP: Hypertext Preprocessor (PHP) (3)	3
+CIS233DA	Internet/Web Development Level II	3
CIS126DL	Linux Operating System (3) **AND**	
+CIS226AL	Internet/Intranet Server Administration-Linux (3) **OR**	
MST150	Microsoft Windows Professional (3) **OR**	
+MST150DA	Microsoft Windows 2000 Professional (3) **OR**	
MST150XP	Microsoft Windows XP Professional (3) **AND**	
+MST152	Microsoft Windows Server (4) **OR**	
+MST152DA	Microsoft Windows 2000 Server (4) **OR**	
+MST152DB	Microsoft Windows 2003 server (4)	6-7
+CIS290AA	Computer Information Systems Internship	1

+ indicates course has prerequisites and/or corequisites.

ASSOCIATE IN APPLIED SCIENCE (AAS) IN MULTIMEDIA AND BUSINESS TECHNOLOGY (62 CREDITS) MAJOR CODE: 3147

The Associate in Applied Science (AAS) in Multimedia and Business Technology is a discipline that integrates business applications with multiple digital media types including text, graphics, animation, audio and video and then delivers this interactive material electronically. The Associate of Applied Science in Multimedia and Business Technology will help prepare students for technical career opportunities with corporations, organizations, educational institutions, government agencies, entertainment, and advertising industries that require interactive content to support, enhance and/or market their product or service.

Program Prerequisites (3 credits)

+CRE101	Critical and Evaluative Reading I (3) **OR** Equivalent as indicated by assessment . . 3

Required Courses (40 credits)

CIS105	Survey of Computer Information Systems 3
+CIS/MMT140	Survey of Multimedia Technology 2
BPC/CIS120DB	Computer Graphics: Adobe Illustrator (3) **OR**
BPC/CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR**
BPC/CIS120DG	Fireworks: Web Graphics (3) 3
ART142	Introduction to Digital Photography. . . .3
BPC/CIS120DC	Flash: Digital Animation 3
BPC/CIS120DK	Introduction to Digital Video Editing. . .3
+MTC/TCM120	Introduction to Sound Design for Film and Video. 3
+MMT216	Multimedia Project Management (3) **OR**
CIS224	Project Management Microsoft Project for Windows (3). 3
+CIS233DC	Internet Web Development: Dreamweaver. 3
+CIS291	Business Video Projects 3
+CIS220DK	Advanced Digital Video Production: Premiere. 3
CIS106AA	Captivate: Video Presentations (1) **OR**
CIS106AB	Camtasia: Video Presentations (1) 1
CIS120DL	Digital Video Compositing: After Effects 3
+MMT292	Multimedia Update 1
+CIS220DC	Flash: Advanced Animation and ActionScript. 3

General Education Requirements (22-24 credits)

First-Year Composition	
	Any approved general education course in the First-Year Composition Area 6
Oral Communication	
	Any approved general education course in the Oral Communication Area 3
Critical Reading	
	Met by +CRE101 in Program Prerequisite area 0
Mathematics	
MAT120	Intermediate Algebra (5) **OR**
MAT121	Intermediate Algebra (4) **OR**
MAT122	Intermediate Algebra (3) **OR**
	Satisfactory completion of a higher level mathematics course 3-5
Humanities and Fine Arts	
	Any approved general education course in the Humanities and Fine Arts Area . .3
Social and Behavioral Sciences	
SBU200	Society and Business. 3
Natural Sciences	
	Any approved general education course from the Natural Sciences Area 4

CERTIFICATE OF COMPLETION (CCL) IN MULTIMEDIA TECHNOLOGY (27 CREDITS) MAJOR CODE: 5576

The Certificate of Completion (CCL) in Multimedia Technology is a discipline that integrates multiple digital media types including text, graphics, animation, audio and video and then delivers this interactive material electronically. The Certificate of Completion in Multimedia Technology will help prepare students for entry-level career opportunities with corporations, organizations, educational institutions, government agencies, entertainment, and advertising industries that require interactive content to support, enhance and/or market their product or service. Possible entry-level or internship positions leading to careers after completing this certificate program may include Multimedia Producer, Multimedia Scriptwriter, Multimedia Developer, Computer-Based Training or Instructional Designer, Digital Graphic Designer, Production Artist, Webpage Designer, Webpage Developer, Interface Designer, Video/Audio Specialist, Video Editor, Animator, or Multimedia Designer.

Required Courses (27 credits)

CIS105	Survey of Computer Information Systems 3
+CIS/MMT140	Survey of Multimedia Technology 2
BPC/CIS120DB	Computer Graphics: Adobe Illustrator (3) **OR**
BPC/CIS120DF	Computer Graphics: Adobe Photoshop (3) **OR**
BPC/CIS120DG	Computer Graphics: Macromedia Fireworks (3) 3
ART142	Introduction to Digital Photography. . . .3
BPC/CIS120DC	Flash: Digital Animation. 3
BPC/CIS120DK	Introduction to Digital Video Editing. . .3
+MTC/TCM120	Introduction to Sound Design for Film and Video. 3
+MMT216	Multimedia Project Management 3
CIS224	Project Management Microsoft Project for Windows (3). 3
+CIS233DC	Internet Web Development: Dreamweaver. 3
+CIS108	Electronic Portfolio Development. 1

+ indicates course has prerequisites and/or corequisites.

Construction Certificates/Degrees

- **Associate in Applied Science (AAS) in Construction**
- **Certificate of Completion (CCL) in Computer Aided Design & Drafting CADD Level I**
- **Certificate of Completion (CCL) in Survey & Civil Drafting - CADD Level II**
- **Certificate of Completion (CCL) in Construction Drafting CADD Level III**
- **Certificate of Completion (CCL) in Home Inspection**
- **Certificate of Completion (CCL) in Building Inspection**
- **Certificate of Completion (CCL) in Plan Review**
- **Certificate of Completion (CCL) in Pre-Contractor Licensing**

Department Chairperson: Janice Pierson
Contact: (480) 461-7724
Program Director: Sally Kroelinger
Contact: (480) 461-7134

ASSOCIATE IN APPLIED SCIENCE (AAS) IN CONSTRUCTION (67 CREDITS) MAJOR CODE: 3502

The Associate in Applied Science (AAS) in Construction prepares students to work as technicians in construction drafting, construction inspection, or construction management. A drafting technician may work in a surveying, civil engineering or architecture firm/agency using board and/or computer for drafting residential, commercial and industrial construction. An inspection technician may perform in home inspection, building inspection, or plan review. A management technician may work in various construction companies/agencies managing field or office by planning, scheduling, cost estimating, and addressing safety issues.

Program Prerequisites (3-5 credits)

+MAT120	Intermediate Algebra (5) **OR**	
+MAT121	Intermediate Algebra (4) **OR**	
+MAT122	Intermediate Algebra (3)	3-5

Required Courses (18-20 credits)

CNS101	Construction and Culture	3
CNS130	Computer Aided Design and Drafting	3
CNS175	Working Drawing Analysis: Blueprint Reading	3
CNS180	Building Construction Methods, Materials, and Equipment	3
CNS181	Cost Estimating I	3
+MAT150	College Algebra / Functions (5) **OR**	
+MAT151	College Algebra / Functions (4) **OR**	
+MAT152	College Algebra / Functions (3)	3-5

Restricted Electives (27 credits)

Students will choose one of the three tracks:

Track I - Construction Drafting (27 credits)

+ARC160	Site Planning	3
+ARC161	Residential Architectural Drafting	3
+ARC162	Advanced Residential Architectural Drafting	3
+ARC163	Commercial Architectural Drafting	3
+ARC164	Advanced Commercial Architectural Drafting	3
BLT140	Environmentally Responsible Building	3
BLT262	Introduction International Residential Code (IRC)	3
BLT263	Building Codes	3
+CET101	Surveying I	3
+CET102	Surveying II	3
+CET201	Boundary Control and Legal Principles I	3
+CET202	Boundary Control and Legal Principles II	3
+CET257	Route and Construction Surveying	3
+CNS201	Construction Management: Office Operation	3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction & Architecture (CADD II)	3
+CNS240	Advanced Computer Aided Design &Drafting (CADD) for Construction &Architecture (CADD III)	3
+CNS250	Civil Drafting I: Land Development	3
+CNS251	Civil Drafting II: Land Development	3
+CNS252	Civil Drafting III: Land Development	3
CNS261	Microcomputers for Constructors	3
+CNS282++	Volunteerism for Construction: A Service-Learning Experience	1-3
+CNS290++	Construction Internship	1-3
+CNS296++	Cooperative Education	1-3
+CNS298++	Special Project	1-3

Track II - Construction Inspection (27 credits)

+ARC161	Residential Architectural Drafting	3
+ARC163	Commercial Architectural Drafting	3
BLT262	Introduction International Residential Code (IRC)	3
BLT121	Electrical Codes	3
BLT127	Plumbing Codes	3
BLT128	Mechanical Codes	3
BLT140	Environmentally Responsible Building	3
BLT263	Building Codes	3
+CNS200	Construction Management: Field Operation	3
+CNS201	Construction Management: Office Operation	3
+CNS271	Home Inspection Structure	3
CNS263	Electrical Construction Fundamentals	3
+CNS272	Home Inspection Plumbing, Electrical & HVAC	3
+CNS273	Home Inspection Insulation and Interior	3
+CNS274	Home Inspection Roofing and Exteriors	3

+ indicates course has prerequisites and/or corequisites.

+CNS282++	Volunteerism for Construction: A Service-Learning Experience 1-3
+CNS285	Introduction to Residential Plan Review . . 3
+CNS286	Introduction to Commercial Plan Review . . 3
+CNS290++	Construction Internship 1-3
CNS296++	Cooperative Education 1-3
+CNS298++	Special Project 1-3

Track III - Construction Management (27 credits)

BLT140	Environmentally Responsible Building . . 3
BLT262	Introduction International Residential Code (IRC) 3
BLT263	Building Codes 3
+CET101	Surveying I 3
+CET102	Surveying II. 3
CNS182	Construction Estimating and Print Reading. 4
+CNS200	Construction Management: Field Operation 3
+CNS201	Construction Management (Office Operation) 3
+CNS221	Applied Engineering Mechanics-Statics . . 3
CNS243	Heavy Construction Equipment, Methods, and Materials. 3
+CNS260	Strength of Materials. 3
CNS261	Microcomputers for Constructors. 3
CNS263	Electrical Construction Fundamentals . . 3
+CNS282++	Volunteerism for Construction: A Service Learning Experience (any suffixed courses) 1-3
+CNS290++	Construction Internship (any suffixed courses) 1-3
+COM225	Public Speaking. 3
ECN211	Macroeconomic Principles 3
ECN212	Microeconomic Principles 3
GBS206	Business Law (UCC). 3
+GBS221	Business Statistics 3
+CNS296++	Cooperative Education 1-3
+CNS298++	Special Project 1-3

General Education Requirements (22 credits)

First-Year Composition	
	Any approved general education course in the First-Year Composition area 6
Oral Communication	
COM100	Introduction to Human Communication . . 3
Critical Reading	
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment . . 3
Mathematics	
	Met by MAT150 or MAT151 or MAT152 in required courses area 0
Humanities and Fine Arts	
	Any approved general education course in the Humanities and Fine Arts area . . . 3
Social and Behavioral Sciences	
	Any approved general education course in the Social and Behavioral Sciences area 3
Natural Sciences	
PHY111	General Physics I. 4

CERTIFICATE OF COMPLETION (CCL) IN COMPUTER AIDED DESIGN & DRAFTING CADD LEVEL I (9 CREDITS) MAJOR CODE: 5498

The Certificate of Completion (CCL) in Computer Aided Design & Drafting - CADD Level I prepares the student to work as a junior draftsperson for any construction or architecture related design and drafting company/agency. In this program, the student develops skills and gains knowledge necessary to perform introductory computer drafting responsibilities.

Required Courses (9 credits)

CNS130	Computer Aided Design and Drafting . . 3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction & Architecture (CADD II) 3
+CNS240	Advanced Computer Aided Design & Drafting (CADD) for Construction & Architecture (CADD III) 3

CERTIFICATE OF COMPLETION (CCL) (CCL) IN SURVEY & CIVIL DRAFTING CADD LEVEL II (27 CREDITS) MAJOR CODE: 5501

The Certificate of Completion (CCL) in Survey and Civil Drafting - CADD Level II prepares the student to work as a construction drafting technician for civil engineering, surveying, and construction-related company/agency. The student will be equipped with the knowledge and skills of software applications to perform various construction drafting (computer and board) related responsibilities for surveying, civil engineering, and construction-related work.

Required Courses (27 credits)

+CET101	Surveying I 3
+CET102	Surveying II. 3
CNS130	Computer Aided Design and Drafting . . 3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction and Architecture (CADD II) 3
+CNS240	Advanced Computer Aided Design & Drafting (CADD) for Construction and Architecture (CADD III) 3
+CNS250	Civil Drafting I: Land Development. . . . 3
+CNS251	Civil Drafting II: Land Development . . . 3
+CNS252	Civil Drafting III: Land Development . . 3
+CNS282AC	Volunteerism for Construction: A Service Learning Experience (3) **OR**
+CNS290AC	Construction Internship (3) **OR**
+CNS296WC	Cooperative Education (3) **OR**
+CNS298AC	Special Projects (3) 3

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN CONSTRUCTION DRAFTING CADD LEVEL III (27 CREDITS) MAJOR CODE: 5502

The Certificate of Completion (CCL) in Construction Drafting - CADD Level III prepares the student to work as an advanced construction draftsperson for construction-related design and drafting companies/agencies. The student will develop knowledge of and skills for commonly used computer software applications. Students will be able to perform various construction drafting-related functions necessary for any architecture, civil, and construction-related work.

Required Courses (27 credits)

+ARC150	Architectural Desktop I. 3
+ARC161	Residential Architecture Drafting 3
+ARC163	Commercial Architecture Drafting 3
CNS130	Computer Aided Design and Drafting . .3
+CNS230	Computer Aided Design & Drafting (CADD) 3D for Construction and Architecture (CADD II) 3
+CNS240	Advanced Computer Aided Design & Drafting (CADD) for Construction and Architecture (CADD III) 3
+CNS250	Civil Drafting I: Land Development. . . .3
+CNS251	Civil Drafting II: Land Development . . .3
+CNS282AC	Volunteerism for Construction: A Service Learning Experience (3) **OR**
+CNS290AC	Construction Internship (3) **OR**
+CNS296WC	Cooperative Education (3) **OR**
+CNS298AC	Special Projects (3) 3

CERTIFICATE OF COMPLETION (CCL) IN HOME INSPECTION (21 CREDITS) MAJOR CODE: 5505

The Certificate of Completion (CCL) in Home Inspection prepares the student for a career in home inspection. The certificate provides the student with the knowledge necessary to seek Arizona State Home Inspection certification. In addition to completing these courses, the student must also acquire additional hours of mentored home inspections in order to qualify for the state certification exam.

Required Courses (21 credits)

CNS175	Working Drawing Analysis: Blueprint Reading 3
+CNS201	Construction Management: Office Operation 3
+CNS271	Home Inspection Structure 3
+CNS272	Home Inspection Plumbing, Electrical & HVAC 3
+CNS273	Home Inspection: Insulation and Interior. 3
+CNS274	Home Inspection: Roofing and Exteriors. .3
+CNS282AC	Volunteerism for Construction: A Service Learning Experience (3) **OR**
+CNS290AC	Construction Internship (3) **OR**
+CNS296WC	Cooperative Education (3) **OR**
+CNS298AC	Special Projects (3) 3

CERTIFICATE OF COMPLETION (CCL) IN BUILDING INSPECTION (21 CREDITS) MAJOR CODE: 5554

The Certificate of Completion (CCL) in Building Inspection prepares the student for a career in public/governmental agencies as an inspector in various areas of the building inspection field. The student gains the knowledge and develops skills necessary to perform as a building inspector in general building code compliance inspection or in specific areas of code compliance, such as mechanical, electrical, plumbing, etc.

Required Courses (21 credits)

BLT121	Electrical Codes. 3
BLT127	Plumbing Codes. 3
BLT128	Mechanical Codes 3
BLT262	Introduction International Residential Code (IRC) 3
BLT263	Building Codes 3
CNS175	Working Drawing Analysis: Blueprint Reading 3
+CNS282AC	Volunteerism for Construction: A Service Learning Experience (3) **OR**
+CNS290AC	Construction Internship (3) **OR**
+CNS296WC	Cooperative Education (3) **OR**
+CNS298AC	Special Projects (3) 3

CERTIFICATE OF COMPLETION (CCL) IN PLAN REVIEW (27 CREDITS) MAJOR CODE: 5508

The Certificate of Completion (CCL) in Plan Review prepares students who currently have knowledge of architecture, engineering, or related fields or who are currently working for governmental agencies in lower level, related, positions and are seeking jobs in public agencies/governmental or private companies who work in these capacities for the code compliance plan review field. The student gains the knowledge and develops skills necessary to review residential and commercial plans for code compliance.

Required Courses (27 credits)

+ARC161	Residential Architecture Drafting I 3
+ARC163	Commercial Architecture Drafting I . . .3
BLT262	Introduction International Residential Code (IRC) 3
BLT263	Building Codes 3
CNS130	Computer Aided Design and Drafting . .3
CNS180	Building Construction Methods, Materials, and Equipment 3
+CNS285	Introduction to Residential Plan Review . .3
+CNS286	Introduction to Commercial Plan Review . .3
+CNS282AC	Volunteerism for Construction: A Service Learning Experience (3) **OR**
+CNS290AC	Construction Internship (3) **OR**
+CNS296WC	Cooperative Education (3) **OR**
+CNS298AC	Special Projects (3) 3

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN PRE-CONTRACTOR LICENSING (21 CREDITS) MAJOR CODE: 5509

The Certificate of Completion (CCL) in Pre-Contracting Licensing prepares the student for a career as a general contractor. Before one can practice as a general contractor, the State of Arizona requires that a passing score is obtained on the general contractor's exam. With this certificate student will gain the knowledge and develop the skills required to function as a junior contractor and/or to help them prepare for the state general contracting exam.

Required Courses (21 credits)

BLT263	Building Codes	3
CNS175	Working Drawing Analysis: Blueprint Reading	3
CNS180	Building Construction Methods, Materials, and Equipment	3
CNS181	Cost Estimating I	3
+CNS200	Construction Management: Field Operation	3
+CNS201	Construction Management: Office Operation	3
+CNS282AC	Volunteerism for Construction: A Service Learning Experience (3) **OR**	
+CNS290AC	Construction Internship (3) **OR**	
+CNS296WC	Cooperative Education (3) **OR**	
+CNS298AC	Special Projects (3)	3

Culinary Studies Certificates/Degrees

- **Associate in Applied Science (AAS) in Culinary Studies**
- **Certificate of Completion (CCL) in Culinary Studies**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141
Program Director: Bill Collins
Contact: (480) 461-7775

ASSOCIATE IN APPLIED SCIENCE (AAS) IN CULINARY STUDIES (62 CREDITS) MAJOR CODE: 3063

The Associate in Applied Science (AAS) degree in Culinary Studies is designed to teach basic cooking principles and techniques in a state-of-the-art setting. The emphasis is on skills needed for employment in a commercial food operation where food is prepared and served in volume. Instruction includes principles of professional cooking and baking, volume food production, food sanitation and safety, purchasing, menu planning, customer service, and basic nutrition concepts. A Certificate of Completion (CCL) is also available.

Required Courses (32 credits)

FON102	Menu Planning	2
FON104	Certification in Food Service Safety and Sanitation	1
FON118	Commercial Baking Techniques	3
+FON124	Customer Service Practicum	4
FON179	Garde Manger	3
FON180	Principles and Skills for Professional Cooking	3

Students must select six (6) credits from the following courses:

FON181	French Cuisine (3) **OR**	
FON182	American Regional Cuisine (3) **OR**	
FON183	International Cuisine (3) **OR**	
FON184	Pacific Rim Cuisine (3) **OR**	
FON218	Commercial Baking: Classical Desserts (3) **OR**	
+FON220	Advanced Pastry Arts (3)	6
+FON190	Professional Cooking Practicum	7
FON202	Purchasing for Food Service Systems	3

Restricted Electives (6 credits)

ACC111	Accounting Principles I	3
BPC+++++	Any BPC Course(s)	1-3
CIS+++++	Any CIS Course(s)	1-3
FON+++++	Any FON Course(s) except courses used to satisfy Required Courses area	3
GBS131	Business Calculations	3
GBS205	Legal, Ethical, and Regulatory Issues in Business	3
MGT229	Management and Leadership I	3
MGT253	Owning and Operating a Small Business	3
MKT271	Principles of Marketing	3

General Education Requirements (24-27 credits)

First-Year Composition	Any approved general education course in the First-Year Composition area	6
Oral Communication	Any approved general education course in the Oral Communication area	3
Critical Reading	Any approved general education course in the Critical Reading area	3
Mathematics	Any approved general education course in the Mathematics area	3-5
Humanities and Fine Arts	Any approved general education course in the Humanities and Fine Arts area	2-3
Social and Behavioral Sciences		
ECN211	Macroeconomic Principles (3) **OR**	
ECN212	Microeconomic Principles (3) **OR**	
PSY101	Introduction to Psychology (3) **OR**	
SOC101	Introduction to Sociology (3)	3
Natural Sciences		
FON241	Principles of Human Nutrition	3
+FON241LL	Principles of Human Nutrition Laboratory	1

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN CULINARY STUDIES (35 CREDITS) MAJOR CODES: 5516

The Certificate of Completion (CCL) in Culinary Studies is designed to teach basic cooking principles and techniques in a state-of-the-art setting. Emphasis is on skills needed for employment in a commercial food operation where food is prepared and served in volume. Instruction includes principles of professional cooking and baking, volume food production, food sanitation and safety, purchasing, menu planning, customer service, and basic nutrition concepts. An Associate in Applied Science (AAS) degree is also available.

Required Courses (35 credits)

FON102	Menu Planning	2
FON104	Certification in Food Service Safety and Sanitation	1
FON118	Commercial Baking Techniques	3
+FON124	Customer Service Practicum	4
FON179	Garde Manger	3
FON180	Principles and Skills for Professional Cooking	3

Students must select six (6) credits from the following courses.

FON181	French Cuisine (3) **OR**	
FON182	American Regional Cuisine (3) **OR**	
FON183	International Cuisine (3) **OR**	
FON184	Pacific Rim Cuisine (3) **OR**	
FON218	Commercial Baking: Classical Desserts (3) **OR**	
+FON220	Advanced Pastry Arts (3)	6
+FON190	Professional Cooking Practicum	7
FON202	Purchasing for Food Service Systems	3
FON241	Principles of Human Nutrition	3

Dental Hygiene Education Degree

- **Associate in Applied Science (AAS) in Dental Hygiene**

Program Director: Phebe Bilitz
Contact: (480) 654-7772

ASSOCIATE IN APPLIED SCIENCE (AAS) IN DENTAL HYGIENE (98-102.5 CREDITS) MAJOR CODE: 3831

The Associate in Applied Science (AAS) degree in Dental Hygiene prepares students to practice entry-level dental hygiene. Dental hygiene students will provide preventive and therapeutic services, and will develop a commitment to the community through extramural opportunities serving diverse populations. The program is a blend of academic and clinical coursework that requires attention to detail and motivation to complete tasks on a timeline. Graduates are employed in private dental offices, hospitals, schools, and clinics within their community.

The Commission on Dental Accreditation of the American Dental Association (211 E. Chicago Ave., Chicago, Ill. 60611-2678 (312) 440-4653) grants accreditation to the Phoenix College, Rio Salado, and Mesa programs. The Commission is a specialized accrediting body recognized by the United States Department of Education. Graduates are eligible for board examinations and licensure in all fifty states.

Applicants who are accepted and enroll in a MCCCD Dental Hygiene program will be exposed to blood-borne and infectious diseases. The program strictly adheres to established policies and procedures regarding infection control as recommended by the Centers for Disease Control and Prevention, American Dental Association, The Organization for Safety and Asepsis Procedures, and the Occupational Safety and Health Administration.

Program Notes

Students must earn a grade of "C" or better for all courses that will be applied toward the degree. All General Education requirements are met by program prerequisites as indicated. Students should consult with an advisor in selecting courses to meet the General Education areas.
+ indicates course has prerequisites and/or corequisites.

Admission Criteria

A high school diploma or GED equivalency is required. Ability to fully participate in classroom, laboratory, or clinical setting program activities. Submit current CPR card for Health Care Provider and maintain current status throughout the program. Complete and submit the required proof of immunity and health declaration form signed by a licensed health care provider. Submit to a drug screening and demonstrate negative results. Submit current fingerprinting clearance card. Completion of program prerequisites. Formal application and admission to the program is required.

Program Prerequisites (40-44.5 credits)

The credit hour ranges are subject to change depending on the students' educational experiences. Students must select one of the following two options.

OPTION 1 (40 credits)
Biology courses (BIO156 and BIO181) and HCC course (HCC109) may be waived by the Program Director for the student who has one year of high school biology and the current CPR certification at the health care provider or professional rescuer level.

BIO156	Introductory Biology for Allied Health (4) **OR**	
BIO181	General Biology (Majors) (4) **OR** One year of high school biology	4
+BIO202	Human Anatomy and Physiology II	4
+BIO205	Microbiology	4
+CHM138	Chemistry for Allied Health	3
+CHM138LL	Chemistry for Allied Health Laboratory	1
HCC109	CPR for Health Care Provider **OR** Current CPR certification at the health care provider professional rescuer level	0.5

+ indicates course has prerequisites and/or corequisites.

General Education Requirements (28 credits)

First Year Composition
+Any approved general education courses in the First Year Composition area 6

Oral Communication
Any approved general education course in the Oral Communication area. 3

Critical Reading
+CRE101 Critical and Evaluative Reading I (3) **OR**
Equivalent as indicated by assessment . .3

Mathematics
+MAT102 Mathematical Concepts/Applications **OR**
Equivalent course **OR**
Satisfactory completion of a higher-level mathematics course. 3

Humanities and Fine Arts
Any approved general education course in the Humanities and Fine Arts area. . .3

Natural Sciences
+BIO201 Human Anatomy and Physiology I 4

Social and Behavioral Sciences
PSY101 Introduction to Psychology (3) **AND**
SOC101 Introduction to Sociology (3) 6

OR

OPTION 2 (44.5 credits)

BIO156 Introductory Biology for Allied Health (4) **OR**
BIO181 General Biology (Majors) (4) **OR**
One year of high school biology 4
\+ BIO202 Human Anatomy and Physiology II 4
\+ BIO205 Microbiology 4
\+ CHM138 Chemistry for Allied Health 3
\+ CHM138LL Chemistry for Allied Health Laboratory . .1
HCC109 CPR for Health Care Provider **OR**
Current CPR certification at the health care provider **OR**
Professional rescuer level 0.5

General Education Requirements (28 credits)

First Year Composition
+Any approved general education courses in the First Year Composition area. 6

Oral Communication
Any approved general education course in the Oral Communication area. 3

Critical Reading
\+ +CRE101 Critical and Evaluative Reading I (3) **OR**
Equivalent as indicated by assessment . .3

Mathematics
\+ +MAT102 Mathematical Concepts/Applications **OR**
Equivalent course **OR**
Satisfactory completion of a higher level mathematics course 3

Humanities and Fine Arts
Any approved general education course in the Humanities and Fine Arts area. . .3

Natural Sciences
+BIO201 Human Anatomy and Physiology I 4

Social and Behavioral Sciences
PSY101 Introduction to Psychology (3) **AND**
SOC101 Introduction to Sociology (3) 6

Required Courses (58 credits)

+DHE110 Pharmacology 3
+DHE112 Oral Pathology. 3
+DAE/DHE114 Emergency Medicine. 2
+DHE119 Head and Neck Anatomy 3
+DHE120 Pre-Clinical Dental Hygiene. 6
+DAE/DHE122 Dental Anatomy, Embryology and Histology. 2
+DAE/DHE124 Dental Radiography 2
+DHE125 Dental Radiography Laboratory 1
+DHE127 Prevention of Dental Disease 3
+DHE132 Dental Hygiene Theory I. 3
+DHE133 Dental Hygiene Clinic I. 3
+DAE/DHE203 Dental Materials 2
+DAE/DHE204 Dental Materials Laboratory. 1
+DHE212 Dental Hygiene Theory I. 2
+DHE213 Dental Hygiene Clinic II 5
+DHE219 Practice Management 2
+DHE225 Periodontics 3
+DHE227 Dental Anesthesia 2
+DHE229 Community Oral Health 3
+DHE232 Dental Hygiene Theory III 2
+DHE233 Dental Hygiene Clinic III 5

General Education Requirements (0 credits)

First Year Composition
Met by any approved First Year Composition courses in the Program Prerequisites area. 0

Oral Communication
Met by any approved general education course in the in the Program Prerequisites area. 0

Critical Reading
Met by +CRE101 Critical and Evaluative Reading I (3) **OR**
Equivalent as indicated by assessment in Program Prerequisites area. 0

Mathematics
Met by +MAT102 Mathematical Concepts/Applications **OR**
Equivalent course **OR**
Satisfactory completion of a higher level mathematics course in Program Prerequisites area. 0

Humanities and Fine Arts
Met by any approved general education course in the Humanities and Fine Arts area in the Program Prerequisites area . .0

Natural Sciences
Met by BIO201 Human Anatomy and Physiology I in the Program Prerequisites area. 0

+ indicates course has prerequisites and/or corequisites.

Social and Behavioral Sciences
Met by PSY101 Introduction to Psychology (3) **AND** SOC101 Introduction to Sociology (3) in the Program Prerequisites area. 0

Digital Arts Certificates/Degrees

- **Associate in Applied Science (AAS) in Digital Arts**
- **Certificate of Completion (CCL) in Digital Arts: Web Design**
- **Certificate of Completion (CCL) in Digital Arts: Digital Illustration**
- **Certificate of Completion (CCL) in Digital Arts: Digital Photography**
- **Certificate of Completion (CCL) in Digital Arts: Graphic Design**

Department Chairperson: Sarah Capawana
Contact: (480) 461-7524

ASSOCIATE IN APPLIED SCIENCE (AAS) IN DIGITAL ARTS (62-65 CREDITS) MAJOR CODE: 3081

The Associate in Applied Science (AAS) in Digital Arts is designed for the student who wishes to develop marketable multimedia skills. The program allows the student to develop his/her skills in the areas of Web Design, Digital Photography, Digital Illustration, and Graphic Design. It allows for the development of an individual's personal interest, prepares students for employment, and upgrades skills of those already employed in this field. Employment opportunities are included in multimedia such as digital photographer, web designer, multimedia artist, graphic designer, and digital illustrator.

Required Courses (37-40)

ART100	Introduction to Computer Graphic Art . . 1
ART111	Drawing I. 3
ART112	Two-Dimensional Design 3
+ART113	Color 3
ART142	Introduction to Digital Photography. . . .3
+ART177	Computer-Photographic Imaging 3
ART255	Art Marketing (3) **OR**
ART255AA	Self Promotion (1) **AND**
+ART255AB	The Portfolio (1) **AND**
+ART255AC	Marketing Fine Art (1) 3
+ART202	Digital Arts Survey 3

Students will select one of the following four (4) tracks (15-18 credits):

Track I - Web Design (18 credits)

BPC/CIS133DA	Internet/Web Development Level I (3) **OR**
+ART169	Two-Dimensional Computer Design (3) . .3
+ART183	Computer Aided Graphic Arts I 3
+ART/MMT190	Art of Web Site Design 3
+ART192	Advanced Web Presentation Design. . . .3
+MMT216	Multimedia Project Management (3) **OR**
+ART203	Aesthetics of Web Design (3) 3
+ART200	Animation and Interactivity 3

Track II - Digital Illustration (15 credits)

ART116	Life Drawing I. 3
+ART122	Drawing and Composition II. 3
+ART169	Two-Dimensional Computer Design . . .3
+ART270	Intermediate Computer Photographic Imaging 3
+ART289	Computer Illustration 3

Track III - Digital Photography (15 credits)

ART131	Photography I 3
+ART132	Photography II. 3
+ART143	Intermediate Digital Photography. 3
+ART270	Intermediate Computer Photographic Imaging. 3
+ART274	Advanced Computer Photographic Imaging. 3

Track IV - Graphic Design (15 credits)

+ART143	Intermediate Digital Photography (3) **OR**
+ART289	Computer Illustration (3). 3
+ART169	Two-Dimensional Computer Design . . .3
+ART183	Computer Aided Graphic Arts I 3
+ART283	Computer Aided Graphic Arts II 3
+ART291	Digital Prepress. . . . .

General Education Requirements (25 credits)

First-Year Composition
Any approved General Education course in the First-Year Composition area 6

Oral Communication
Any approved General Education course in the Oral Communication area. 3

Critical Reading
Any approved General Education course in the Critical Reading area. 3

Mathematics
Any approved General Education course in the Mathematics area. 3

Humanities and Fine Arts
Any approved General Education course in the Humanities and Fine Arts Area . .3

Social and Behavioral Science. . . . . .
Any approved General Education course in the Social and Behavioral Science Area 3

Natural Sciences
Any approved General Education course in the Natural Science Area 4

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN DIGITAL ARTS: WEB DESIGN (22 CREDITS) MAJOR CODE: 5629

The Certificate of Completion (CCL) in Digital Arts: Web Design prepares students to work as web page designers and media-rich content producers for commercial, educational, Internet and intranet sites. The program emphasizes principles of art, and develops knowledge and skills required to solve design and compositional problems with graphics, streaming video and audio media, and virtual reality models. The program is designed for both those seeking to enter a career in web page design and those already working in the field who wish to advance and update their knowledge and skills.

Required Courses (22 credits)

ART100	Introduction to Computer graphic Art	1
BPC/CIS133DA	Internet/Web Development Level I (3) **OR**	
+ART169	Two-Dimensional Computer Design (3)	3
+ART177	Computer-Photographic Imaging	3
+ART183	Computer Aided Graphic Arts I	3
+ART/MMT190	Art of Web Site Design	3
+ART192	Advanced Web Presentation Design	3
+MMT/VPT216	Multimedia Project Management (3) **OR**	
+ART203	Aesthetics of Web Design (3)	3
+ART200	Animation and Interactivity	3

CERTIFICATE OF COMPLETION (CCL) IN DIGITAL ARTS: DIGITAL ILLUSTRATION (19 CREDITS) MAJOR CODE: 5631

The Certificate of Completion (CCL) in Digital Arts: Digital Illustration prepares students to work in a specialized field of computer art and illustration as commercial illustrators, graphic designers, fine artists, background illustrators, and multimedia artists. The program emphasizes principles of art and develops knowledge and skills required to solve design and compositional problems. The program is designed for both those seeking to enter a career in media arts and those already working in the field who wish to advance and update their knowledge and skills.

Required Courses (19 credits)

ART100	Introduction to Computer Graphic Art	1
ART116	Life Drawing I	3
+ART122	Drawing and Composition II	3
+ART169	Two-Dimensional Computer Design	3
+ART177	Computer-Photographic Imaging	3
+ART270	Intermediate Computer Photographic Imaging	3
+ART289	Computer Illustration	3

CERTIFICATE OF COMPLETION (CCL) IN DIGITAL ARTS: DIGITAL PHOTOGRAPHY (22 CREDITS) MAJOR CODE: 5632

The Certificate of Completion (CCL) in Digital Arts: Digital Photography prepares students for careers in photography and digital imaging as photo assistants, commercial photographers, portrait and fine art photographers, digital production technicians and photo retoucher. In the program the student develops an understanding of traditional photographic principles, film, cameras, and printing, and learns how to apply these principles using digital cameras, inkjet printers and computer software. Knowledge and skills can be applied to such occupational areas as media production, marketing, graphic production and multimedia. The program is designed for both those seeking to enter a career in digital photography or digital imaging and those already working in the field who wish to advance and update their knowledge and skills.

Required Courses (22 credits)

ART100	Introduction to Computer Graphic Art	1
ART131	Photography I	3
+ART132	Photography II	3
ART142	Introduction to Digital Photography	3
+ART143	Intermediate Digital Photography	3
+ART177	Computer-Photographic Imaging	3
+ART270	Intermediate Computer Photographic Imaging	3
+ART274	Advanced Computer Photographic Imaging	3

CERTIFICATE OF COMPLETION (CCL) IN DIGITAL ARTS: GRAPHIC DESIGN (22 CREDITS) MAJOR CODE: 5633

The Certificate of Completion (CCL) in Digital Arts: Graphic Design prepares student to work in a specialized field of graphic design as production artists, graphic designers, art directors, pre-press specialists and service bureau personnel. The program emphasizes design and production principles and develops the student's knowledge and skills required to solve graphic design and layout problems encountered in various print media. The program is designed for both those seeking to enter a career in graphic art and those already working in the field who wish to advance and update their knowledge and skills.

Required Courses (22 credits)

ART100	Introduction to Computer Graphic Art	1
ART112	Two-Dimensional Design	3
ART142	Introduction to Digital Photography	3
+ART169	Two-Dimensional Computer Design	3
+ART177	Computer-Photographic Imaging	3
+ART183	Computer Aided Graphic Arts I	3
+ART283	Computer Aided Graphic Arts II	3
+ART291	Digital Prepress	3

+ indicates course has prerequisites and/or corequisites.

Drafting Certificates/Degrees

- **Associate in Applied Science (AAS) in Electro-Mechanical Drafting**
- **Certificate of Completion (CCL) in Electro-Mechanical Drafting**
- **Certificate of Completion (CCL) in Computer Aided Drafting**
- **Certificate of Completion (CCL) in Mechanical Drafting**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141
Program Director: Todd Verch
Contact: (480) 461-7767

ASSOCIATE IN APPLIED SCIENCE (AAS) IN ELECTRO-MECHANICAL DRAFTING (66 CREDITS) MAJOR CODE: 3504

The Associate in Applied Science (AAS) in Electro-Mechanical Drafting prepares students to work as draftee technicians in machine drafting, Computer Numerical Control (CNC) programming, manufacturing process sheets, and electronics. Students develop skills in drawing block, schematic, and logic diagrams, printed wiring board drawings, and integrated circuit drawings. The program emphasizes current technological needs in the drafting industry.

Program Prerequisites (0-3 credits)

GTC107	Technical Mathematics I (3 credits) **OR** equivalent or satisfactory score on a placement exam.

Required Courses (20 credits)

DFT110	Technical Drafting I 3
+DFT111	Technical Drafting II. 3
+DFT112	Technical Drafting III 3
+DFT115	Geometric Dimensioning and Tolerancing 3
+DFT252AA	Computer Aided Drafting I: Auto CAD. .3
+DFT254AA	Computer Aided Drafting II: Auto CAD . .3
GTC106AA	Industrial Safety 2

Restricted Electives (24 credits)

Students will choose one of two tracks:

Track I - Micro Circuit Mask Design (24 credits)

+DFT245AA	Integrated Circuit Design - CMOS IA . .3
+DFT245AB	Integrated Circuit Design - CMOS IB . .3
+ELE105	Algebra-Trigonometry for Technology . .5
+ELE111	Circuit Analysis I. 4
+ELE131	Digital Logic and Circuits. 3
ELE181	Computer Programming for Technology. .3
GTC110	Semiconductor Processing Technology I . .3

Track II - CNC Programming (24 credits)

GTC102	Machine Processes, Theory, and Application 3
+GTC108	Technical Mathematics II 3
+GTC206	CNC Programming 3
GTC216	Properties of Materials 3
+GTC236	CAD/CAM CNC Programming 3
+GTC266	Solids Modeling. 3
+GTC276	Solids Programming 3
MET131	Lean Manufacturing 3

General Education Requirements (22 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **OR**
+ENG107	First-Year Composition for ESL (3) **AND**
+ENG111	Technical Writing (3) 6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**
COM110	Interpersonal Communication (3) **OR**
+COM230	Small Group Communication (3) 3

Critical Reading

+CRE101	Critical and Evaluative Reading (3) **OR** equivalent as indicated by assessment . .3

Mathematics

Met by ELE105 or GTC108 in required courses area

Humanities & Fine Arts

Any approved general education course from the Humanities & Fine Arts area . .3

Social and Behavioral Sciences

Any approved general education course from the Social and Behavioral Sciences area 3

Natural Sciences

Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION (CCL) IN ELECTRO-MECHANICAL DRAFTING (43 CREDITS) MAJOR CODE: 5551

The Certificate of Completion (CCL) in Electro-Mechanical Drafting prepares students for careers as detail drafting technicians or electronic drafting technicians who prepare block diagrams, schematic diagrams, logic diagrams, printed wiring board drawings, and integrated circuit drawings. The program develops the knowledge and skills required to interpret engineering sketches and data in order to make formal, approved drawings.

Required Courses (43 credits)

DFT110	Technical Drafting I 3
+DFT111	Technical Drafting II. 3
+DFT112	Technical Drafting III 3
+DFT115	Geometric Dimensioning and Tolerancing 3
+DFT245AA	Integrated Circuit Design – CMOS IA . .3
+DFT245AB	Integrated Circuit Design – CMOS IB . .3

+ indicates course has prerequisites and/or corequisites.

+DFT252AA	Computer Aided Drafting I: Auto CAD	3
+DFT254AA	Computer Aided Drafting II: Auto CAD	3
+ELE105	Algebra-Trigonometry for Technology	5
+ELE111	Circuit Analysis I	4
ELE181	Computer Programming for Technology	3
GTC104	Manufacturing Processes	4
GTC110	Semiconductor Processing Technology I	3

CERTIFICATE OF COMPLETION (CCL) IN COMPUTER AIDED DRAFTING (18 CREDITS) MAJOR CODE: 5547

The Certificate of Completion (CCL) in Computer Aided Drafting prepares students for entry-level positions in firms that require drafting services. The program reflects the current needs of the drafting industry.

Required Courses (18 credits)

CIS105	Survey of Computer Information Systems	3
DFT110	Technical Drafting I	3
+DFT111	Technical Drafting II	3
+DFT252AA	Computer Aided Drafting I: Auto CAD	3
+DFT254AA	Computer Aided Drafting II: Auto CAD	3
+DFT256AA	Computer Aided Drafting III: Auto CAD	3

CERTIFICATE OF COMPLETION (CCL) IN MECHANICAL DRAFTING (34 CREDITS) MAJOR CODE: 5600

The Certificate of Completion (CCL) in Mechanical Drafting technicians are able to interpret engineering sketches and data in order to make formal, approved drawings. The career opportunities include: detail drafting technician, electronic drafting technician for block diagrams, schematic diagrams, logic diagrams, printed wiring board drawings, and integrated circuit drawings.

Required Courses (34 credits)

DFT110	Technical Drafting I	3
+DFT111	Technical Drafting II	3
+DFT112	Technical Drafting III	3
+DFT113	Technical Drafting IV	3
+DFT115	Geometric Dimensioning and Tolerancing	3
+DFT252AA	Computer Aided Drafting I: Auto CAD	3
+DFT254AA	Computer Aided Drafting II: Auto CAD	3
+DFT256AA	Computer Aided Drafting III: Auto CAD	3
GTC104	Manufacturing Processes	4
GTC108	Technical Mathematics II	3
QCT270	Measurements for Quality Control I	3

Education Studies Certificates

- **Certificate of Completion (CCL) in ESL Endorsement**
- **Certificate of Completion (CCL) in Reading Specialist Endorsement**

Department Chairperson: Nora Amavisca Reyes
Contact: (480) 461-7781

CERTIFICATE OF COMPLETION (CCL) IN ESL ENDORSEMENT (27 CREDITS) MAJOR CODE: 5126

The Certificate of Completion (CCL) in ESL Endorsement prepares certified teachers to earn the English as a Second Language Endorsement in Arizona. The program emphasizes the philosophical, cultural, and linguistic processes involved in teaching English language learners. Students develop knowledge and skills required of teachers working with English language learners through a combination of courses in methodology and practicum experience in an ESL classroom. This program includes all coursework required for those with valid Arizona teaching certificates to qualify for SEI and ESL endorsement in Arizona.

Required Courses (27 credits)

+EDU/EPD220	Introduction to Serving English Language Learners (ELL)	3
EDU230	Cultural Diversity in Education	3
+EDU/EPD233	Structured English Immersion (SEI) and English as a Second Language (ESL) Teaching Methods	3
+EPD244	Reading and Writing in SEI/ESL/ Bilingual Settings	3
+EPD246	Teaching and Assessment of English Language Learners (ELL)	3
+EPD247	Practicum for English as a Second Language (ESL)/Bilingual Teachers	3
+ENG213	Introduction to the Study of Language	3
ARB+++	any ARB/Arabic course **OR**	
FRE+++	any FRE/French course **OR**	
GER+++	any GER/German course **OR**	
ITA+++	any ITA/Italian course **OR**	
JPN+++	any JPN/Japanese course **OR**	
SPA+++	any SPA/Spanish course **OR**	
SLG+++	any SLG/Sign Language course	6

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN READING SPECIALIST ENDORSEMENT (15 CREDITS) MAJOR CODE: 5128

The Certificate of Completion (CCL) in Reading Specialist Endorsement prepares certified teachers to a Reading Specialist Endorsement in Arizona. The program provides background in decoding, diagnosis, and remediation of reading, and requires a practicum in a K-12 classroom setting. This program includes all coursework required for those with valid Arizona teaching certificates to qualify for the Reading Specialist Endorsement in Arizona.

Required Courses (12 credits)

EDU270AA	Elementary Reading and Decoding	3
+EDU270AB	Secondary Reading and Decoding	3
+EPD275	Diagnosis and Remediation of Reading for K-12	3
+EPD279	Reading Practicum K-12	3

Restricted Electives (3 credits)

+EPD244	Reading and Writing in SEI/ESL/ Bilingual Settings	3
EDU271	Phonics Based Reading and Decoding	3
EDU/ENH291	Children's Literature	3

Electromechanical Automation Certificates/Degrees

- **Associate in Applied Science (AAS) in Electromechanical Automation Technology**
- **Certificate of Completion (CCL) in Electromechanical Automation Technology**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141
Program Director: Scott Shaw
Contact: (480) 461-7498

ASSOCIATE IN APPLIED SCIENCE (AAS) IN ELECTROMECHANICAL AUTOMATION TECHNOLOGY (64 CREDITS) MAJOR CODE: 3544

The Associate in Applied Science (AAS) in Electromechanical Automation Technology prepares students to work as electromechanical automation technicians in industrial and commercial companies, using equipment that incorporates mechanical, hydraulic, pneumatic, electronic, optical, and thermal devices. The program provides a broad algebra-based background required for a career in Electro-Mechanical Automation Technology.

Program Prerequisites (11 credits)

ELE100	Concepts of Electricity and Electronics	3
+ELE101	Beginning Algebra for Technology	3
+ELE105	Algebra-Trigonometry for Technology	5

Required Courses (46 credits)

DFT114	Machine Trades Blueprint Reading	3
+DFT252AA	Computer Aided Drafting I: AutoCAD	3
+ELE111	Circuit Analysis I.	4
+ELE121	Solid-State Devices and Circuits I	4
+ELE223	Industrial Electronics Circuits and Systems	4
+ELE251	Electronic Measurements	3
GTC104	Manufacturing Processes	4
GTC106AA	Industrial Safety	2
+GTC181	Introduction to Fluid Power	3
+GTC185	Electro-Mechanical Devices	4
+GTC209	Automated Manufacturing	3
+GTC266	Solids Modeling.	3
+GTC272	Automated Control Systems (PLC Application)	3
+GTC273	Industrial Automation Controls and System Integration	3

General Education Requirements (18 credits)

First-Year Composition		
	Any approved general education course in the First-Year Composition area	6
Oral Communication		
	Any approved general education course in the Oral Communication area.	3
Critical Reading		
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment	3
Mathematics		
	Met by ELE105 in program prerequisites area	
Humanities and Fine Arts		
	Any approved general education course in the Humanities and Fine Arts area	3
Social and Behavioral Sciences		
	Any approved general education course in the Social and Behavioral Sciences area. PSY125 Leadership and Group Dynamics recommended	3
Natural Sciences		
	Met by ELE111, ELE121, ELE223 in required courses area	

CERTIFICATE OF COMPLETION (CCL) IN ELECTROMECHANICAL AUTOMATION TECHNOLOGY (29 CREDITS) MAJOR CODE: 5546

The Certificate of Completion (CCL) in Electromechanical Automation Technology prepares students to work as electromechanical automation technicians in industrial and commercial companies, using equipment that incorporates mechanical, hydraulic, pneumatic, electronic, optical, and thermal devices.

Program Prerequisites (11 credits)

ELE100	Concepts of Electricity and Electronics	3
+ELE101	Beginning Algebra for Technology.	3
+ELE105	Algebra-Trigonometry for Technology	5

+ indicates course has prerequisites and/or corequisites.

Required Courses (29 credits)

DFT114	Machine Trades Blueprint Reading 3
+DFT252AA	Computer Aided Drafting I: AutoCAD . .3
+ELE111	Circuit Analysis I. 4
+ELE121	Solid-State Devices and Circuits I 4
GTC106AA	Industrial Safety 2
+GTC181	Introduction to Fluid Power 3
+GTC185	Electro-Mechanical Devices. 4
+GTC209	Automated Manufacturing 3
+GTC272	Automated Control Systems (PLC Applications) 3

Electronics Technology Certificates/Degrees

- **Associate in Applied Science (AAS) in Electronics Technology**
- **Certificate of Completion (CCL) in Electronics Technology**
- **Associate in Applied Science (AAS) in Electronic Engineering Technology**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141
Program Director: JD Neglia
Contact: (480) 461-7385

ASSOCIATE IN APPLIED SCIENCE (AAS) IN ELECTRONICS TECHNOLOGY (71 CREDITS) MAJOR CODES: 3220

The Associate in Applied Science (AAS) degree in Electronics Technology prepares students to work as electronics technicians, manufacturing supervisors, test equipment specialists, prototype fabricators, and in other positions in firms that specialize in electronic design, manufacturing, service, and development. The program provides a broad algebra-based background and emphasizes current needs and trends in the electronics industry. The AAS program combines coursework in electronics technology with a General Education curriculum.

Program Prerequisites (3 credits)

ELE101	Beginning Algebra for Technology. 3

Required Courses (54 credits)

+ELE105	Algebra/Trigonometry for Technology. . .5
+ELE111	Circuit Analysis I. 4
+ELE112	Circuit Analysis II. 4
+ELE121	Solid-State Devices and Circuits I 4
+ELE131	Digital Logic and Circuits. 3
ELE181	Computer Programming for Technology. . .3
+ELE222	Solid-State Devices and Circuits II. 4
+ELE241	Microprocessor Concepts 4
+ELE243	Microprocessor Applications 3
+ELE251	Electronic Measurements 3
+ELE261	Communication Systems. 3
+ELE263	Digital Data Communications 4
GTC104	Manufacturing Processes 4
GTC106AA	Industrial Safety 2
+GTC185	Electro-Mechanical Devices. 4

General Education (17-18 credits)

First-Year Composition
Any approved general education course in the First-Year Composition area 6

Oral Communication
Any approved general education course in the Oral Communication area. 3

Critical Reading
Any approved general education course in the Critical Reading area **OR** equivalent by assessment. 3

Mathematics
Met by ELE105 in required courses area

Humanities and Fine Arts
Any approved general education course in the Humanities and Fine Arts area 2-3

Social and Behavioral Sciences
Any approved general education course in the Social and Behavioral Sciences area 3
PSY125 Leadership and Group Dynamics recommended

Natural Sciences
Met by ELE111, ELE112, ELE121, ELE131 in required courses area

CERTIFICATE OF COMPLETION (CCL) IN ELECTRONICS TECHNOLOGY (33 CREDITS) MAJOR CODE: 5591

The Certificate of Completion (CCL) in Electronics Technology prepares students to work as electronics technicians, manufacturing supervisors, test equipment specialists, prototype fabricators, and in other positions in firms that specialize in electronic design, manufacturing, service, and development. The program provides a broad algebra-based background and emphasizes current needs and trends in the electronics industry.

Required Courses (33 credits)

+ELE105	Algebra/Trigonometry for Technology. . .5
+ELE111	Circuit Analysis I. 4
ELE112	Circuit Analysis II. 4
+ELE121	Solid-State Devices and Circuits I 4
+ELE131	Digital Logic and Circuits. 3
ELE181	Computer Programming for Technology. . .3
+ELE241	Microprocessor Concepts 4
GTC106	Industrial Safety 2
+GTC185	Electro-Mechanical Devices. 4

+ indicates course has prerequisites and/or corequisites.

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE IN ELECTRONIC ENGINEERING TECHNOLOGY (70 CREDITS) MAJOR CODE: 3224

The Associate in Applied Science (AAS) degree in Electronic Engineering Technology prepares students to work as engineering assistants, field engineers, prototype designers, specification writers, technical representatives, etc. They work for firms involved in electronic design, manufacturing, service, or development. The Electronic Engineering Technology program of study at MCC is designed to provide the student with an AAS degree and at the same time allow for the maximum number of transfer credits to a four-year institution.

Program Prerequisites (3-5 credits)

+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3). 3-5

Required Courses (47 credits)

+ECE102	Engineering Analysis Tools and Techniques. 2
+ECE103	Engineering Problem Solving and Design. 2
+ELE113	DC Circuit Analysis 4
+ELE114	AC Circuit Analysis 4
+ELE121	Solid-State Devices and Circuits I 4
+ELE131	Digital Logic and Circuits. 3
ELE181	Computer Programming for Technology. .3
+ELE222	Solid-State Devices and Circuits II. 4
+ELE241	Microprocessor Concepts 4
+MAT220	Analytic Geometry and Calculus I. 5
+MAT231	Calculus with Analytic Geometry II. . . .4
+PHY111	General Physics I. 4
+PHY112	General Physics II (4) **OR**
+CHM130	Fundamental Chemistry (3) **AND**
+CHM130LL	Fundamental Chemistry Laboratory (1). .4

General Education Requirements (23-26 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **AND**
+ENG111	Technical Writing (3) 6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**
COM110	Interpersonal Communication (3) **OR**
+COM230	Small Group Communication (3) 3

Critical Reading

+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment . .3

Mathematics

+MAT150	College Algebra/Functions (5) **OR**
+MAT151	College Algebra/Functions (4) **OR**
+MAT152	College Algebra/Functions (3) 3-5
+MAT182	Plane Trigonometry. 3

Humanities and Fine Arts

Any approved general education course in the Humanities and Fine Arts area. . . .2-3

Social and Behavioral Sciences

Any approved general education course in the Social and Behavioral Sciences area 3

Natural Sciences

Met by PHY111 **AND** PHY112 **OR** CHM130 **AND** CHM130LL in required courses area

Emergency Management Certificates/Degrees

- **Associate in Applied Science (AAS) in Emergency Response and Operations**
- **Certificate of Completion (CCL) in Emergency Management**
- **Certificate of Completion (CCL) in Basic Firefighter**
- **Certificate of Completion (CCL) in Driver Operator**
- **Certificate of Completion (CCL) in Fire Officer I**
- **Certificate of Completion (CCL) in Firefighter Operations**
- **Certificate of Completion (CCL) in Basic Emergency Medical Technology**

Department Chairperson: Sonia Jones
Contact: (480) 461-6301

ASSOCIATE IN APPLIED SCIENCE (AAS) IN EMERGENCY RESPONSE AND OPERATIONS (60.5-61 CREDITS) MAJOR CODE: 3112

The Associate in Applied Science (AAS) in Emergency Response and Operations provides students with a curriculum specific to the student's individual needs in addition to the knowledge and skills needed in today's changing public safety workplace. The program develops education, skills, and techniques for planning, responding, and mitigating various emergency situations within the student's specific discipline with emphasis on effective response and operations. The curriculum combines coursework in public safety emergency services with a general education component.

Admission Criteria

Students pursuing Track I, Fire Operations, **OR** Track II, Advanced Emergency Medical Technology-Paramedic, may be required to complete a program entrance exam as appropriate **OR** Permission of Program Director.

Program Prerequisites (6-8 credits)

Track I - Fire Operations

+EMT/FSC104	Basic Emergency Medical Technology (8) **OR**
	Permission of Program Director 8
	OR

+ indicates course has prerequisites and/or corequisites.

Track II - Advanced Emergency Medical Technology-Paramedic

Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer **OR**

+EMT235 Emergency Cardiac Care (3) **AND**
+EMT236 Pharmacology in an Emergency Setting (3) **OR**
Permission of Program Director 6
OR
Advanced cardiac life support course **OR** Emergency cardiac care course, **AND** EMT-Paramedic certification **AND** Current employment as an EMT Paramedic **OR** Permission of Program Director
Required Courses (17.5 – 18 credits)

Students must select one of the following three tracks.

Track I (18 credits)

Fire Operations

+FSC102 Fire Department Operations 11
FSC105 Hazardous Materials/First Responder . .3
FSC130 Fitness for Firefighters/CPAT 1
FSC134 Fitness and Conditioning/Firefighters . .3

OR

Track II (17.5 credits)

Advanced Emergency Medical Technology-Paramedic

+EMT242 Pediatric Advanced Life Support (1) **OR**
+EMT265 Pediatric Education for Prehospital Providers: Advanced (1) 1
+EMT240 Advanced Cardiac Life Support 2
+EMT245 Trauma Management I 2
+EMT272AA Advanced Emergency Medical Technology 12.5

OR

Track III (18 credits)

Emergency Management

AJS/FSC139 Emergency Response to Terrorism 3
AJS/FSC146 Disaster Recovery Operations 3
AJS/FSC147 Emergency Preparedness 3
AJS/FSC148 Fundamentals of Emergency Management 3
AJS/FSC149 Hazard Mitigation 3
FSC224 Incident Command Systems 3

Restricted Electives (17-18 credits)

Any AJS or EMT or FSC prefixed courses not listed in the Required Courses area.

AJS+++++ Any approved AJS prefixed course. . . 1-6
DPR+++++ Any approved DPR prefixed course . . 1-6
EMT+++++ Any approved EMT prefixed course. . 1-6
FSC+++++ Any approved FSC prefixed course . . 1-6
LET+++++ Any approved LET prefixed course . . 1-6

General Education (25 credits)

First-Year Composition
Any approved general education courses from the First-Year Composition area. . .6

Oral Communication
Any approved general education course from the Oral Communication area 3

Critical Reading
Any approved general education course from the Critical Reading area 3

Mathematics
Any approved general education course from the Mathematics area 3

Humanities and Fine Arts
Any approved general education course from the Humanities and Fine Arts area 3

Social and Behavioral Sciences
Any approved general education course from the Social and Behavioral Sciences area 3

Natural Sciences
Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION (CCL) IN BASIC FIREFIGHTER (30 CREDITS) MAJOR CODE: 5486

The Certificate of Completion (CCL) in Basic Firefighter program is designed for students need (1) advanced training as professional firefighters, (2) basic preparation courses for a career in fire services and/or (3) more comprehensive information about the fire hazard and prevention. Certificate can be used by professional firefighters for promotions and salary advancement within the Fire Services. The program will provide courses for plant safety for fire protection personnel and basic emergency services for laypersons who need intensive first aid training. The unique feature of the program is that the instructors are professional firefighters and/or licensed Emergency Medical Training Personnel.

Required Courses (30 credits)

+EMT104 Basic Emergency Medical Technology. . .8
+EMT238 Vehicular Extrication and Patient Stabilization. 2
FSC102 Fire Department Operations 11
FSC105 Hazardous Materials First Responder. . .3
FSC108 Fundamentals of Fire Prevention 3
+FSC208 Firefighter Safety/Building Construction 3

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN DRIVER OPERATOR (11 CREDITS) MAJOR CODE: 5418

The Certificate of Completion (CCL) in Driver Operator prepares students to operate fire and emergency service vehicles. The program is designed for students who want to begin a career in fire services or for professional firefighters seeking advanced training.

Required Courses (11 credits)

FSC111	Emergency Vehicle Driver Operator	2
FSC117	Fire Apparatus	3
FSC118	Fire Hydraulics	3
FSC202	Supervisory Training for Firefighters	3

CERTIFICATE OF COMPLETION (CCL) IN FIRE OFFICER I (12 CREDITS) MAJOR CODE: 5420

The Certificate of Completion (CCL) in Fire Officer I is designed for students preparing to enter the field of fire services as well as for professional firefighters who want advanced training. The program features plant safety for fire protection personnel and basic emergency services related to intensive first aid training.

Required Courses (12 credits)

FSC202	Supervisory Training for Firefighters	3
+FSC204	Firefighting Tactics and Strategy	3
+FSC205	Command Strategies for Major Emergencies	3
+FSC214	Human Resources Management for Fire Service	3

CERTIFICATE OF COMPLETION (CCL) IN FIREFIGHTER OPERATIONS (25-26 CREDITS) MAJOR CODE: 5557

The Certificate of Completion (CCL) in Firefighter Operations provides the opportunity for individuals seeking employment in various firefighting settings to acquire the minimum standard firefighting skills needed in the field.

Admission Criteria

Formal application and admission to the program is required.

Program Prerequisites (11-12 credits)

+EMT/FSC104	Basic Emergency Medical Technology	8
FSC105	Hazardous Materials/First Responder	3
FSC130	Fitness for Firefighters/CPAT (1) **OR** Permission of Program Director	1

Required Courses (14 credits)

+FSC102	Fire Department Operations	11
FSC134	Fitness and Conditioning for Firefighters	3

CERTIFICATE OF COMPLETION (CCL) IN EMERGENCY MANAGEMENT (18 CREDITS) MAJOR CODE: 5304

The Certification of Completion (CCL) in Emergency Management provides the student with knowledge and skills required to conduct a comprehensive emergency management program. The program prepares students to manage fire department operations, hazardous materials incidents, tactics, strategy, and safety of firefighting activities, and customer service in the public sector. The student will be prepared for positions such as Emergency Manager, Emergency Management Planner, Emergency Operations Coordinator, Environmental Compliance Planner, and Emergency Management Specialist, working in state, local, federal, and international governments, business and industry, military installations, and health care facilities.

Required Courses (18 credits)

AJS/FSC139	Emergency Response to Terrorism	3
AJS/FSC146	Disaster Recovery Operations	3
AJS/FSC147	Emergency Preparedness	3
AJS/FSC148	Fundamentals of Emergency Management	3
AJS/FSC149	Hazard Mitigation	3
FSC224	Incident Command Systems	3

CERTIFICATE OF COMPLETION (CCL) IN BASIC EMERGENCY MEDICAL TECHNOLOGY (8 CREDITS) MAJOR CODE: 5270

The Certificate of Completion (CCL) in Basic Emergency Medical Technology offered by Mesa Community College with the cooperation of the local Fire Departments, hospitals and ambulance agencies has developed an excellent sequence of Emergency Medical Programs. Each level is designed to provide the next sequence of skill required to progress upward in the emergency health care field and qualifies the student for state licensing sanctioned by the Arizona Department of Health Services.

Required Courses (8 credits)

EMT/FSC104	Basic Emergency Medical Technology	8

+ indicates course has prerequisites and/or corequisites.

Fashion Merchandising and Design Certificates/Degrees

- **Associate in Applied Science (AAS) in Fashion Merchandising and Design**
- **Certificate of Completion (CCL) in Costume Design and Production**
- **Certificate of Completion (CCL) in Image Consultant**
- **Certificate of Completion (CCL) in Retail Sales Manager**
- **Certificate of Completion (CCL) in Alteration Specialist**

Department Chairperson: Linda Collins
Contact: (480) 461-7077
Program Director: Evonne Bowling
Contact: (480) 461-7140

ASSOCIATE IN APPLIED SCIENCE (AAS) IN FASHION MERCHANDISING AND DESIGN (62 CREDITS) MAJOR CODE: 3260

The Associate in Applied Science (AAS) in Fashion Merchandising and Design prepares students for entry-level positions in fashion merchandising. Students acquire a basic knowledge of textiles, clothing construction, display and visual merchandising, and the fashion industry. The program offers opportunities for students to select courses that reflect a special area of interest such as business management, advertising, or fashion illustration.

Required Courses (9 credits)

TEC105	Clothing Selection	3
TEC111	Clothing Construction (3) **OR**	
TEC250	Apparel Quality Analysis (3)	3
TEC222	Textiles	3

Restricted Electives (28 credits)

Students will select one of two tracks.

Track I - Fashion Merchandising (28 credits)

ACC109	Accounting Concepts	3
MKT/TEC200	Retail Buying	3
MKT271	Principles of Marketing	3
MKT/TEC109	Introduction to Fashion Merchandising	3
MKT/TEC151	Display and Visual Merchandising	3
+TEC255	Fashion Retail Merchandising	3
+TEC260	Fashion Sales Management	3
+TEC272AA	Retail Merchandising Internship (1) **OR**	

Select 6 credits from the following courses:

ART131	Photography I	3
ART142	Introduction to Digital Photography	3
BPC110	Computer Usage and Applications	3
CIS105	Survey of Computer Information Systems	3
+GBS233	Business Communication	3
MGT229	Management and Leadership I	3
+MGT230	Management and Leadership II	3
MGT251	Human Relations in Business	3
MGT253	Owning and Operating a Small Business	3
MKT101	Introduction to Public Relations	3
MKT263	Advertising Principles	3
+MKT/ TEC274AC	Fashion Merchandising Study Tour	3
TEC106	History of Fashion	3
+TEC221	Computer-Assisted Fashion Design	3
+TEC241	Advanced Computer-Assisted Fashion Design	3
TEC+++++	Any TEC prefixed course not listed under Required Courses area	3

Track II - Fashion Design (28 credits)

TEC106	History of Fashion	3
+TEC124	Advanced Clothing Construction	3
TEC125	Fashion Design	3
TEC134	Fashion Illustration I	3
+TEC221	Computer-Assisted Fashion Design	3
+TEC223	Tailoring	3
+TEC225	Pattern Design I	3
+TEC226	Draping for Fashion Design	3
+TEC236	Portfolio Development	1
INT150	Color and Design (3) **OR**	
+TEC135	Fashion Illustration II (3) **OR**	
+TEC230	Pattern Design II (3) **OR**	
+TEC271AC	Fashion Design Internship (3) **OR**	
+MKT/ TEC274AC	Fashion Merchandising Study Tour (3)	3
TEC+++++	Any TEC prefixed course not listed under Required Courses area	3

Track III – Fashion Retailing (28 credits)

ACC111	Accounting Principles I	3
+ACC230	Uses of Accounting Information I	
CIS105	Survey of Computer Information Systems	3
ECN211	Macroeconomic Principles	3
ECN212	Microeconomic Principles	3
+GBS220	Quantitative Methods in Business	3
+GBS221	Business Statistics	3
MKT271	Principles of Marketing	3
TEC109	Introduction to Fashion Merchandising	3
TEC200	Retail Buying	3
+TEC272++	Retail Merchandising Internship (1-3)	1-3
TEC+++++	Any TEC prefixed course not listed under Required Courses area	3

General Education Requirements (25-27 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **OR**	
+ENG107	First-Year Composition for ESL (3) **AND**	
+ENG102	First-Year Composition (3) **OR**	
+ENG108	First-Year Composition for ESL (3) **OR**	
+ENG111	Technical Writing (3)	6

+ indicates course has prerequisites and/or corequisites.

Oral Communication		
	COM100	Introduction to Human Communication (3) **OR**
	COM110	Interpersonal Communication (3) **OR**
	+COM225	Public Speaking (3) **OR**
	+COM230	Small Group Communication (3) 3
Critical Reading		
	+CRE101	Critical and Evaluative Reading I (3) **OR**
	+CRE111	Critical Reading for Business & Industry (3) **OR** equivalent as indicated by assessment 3
Mathematics		
	+MAT120	Intermediate Algebra (5) **OR**
	+MAT121	Intermediate Algebra (4) **OR**
	+MAT122	Intermediate Algebra (3). 3-5
Humanities and Fine Arts		
		Any approved general education course in the Humanities and Fine Arts area
	ARH+++++	Art Humanities (any ARH course). 3
Social and Behavioral Sciences		
		Any approved general education course in the Social and Behavioral Sciences area 3
Natural Sciences		
		Any approved general education course from the Natural Sciences area. 4

CERTIFICATE OF COMPLETION (CCL) IN COSTUME DESIGN AND PRODUCTION (30 CREDITS) MAJOR CODE: 5406

The Certificate of Completion (CCL) in Costume Design and Production is designed for students with an interest in costuming. Students learn to design and make costumes and apply appropriate makeup. They develop the ability to design appropriate costumes for period community theatre, opera, dance and living history programs including the makeup, and manage the costume wardrobe. Completers of this certificate will have interned with college or community stage production crews for a minimum of 240 hours.

Required Courses (30 credits)

TEC106	History of Fashion. 3
TEC111	Clothing Construction. 3
+TEC124	Advanced Clothing Construction 3
TEC125	Fashion Design (3) **OR**
TEC134	Fashion Illustration I (3) 3
TEC222	Textiles. 3
+TEC223	Tailoring 3
+TEC225	Pattern Design I. 3
+TEC230	Pattern Design II 3
THP115	Theatre Makeup. 3
THP201++	Theatre Production I (any module) (1-3) . .3

CERTIFICATE OF COMPLETION (CCL) IN IMAGE CONSULTANT (24 CREDITS) MAJOR CODE: 5402

The Certificate of Completion (CCL) in Image Consultant is designed for students with an interest in image consulting. Students learn clothing strategies for all figure types, appropriate dress for all occasions, nutrition, and interpersonal skills. They develop the ability to advise clients and groups for an acceptable image. Completers of this certificate will have interned with a nationally certified image consultant through the Association of Image Consultants, International (AICI), for a minimum of 480 hours. They may then apply for accreditation from AICI.

Required Courses (24 credits)

COM110	Interpersonal Communication 3
FON100	Introductory to Nutrition. 3
INT150	Color and Design. 3
PSY132	Psychology and Culture (3) **OR**
TEC105	Cultural Aspects of Clothing (3). 3
TEC222	Textiles. 3
TEC245	Wardrobe Strategies 3
TEC250	Apparel Quality Analysis 3
+TEC275AC	Image Consultant Internship. 3

CERTIFICATE OF COMPLETION (CCL) IN RETAIL SALES MANAGER (24 CREDITS) MAJOR CODE: 5405

The Certificate of Completion (CCL) in Retail Sales Manager is designed for students with an interest in retail store management. Students learn about apparel and retail store management, merchandising, salesmanship, customer service, basic computer systems, and human resources. They develop the ability to train and manage personnel in a store, display and merchandise their areas or store, effectively train personnel to sell the merchandise, and manage stocks and profitability. Completers of this certificate will have interned with a store manager for a minimum of 240 hours. Career placement would be at the Department or Area Sales Manager position.

Program Prerequisites (3 credits)

MKT/TEC109	Introduction to Fashion Merchandising . .3

Required Courses (24 credits)

BPC110	Computer Usage and Applications (3) **OR**
CIS105	Survey of Computer Information Systems (3) 3
MGT229	Management and Leadership I (3) **OR**
MGT253	Owning and Operating a Small Business (3). 3
MKT/TEC151	Display and Visual Merchandising. 3
TEC222	Textiles. 3
TEC250	Apparel Quality Analysis 3
+TEC255	Fashion Retail Merchandising. 3
+TEC260	Fashion Sales Management. 3
TEC272++	Retail Merchandising Internship (any module) (1-3) **OR**
TQM101	Quality Customer Service (3). 3

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN ALTERATION SPECIALIST (20 CREDITS) MAJOR CODE: 5556

The Certificate of Completion (CCL) in Alteration Specialist is designed to prepare students for employment in alterations for the apparel industry. Students will develop skills in advanced clothing construction, tailoring and couture techniques appropriate for a variety of fabrics and designs, and fitting techniques for all types of apparel. They will develop the ability to select appropriate fashion fabrics, interfacing, and lining materials for specific items of apparel. Students completing this certificate will be able to alter and repair ready-make garments for a profession. Students completing the certificate can expect entry-level positions in the alteration profession for retailers, dry-cleaning industry or their own alteration establishment.

Program Prerequisites (3 credits)

TEC111	Clothing Construction. 3

Required Courses (20-22 credits)

TEC112AB	Alteration of Ready Made Garments . . .2
TEC122	Sewing with Knits. 3
+TEC124	Advanced Clothing Construction 3
TEC129	Sewing with a Serger. 2
TEC222	Textiles. 3
+TEC223	Tailoring 3
+TEC227	Couture Sewing. 3
TEC277++	Alternation Internship (1-3) 1-3

Geographic Information Systems Certificates/Degrees

- **Associate in Applied Science (AAS) in Geospatial Technologies**
- **Certificate of Completion (CCL) in Geographic Information System (GIS)**

Department Chairperson: Mona Scott
Contact (480) 461-7060

ASSOCIATE IN APPLIED SCIENCE (AAS) IN GEOSPATIAL TECHNOLOGIES (60 CREDITS) MAJOR CODE: 3108

The Associate in Applied Science (AAS) in Geospatial Technologies prepares students for entry level positions within the field of Geographic Information Systems. The Geospatial Technologies program will also provide students with the educational foundation necessary for a four-year degree. A Certificate of Completion (CCL) is also available.

Students must earn a grade of "C" or better for all courses within the program. Program is designed for students with varying skills consult with program director.

Program Prerequisites (3-6 credits)

The credit hour range is subject to change depending on the student's educational experiences and track selected.

Track I - User/Analyst - None

Track II - Developer

+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3) **OR**
	Equivalent or Satisfactory score on District Placement Exam

Track III - Transfer Emphasis

+MAT150	College Algebra/Functions (5) **OR**
+MAT151	College Algebra/Functions (4) **OR**
+MAT152	College Algebra/Functions (3) **AND**
+MAT182	Plane Trigonometry (3) **OR**
+MAT187	Precalculus (5) **OR**
	equivalent or Satisfactory score on District placement exam

Required Courses (29-36 credits)

GCU102	Introduction to Human Geography. 3
GPH111	Introduction to Physical Geography 4
+GPH219	Introduction to GIS Using ArcGIS 3
+GPH220	Intermediate GIS Using ArcGIS. 3
+GPH230	Spatial Database I 3
GPH270	Introduction to Cartography and Geospatial Technologies 3
+GPH273	Advanced GIS Using ArcGIS (3) **OR**
+GPH298++	Special Projects (any suffixed course) (1-3). 1-3

Students must select one of the three (3) tracks.

Track I - User Analyst (12 credits)

CIS105	Survey of Computer Information Systems 3
BPC/CIS117DM	Microsoft Access: Database Management. . .3
+CIS159	Visual Basic Programming I (3) **OR**
DFT110	Technical Drafting I (3). 3
+GPH235	Internet Mapping Using ArcIMS (3) **OR**
GPH275	Remote Sensing, GPS, and GIS (3). 3

Track II - Developer (9 credits)

+CSC110	Introduction to Computer Science for Majors 3
+CSC181	Applied Problem Solving with Visual BASIC (3) **OR**
+CSC281	Advanced Programming with Visual Basic (3) 3
+GPH235	Internet Mapping Using ArcIMS (3) **OR**
GPH275	Remote Sensing, GPS, and GIS (3). 3

Track III - Transfer Emphasis (14 credits)

+CSC110	Introduction to Computer Science for Majors 3
+CSC181	Applied Problem Solving with Visual BASIC 3

+ indicates course has prerequisites and/or corequisites.

+CSC200	Principles of Computer Science (Java) . . 3
+MAT220	Calculus with Analytic Geometry 5

Restricted Electives (6 credits)

GPH+++++	Any GPH Physical Geography course(s) not listed under Required Course area . . 6

General Education Requirements (25-27 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **OR**
+ENG107	First-Year Composition for ESL (3) **AND**
+ENG102	First-Year Composition (3) **OR**
+ENG108	First-Year Composition for ESL (3) 6

Oral Communication

Any approved general education course in the Oral Communication area. 3

Critical Reading

Any approved general education course in the Critical Reading area 3

Mathematics

Any approved general education course in the Mathematics area 3-5

Humanities and Fine Arts

Any approved general education course from the Humanities and Fine Arts area . . 3

Social and Behavioral Sciences

Any approved general education course from the Social and Behavioral Sciences area 3

Natural Sciences

Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION (CCL) IN GEOGRAPHIC INFORMATION SYSTEM (GIS) (22-30 CREDITS) MAJOR CODE: 5135

The Certificate of Completion (CCL) in Geographic Information System (GIS) provides a core curriculum based on a solid foundation in GIS concepts, as opposed to training in GIS software only. This program equips students with fundamental GIS concepts and skills that can be applied in a variety of public and private work environments where spatial data analysis is required. An Associate in Applied Science (AAS) is also available.

Program is designed for students with varying skills consult with program director.

Program Prerequisites (3-6 credits)

The credit hour range is subject to change depending on the student's educational experiences and track selected.

Track I - User/Analyst - None

Track II - Developer

+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3) **OR**
	Satisfactory score on District placement exam.

Track III - Transfer Emphasis

+MAT150	College Algebra/Functions (5) **OR**
+MAT151	College Algebra/Functions (4) **OR**
+MAT152	College Algebra/Functions (3) **AND**
+MAT182	Plane Trigonometry (3) **OR**
+MAT187	Precalculus (5) **OR**
	Satisfactory score on District placement exam

Required Courses (22-30 credits)

+GPH219	Introduction to GIS Using ArcGIS 3
+GPH220	Intermediate GIS Using ArcGIS. 3
+GPH230	Spatial Database I 3
GPH270	Introduction to Cartography and Geospatial Technologies 3
GPH111	Introduction to Physical Geography (4) **OR**
+GPH273	Advanced GIS Using ArcGIS (3) **OR**
+GPH298++	Special Project (any suffixed course) (1-4) . . . . . 1-4 **AND**

Students must select one of three (3) tracks.

Track I - User/ Analyst (12 credits)

CIS105	Survey of Computer Information Systems 3
BPC/CIS117DM	Microsoft Access: Database Management 3
+CIS159	Visual Basic Programming I (3) **OR**
DFT110	Technical Drafting I (3). 3
+GPH235	Internet Mapping Using ArcIMS (3) **OR**
GPH275	Remote Sensing, GPS, and GIS (3). 3

Track II - Developer (9 credits)

+CSC110	Introduction to Computer Science for Majors 3
+CSC181	Applied Problem Solving with Visual Basic (3) **OR**
+CSC281	Advanced Programming in Visual Basic (3) 3
+GPH235	Internet Mapping Using ArcIMS (3) **OR**
GPH275	Remote Sensing, GPS, and GIS (3). 3

Track III - Transfer Emphasis Credits (14 credits)

+CSC110	Introduction to Computer Science for Majors 3
+CSC181	Applied Problem Solving with Visual Basic. 3
+CSC200	Principles of Computer Science (Java) . . 3
+MAT220	Calculus with Analytic Geometry I 5

+ indicates course has prerequisites and/or corequisites.

Horticulture Certificates/Degrees

- **Associate in Applied Science (AAS) in Urban Horticulture**
- **Certificate of Completion (CCL) in Landscape Aide**
- **Certificate of Completion (CCL) in Landscape Specialist**

Program Director: SueAn Stewart
Contact: (480) 461-7125

ASSOCIATE IN APPLIED SCIENCE (AAS) IN URBAN HORTICULTURE (64 CREDITS) MAJOR CODE: 3030

The Associate in Applied Science (AAS) in Urban Horticulture prepares students to work as technicians, supervisors, managers, or owners in wholesale or retail nurseries, landscape design and construction operations, or landscape management companies. In addition, the program prepares students for careers with local, state, and federal government agencies involved with the technical phases of the Urban Horticulture industry. The curriculum combines coursework in horticulture with General Education components. Graduates may transfer to a Bachelor of Science degree in Agribusiness at Arizona State University East or a Bachelor of Science degree in Agricultural Technologies at the University of Arizona.

Required Courses (39 credits)

AGB139	Agribusiness Computer Operations	3
AGS164	Plant Growth and Development	4
AGS260	Origin and Composition of Soils	4
AGL189	Landscape Design I	3
AGS168	Grounds Equipment Management	3
AGS183	Urban Plant Identification and Use	3
AGS192	Urban Plant Care	3
AGS264	Irrigation and Water Management	3
AGS268	Insect, Weed and Pest Control	4

Complete one of the following five tracks (13-19 credits):

Track I - Landscape Design and Installation (9 credits)

AGL181	Landscape Construction Techniques	3
+AGL190	Landscape Design II	3
DFT105	Computer Aided Drafting I	3

Track II - Nursery Operations (9 credits)

AGS186	Greenhouse Management and Construction	3
AGS187	Indoor Foliage Plants	3
AGS285	Propagation of Horticultural Plants	3

Track III - Landscape Management (9 credits)

AGS182	Gardening Practices and Techniques	2
AGS187	Indoor Foliage Plants	3
AGS284	Lawn and Turf Care	3
+AGS296WA	Cooperative Education	1

Track IV - Turfgrass Management (9 credits)

AGL181	Landscape Construction Techniques	3
AGS261	Soil Fertility and Management	3
AGS284	Lawn and Turf Care	3

Track V - Floriculture/Floral Design (9 credits)

AGB140	Commercial Floral Design	3
AGB142	Floriculture	3
AGS182	Gardening Practices and Techniques	2
AGS296WA	Cooperative Education	1

General Education Requirements (25-27 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **AND**	
+ENG102	First-Year Composition (3)	6

Oral Communication

COM110	Interpersonal Communication	3

Critical Reading

+CRE101	Critical and Evaluative Reading I **OR** equivalent by assessment	3

Mathematics

+MAT102	Mathematical Concepts/Applications (3) **OR** MAT120. . . Intermediate Algebra (5) **OR**	
+MAT121	Intermediate Algebra (4) **OR**	
+MAT122	Intermediate Algebra (3) **OR** equivalent as indicated by assessment **OR** approved mathematics course which is required in a specific AAS program	3-5

Humanities and Fine Arts

	Any approved general education course in the Humanities and Fine Arts area	3

Social and Behavioral Sciences

	Any approved general education course from the Social and Behavioral Sciences area	3

Natural Sciences

	Any approved general education course from the Natural Sciences area	4

CERTIFICATE OF COMPLETION (CCL) IN LANDSCAPE AIDE (13 CREDITS) MAJOR CODE: 5069

The Certificate of Completion (CCL) in Landscape Aide prepares students to work as technicians or supervisors in nurseries or landscape construction. The program emphasizes the technology of production and management of urban horticultural products and services.

+ indicates course has prerequisites and/or corequisites.

Required Courses (13 credits)

AGL181	Landscape Construction Techniques . . .3
AGL189	Landscape Design I. 3
AGS164	Plant Growth and Development 4
AGS183	Urban Plant Identification and Use 3

CERTIFICATE OF COMPLETION (CCL) IN LANDSCAPE SPECIALIST (27 CREDITS) MAJOR CODE: 5073

The Certificate of Completion (CCL) in Landscape Specialist prepares students to work as technicians, supervisors, managers, or owners in nurseries or landscape construction. In addition, the program prepares students for jobs with government agencies or other agencies involved with the technical phases of the urban horticulture industry. The program emphasizes the technology of production and management of urban horticultural products and services.

Required Courses (27 credits)

Certificate of Completion in Landscape Aide (13 credits)

AGB139	Agribusiness Computer Operations 3
AGL185	Establishing and Running an Agribusiness 3
AGS260	Origin and Composition of Soils. 4
AGS268	Insect, Weed and Pest Control 4

Industrial Education Degree

- **Associate in Applied Science (AAS) in Industrial Education**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141

ASSOCIATE IN APPLIED SCIENCE (AAS) IN INDUSTRIAL EDUCATION (66 CREDITS) MAJOR CODE: 3061

The Associate in Applied Science (AAS) in Industrial Education includes a variety of technical courses common to the standard grades 7-12 industrial technology curriculum. This degree is the content specific technical foundation needed for industrial technology instruction. Students obtaining this degree can then pursue a four-year industrial technology education degree.

Requirements

**ELE105 required for Electronics Track III.

Program Prerequisites (3 credits)

GTC107	Technical Mathematics I (3) **OR** Technical Mathematics placement test score 3

Required Courses (26-28 credits)

Students must earn a grade of "C" or better for all courses within the required courses area

APT151	Automotive Brake Systems. 4
DFT110	Technical Drafting I 3
EDU222	Introduction to the Exceptional Learner (3) **OR**
EDU230	Cultural Diversity in Education (3) 3
ELE100	Concepts of Electricity and Electronics . .3
+ELE101	Beginning Algebra for Technology (3) **OR**
+**ELE105	Algebra-Trigonometry for Technology (5) **OR**
+GTC108	Technical Mathematics II (3) 3-5
GTC104	Manufacturing Processes 4
GTC127	Beginning Woodworking 3
WLD101	Welding I 3

Restricted Electives (18 credits)

Take three courses from one track, two courses from another track, and one course from an additional track.

Track I - Automotive

APT111	Internal Combustion Engine Theory . . .3
APT141	Alignment, Steering, and Suspension. . .6
APT161	Auto Electrical/Electronic Systems I . . .4
APT181	Engine Performance and Diagnosis I . . .6

Track II - Drafting

+DFT115	Geometric Dimensioning and Tolerancing 3
DFT121	Introduction to Architectural Drafting . .3
+DFT122	Residential Architectural Drafting 3
+DFT252AA	Computer Aided Drafting I: AutoCAD . .3
+DFT254AA	Computer Aided Drafting II: AutoCAD . .3

Track III - Electronics

+ELE111	Circuit Analysis I. 4
+ELE112	Circuit Analysis II 4
+ELE121	Solid State Devices and Circuits I. 4
+ELE131	Digital Logic and Circuits. 3
+ELE222	Solid-State Devices and Circuits II. 4

Track IV - Manufacturing

GTC102	Machine Processes, Theory, and Application 3
GTC170	Plastics Technology. 3
GTC185	Electro-Mechanical Devices 4
+GTC206	CNC Programming 3
GTC216	Properties of Materials 3
+GTC236	CAD/CAM Computer Numerical Control (CNC) Programming 3

Track V - Welding

GTC129	Manufacturing Welding 3
WLD106	Arc Welding. 5
+WLD201	Welding II 3
+WLD206	Advanced Welding: Heliarc and Wire Feed. 5
+WLD208	Advanced Arc Welding: Certification . .5

+ indicates course has prerequisites and/or corequisites.

Track VI - Woods

+GTC128	Intermediate Woodworking	3
GTC130	Furniture Construction I	3
+GTC131	Furniture Construction II	3
GTC144	Introduction to Cabinetmaking	3
+GTC145	Advanced Cabinetmaking	

General Education Requirements (22 credits)

First-Year Composition		
	Any approved general education course in the First-Year Composition area	6
Oral Communication		
+COM225	Public Speaking (3) **OR**	
+COM230	Small Group Communication (3)	3
Critical Reading		
+CRE101	Critical and Evaluative Reading I (3) at "C" level or above **OR** equivalent as indicated by assessment	3
Mathematics		
	Met by ELE101, or ELE105 or GTC108 in required courses area.	
Humanities and Fine Arts		
	Any approved general education course in the Humanities and Fine Arts area	3
Social and Behavioral Sciences		
EDU221	Introduction to Education	3
Natural Sciences		
	Any approved general education course in the Natural Sciences area	4

Information Assurance Certificates/Degrees

- **Associate in Applied Science (AAS) in Information Assurance**
- **Certificate of Completion (CCL) in Information Assurance**
- **Certificate of Completion (CCL) in the Cyber Forensics Technician**

Department Chairperson: Linda Collins
Contact: (480) 461-7077

ASSOCIATE IN APPLIED SCIENCE (AAS) IN INFORMATION ASSURANCE (62 CREDITS) MAJOR CODE: 3010

The Associate in Applied Science (AAS) in Information Assurance program is designed to equip students with marketable skills and knowledge for adaptation to specific tasks and industry-recognized standards associated with network security, information and data security, and information assurance. This program also prepares students to complete the required certification tests for several industry certifications, including Cisco, CompTia Security +, and Global Information Assurance Certifications (GIAC). Relevant certification tests are identified in individual course descriptions.

Program Prerequisites (3-32 credits)

CCL Network Administration: Novell/5122 (26-28) **OR**
CCL Network Administration: UNIX-Solaris (29-32) **OR**
CCL Network Administration: Microsoft Windows (28-31) **OR**
Departmental approval **AND**
+CRE101 Critical and Evaluative Reading I (3) 3-32

Required Courses (25 credits)

+CIS247DA	Cyber Forensics and Incident Handling	3
+CIS238US	UNIX Security	3
+CIS271DA	Security Certified Professional (SCP) Hardening the Infrastructure	3
+CIS272DA	Security Certified Professional (SCP) Network Defense and Countermeasures	3
+CIS273DA	Information Audit and Risk Analysis	3
+CIS247DL	Legal Issues of Information Assurance	3
+CIS273DC	Data Assurance and Disaster Recovery	3
+CIS279DA	Practical Applications in Information Assurance	4

Restricted Electives (25 credits)

+CNT185	Cisco Network Security	4
+CNT186	Fundamentals of Wireless LANs	4
+CNS230	Cisco Network Troubleshooting (4) **OR**	
+MST259	Designing Windows Network Security (3)	3-4
+CIS245	Novell NetWare Advanced System Administration	3
+CIS175CG	Designing a Secure Microsoft Windows 2000 Network	3
+CNT170	Cisco Wide Area Networks (WAN) Technologies	3
+CIS238	Advanced UNIX System Administration	3
+CIS273DB	Digital Authentication and Public Key Infrastructure (PKI)	3
+CIS290AC	Computer Information Systems Internship (3) **OR**	
+CIS298AC	Special Projects (3)	3

General Education Requirements (22-24 credits)

First-Year Composition		
+ENG101	First-Year Composition (3) **AND**	
+ENG111	Technical Writing (3)	6
Oral Communication		
COM100	Introduction to Human Communication (3) **OR**	
+COM225	Public Speaking (3) **OR**	
+COM230	Small Group Communication (3)	3
Critical Reading		
	Met by program prerequisite	
Mathematics		
+MAT150	College Algebra/Functions (5) **OR**	
+MAT151	College Algebra/Functions (4) **OR**	
+MAT152++	College Algebra/Functions (3)	3-5
Humanities and Fine Arts		
	Any approved general education course in the Humanities and Fine Arts area (PHI214 Business Ethics suggested but not required)	3

+ indicates course has prerequisites and/or corequisites.

Social and Behavioral Sciences
ECN211 Microeconomic Principles (3) **OR**
ECN212 Macroeconomic Principles (3) 3
Natural Sciences
PHY101 Introduction to Physics 4

CERTIFICATE OF COMPLETION (CCL) IN INFORMATION ASSURANCE (19 CREDITS) MAJOR CODE: 5227

The Certificate of Completion (CCL) in Information Assurance program equips students with marketable skills and knowledge for adaptation to specific tasks and industry-recognized standards associated with network security, information and data security, and information assurance. This program also prepares students to complete required certification tests for several industry certifications, including Cisco, CompTia Security +, and Global Information Assurance Certifications (GIAC). Relevant certification tests are identified in individual course descriptions.

Requirements

Students must earn a grade of "C" or better in all courses within the program.

Program Prerequisites (22 credits)

Certificate of Completion in Network Security. 22

Required Courses (19 credits)

+CIS247DA Cyber Forensics and Incident Handling. . 3
+CIS247DL Legal Issues of Information Assurance . .3
+CIS273DA Information Audit and Risk Analysis. . .3
+CIS273DB Digital Authentication and Public Key Infrastructure (PKI) 3
+CIS273DC Data Assurance and Disaster Recovery . .3
+CIS279DA Practical Applications in Information Assurance 4

CERTIFICATE OF COMPLETION (CCL) IN THE CYBER FORENSICS TECHNICIAN (36-38 CREDITS) MAJOR CODE: 5228

The Certificate of Completion (CCL) in the Cyber Forensics Technician program equips students with marketable skills and knowledge to finalize and validate procedures for forensics investigations, including data acquisition, chain of custody, evidence handling, and reporting. Students prepare to conduct, document, and report on forensics investigations for corporate, human resources, legal, and federal law enforcement applications, including instances of misuse or criminal activity. Students are trained to support Incident Response Team's problem management functions to find root causes and suggest improvements to eliminate root causes. Students gain skills and knowledge used in oral and written communication with human resources, legal, corporate, and several technical teams as well as security team's upper management.

Program Prerequisites (6 credits)

CIS105 Survey of Computer Information Systems (3) **AND**
+CRE101 Critical and Evaluative Reading I (3) . . .6

Required Courses (36-38 credits)

+BPC170 Computer Maintenance I: A+ Prep. 3
+BPC273 Advanced Server Computer Maintenance: Server+ Prep 3
CIS109AM Networking Technology I 2
+MST152 Microsoft Windows Server 4
CIS126++ UNIX Operating System (any module) 1-3
+CIS238 Advanced UNIX System Administration. . 3
CNT140 Cisco Networking Basics 4
+CIS270 Essentials of Network and Information Security. 3
+CIS247DL Legal Issues of Information Assurance . .3
+CIS247DA Cyber Forensics and Incident Handling. .3
+CIS247DB Advanced Cyber Forensics and Incident Handling 3
+CIS279DC Moot Court and Practical Applications in Cyber Forensics. 4

Interior Design Certificates/Degrees

- **Associate in Applied Science (AAS) in Interior Design**
- **Certificate of Completion (CCL) in Home Furnishings and Materials**
- **Certificate of Completion (CCL) in Interior Design: Advanced**

Department Chairperson: Janice Pierson
Contact: (480) 461-7724
Program Director: Sally Kroelinger
Contact: (480) 461-7134

ASSOCIATE IN APPLIED SCIENCE (AAS) IN INTERIOR DESIGN (67 CREDITS) MAJOR CODE: 3093

The Associate in Applied Science (AAS) in Interior Design program prepares students to work in an entry-level interior design position. The program provides both general education and interior design classes including basic design, color theory and application, architectural and furniture history, drafting and computer aided design (CAD) for interior design, space planning, interior materials, rendering, and codes and regulations. Studio projects allow students to identify, research, solve, and present residential design problems.

Required Courses (45 credits)

ARH101 Prehistoric Through Gothic Art (3) **OR**
ARH102 Renaissance Through Contemporary Art (3) 3

+ indicates course has prerequisites and/or corequisites.

INT100	Interior Design Drafting	3
INT105	Introduction to Interior Design	3
INT115	Historical Architecture and Furniture	3
INT120	Modern Architecture and Furniture	3
+INT140	Introduction to CAD for Interior Design	3
+INT145	Drawing and Rendering	3
INT150	Color and Design	3
INT160	Fabrics for Interiors	3
+INT170	Interior Materials	3
+INT175	Custom Design	3
+INT190	Space Planning	3
+INT200	Advanced CAD for Interior Design	3
+INT205	Residential Design	3
+INT260	Interior Codes and Regulations	3

General Education Requirements (22 credits)

First-Year Composition

+Any approved general education courses from the First-Year Composition area . . . 6

Oral Communication

+Any approved general education course from the Oral Communication area 3

Critical Reading

+Any approved general education course from the Critical Reading area (3) **OR** Equivalent as indicated by assessment . . 3

Mathematics

+Any approved general education course from the Mathematics area 3

Humanities and Fine Arts

Met by INT115 and INT120, in Required Courses area.

Social and Behavioral Sciences

PSY101	Introduction to Psychology	3

Natural Sciences

+Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION (CCL) IN HOME FURNISHINGS AND MATERIALS (30 CREDITS) MAJOR CODE: 5429

The Certificate of Completion (CCL) in Home Furnishings and Materials is designed to provide the student with a working knowledge of the residential home furnishings industry, including basic design elements and principles, color theory, historical architecture and furniture, fabrics, and other materials used throughout the home environment. Elective coursework allows the student to take specific courses that will help them prepare for the particular segment of the industry they are most interested in pursuing.

Required Courses (18 credits)

INT105	Introduction to Interior Design	3
INT115	Historical Architecture and Furniture	3
INT120	Modern Architecture and Furniture	3
INT150	Color and Design	3
INT160	Fabrics for Interiors	3
+INT170	Interior Materials	3

Restricted Electives (12 credits)

AGB140	Commercial Floral Design	3
AGS187	Indoor Foliage Plants	3
ARH100	Introduction to Art	3
ART100	Introduction to Computer Graphic Art	1
ASB251	Introduction to Museums	3
DFT126	Building Trades Blueprint Reading	3
GTC130	Furniture Construction I	3
+GTC131	Furniture Construction II	3
GTC144	Introduction to Cabinetmaking	3
+GTC145	Advanced Cabinetmaking	3
+JRN234	Feature Writing	3
MGT251	Human Relations in Business	3
MKT/TEC151	Display and Visual Merchandising	3
MKT268	Merchandising	3
TEC126	Sewing for the Home	3
TEC128	Home Upholstery	3
TQM101	Quality Customer Service	3

CERTIFICATE OF COMPLETION (CCL) IN INTERIOR DESIGN: ADVANCED (27 CREDITS) MAJOR CODE: 5482

The Certificate of Completion (CCL) in Interior Design: Advanced provides a comprehensive program intended to prepare students beyond the AAS for professional status in the field of interior design. Additional interiors coursework is done in building systems (lighting; acoustics; plumbing; heating, ventilation, and air conditioning (HVAC)), advanced presentation skills, professional practice and commercial studio. An integral part of the program is a design internship which provides on-the-job experience under the supervision of a professional interior designer, and the development of a portfolio. This program is accredited by the Council for Interior Design Accreditation (CIDA), formerly known as FIDER.

Restricted Electives Area

Students should select restricted electives that are not part of the general education courses in the AAS Interior Design degree this allows for a broader general education experience.

Admission Criteria

Completion of Associate in Applied Science in Interior Design, or equivalent, and permission of Program Director.

Required Courses (18 credits)

+INT215	Professional Practices	3
+INT230	Presentation Techniques	3
+INT265	Building Systems	3
+INT270	Commercial Design	3

Students are required to complete a total of three (3) credits from the following courses:

+INT271AA	Interior Design Internship (1) **OR**	
+INT271AB	Interior Design Internship (2) **OR**	
+INT271AC	Interior Design Internship (3)	3
+INT290	Advanced Commercial Design	3

+ indicates course has prerequisites and/or corequisites.

Restricted Electives (9 credits)

Select any ARH course not used in AAS

ARH+++++	Any ARH course	3
ASB102	Introduction to Cultural and Social Anthropology	3
ASB211	Women in Other Cultures	3
ASB235	Southwest Archaeology	3
BIO+++++	Any Biology course	3-5
CFS157	Marriage and Family Life	3
CFS176	Child Development	3
CFS205	Human Development	3
+CFS259	Sexuality Over the Life Span	3
CHM+++++	Any Chemistry course	4
ECN+++++	Any Economics course.	3
ENH+++++	Any English Humanities course.	3
HIS+++++	Any History course.	3
HUM+++++	Any Humanities course.	3
MAT+++++	Any Mathematics course.	3-5
MHL+++++	Any Music Humanities course	3
PHI+++++	Any Philosophy course	3
PHY+++++	Any Physics course	3
PSY125	Leadership and Group Dynamics	3
PSY+++++	Any Psychology course, except PSY101	3
REL+++++	Any Religious Studies course.	3
SBU200	Society and Business	3
SOC+++++	Any Sociology course	3
THE111	Introduction to Theatre	3
THE205	Introduction to Cinema	3
THE210	Contemporary Cinema	3
+THE220	Modern Drama	3

Journalism Degrees

- **Associate in Applied Science (AAS) in Journalism**
- **Associate in Applied Science (AAS) in Public Relations**

Program Director: Jack Mullins
Contact: (480) 461-7270

ASSOCIATE IN APPLIED SCIENCE (AAS) IN JOURNALISM (63 CREDITS) MAJOR CODE: 3120

The Associate in Applied Science (AAS) in Journalism provides students with general, practical and marketable skills that will enable them to seek entry-level employment in news and feature writing for newspapers, magazines, community journals, online websites and radio and television. The program includes development of a portfolio that will exhibit students' abilities to write both news and feature stories. The development of news judgment is also a critical component of the program. An awareness of global and cultural differences also forms a key element of this degree for the successful graduate. The curriculum combines coursework in journalism with a General Education component.

Required Courses (35-37 credits)

ART131	Photography I	3
BPC110	Computer Usage and Applications	3
+ENG216	Persuasive Writing on Public Issues	3
JRN125	Photo Editing	3
JRN133	Development of Small Publications	3
+JRN201	Newswriting	3
+JRN203	Writing for Online Media	3
JRN215	News Production	3
JRN234	Feature Writing	3
+JRN240++	Journalism Internship	1-3
+JRN298AA	Special Projects	1
+MCO120	Media and Society	3
+MCO220	Cultural Diversity and the Media	3

Restricted Electives (3 credits)

ENH110	Introduction to Literature	3
ENH112	Chicano Literature.	3
ENH113	Writers/Directors and Current Issues	3
ENH114	African-American Literature	3
ENH206	Nature and Environmental Literature	3
+GBS233	Business Communication	3
HIS243	World Religions **OR**	
REL243	World Religions	3
HUM107	Humanities Through the Arts	3
HUM125	The Urban Experience.	3
HUM201	Humanities: Universal Themes.	3
+HUM250	Ideas and Values in the Humanities	3
+HUM251	Ideas and Values in the Humanities	3
+JRN212	Broadcast Writing	3
+JRN236	Advanced Practicum: Public Relations	3
MGT251	Human Relations in Business	3

General Education Requirements (25-27 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **AND**	
+ENG102	First-Year Composition (3) **OR**	
+ENG111	Technical Writing (3)	6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**	
COM110	Interpersonal Communication (3) **OR**	
+COM225	Public Speaking (3) **OR**	
+COM230	Small Group Communication (3)	3

Critical Reading

+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment	3

Mathematics

+MAT102	Mathematical Concepts Applications (3) **OR**	
+MAT120	Intermediate Algebra (5) **OR**	
+MAT121	Intermediate Algebra (4) **OR**	
+MAT122	Intermediate Algebra Accelerated (3) **OR** satisfactory completion of a higher level mathematics course	3-5

Humanities and Fine Arts

	Any approved general education course from the Humanities and Fine Arts area	3

+ indicates course has prerequisites and/or corequisites.

Social and Behavioral Sciences
Any approved general education course from the Social and Behavioral Sciences area 3
Natural Sciences
Any approved general education course from the Natural Sciences area 4

ASSOCIATE IN APPLIED SCIENCE (AAS) IN PUBLIC RELATIONS (64 CREDITS) MAJOR CODE: 3674

The Associate in Applied Science (AAS) in Public Relations provides students with general, practical, and marketable skills that will enable them to seek entry-level employment in public relations, such as press relations, community or consumer relations, market research, in-house publications, political campaigns, fundraising and volunteer recruitment. The program includes development of a portfolio that will exhibit students' abilities to write both news and feature stories, to develop and plan events, and to produce brochures, advertisements, or small publications with desktop publishing. The curriculum combines coursework in public relations with a General Education component.

Required Courses (36 credits)

ART131	Photography I	.3
BPC110	Computer Usage and Applications	.3
JRN125	Photo Editing	.3
JRN133	Development of Small Publications	.3
+JRN201	News Writing (3) **OR**	
+JRN212	Broadcast Writing (3)	.3
JRN215	News Production	.3
JRN234	Feature Writing	.3
+JRN235	Practicum: Public Relations	.3
+MCO120	Media and Society	.3
MKT101	Introduction to Public Relations	.3
MKT263	Advertising Principles	.3
MKT267	Principles of Salesmanship	.3

Restricted Electives (3 credits)

GBS233	Business Communication	.3
+JRN236	Advanced Practicum: Public Relations.	.3
MGT251	Human Relations in Business	.3

General Education Requirements (25-27 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **AND**
+ENG102	First-Year Composition (3) **OR**
+ENG111	Technical Writing (3)

Oral Communication

COM100	Introduction to Human Communication (3) **OR**
COM110	Interpersonal Communication (3) **OR**
+COM225	Public Speaking (3) **OR**
+COM230	Small Group Communication (3)

Critical Reading

+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment

Mathematics

+MAT102	Mathematical Concepts Applications (3) **OR**
+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra Accelerated (3) **OR** satisfactory completion of a higher level mathematics course

Humanities and Fine Arts
Any approved general education course from the Humanities and Fine Arts area
Social and Behavioral Sciences
Any approved general education course from the Social and Behavioral Sciences area
Natural Sciences
Any approved general education course from the Natural Sciences area

Library Science and Technology Certificates/Degrees

- **Associate in Applied Science (AAS) in Library Information Technology**
- **Certificate of Completion (CCL) in Library Information Technology, Basic**
- **Certificate of Completion (CCL) in Library Information Technology: Advanced**
- **Certificate of Completion (CCL) in Library Information Technology: Practitioners**
- **Certificate of Completion (CCL) in Library Information Technology: School Library Media Center**

Department Chairperson: Lorna Peralta
Contact: (480) 654-7743

ASSOCIATE IN APPLIED SCIENCE (AAS) IN LIBRARY INFORMATION TECHNOLOGY (64 CREDITS) MAJOR CODE: 3392

The Associate in Applied Science (AAS) in Library Information Technology prepares students for paraprofessional positions in libraries and information organizations, and upgrades the skills of staff presently working in libraries. The program also serves those wishing to change careers or change their current assignment. Individual courses serve as a continuing education option for employees of libraries or information organizations.

Required Courses (30 credits)

+LBT101	Foundation of Libraries and Information Services	.3
+LBT110	Introduction Technical Services and Collection Management	.3
+LBT130	Introduction to Reference Skills and Resources	.3
+LBT140	Multi-media for Libraries and Information Centers	.3

+ indicates course has prerequisites and/or corequisites.

+LBT150	Introduction to Public Services for Libraries and Information Centers 3
+LBT160	Introduction to Library Information Systems 3
+LBT271	Library Information Industry Careers and Portfolio Development 1
LBT272++	Internship (any module) 1

Students should choose one of the following three tracks:

Track I - Library Information Technician (10 credits)

+LBT212	Introduction to Archival Methods (2) **OR**
+LBT215	Cataloging and Classification of Library Materials (2) **OR**
+LBT217	Serials Management (1) **OR**
LBT218	Basic Materials Repair (1) **OR**
LBT219	Collection Maintenance and Shelf Management (1) **OR**
+LBT234	Advanced Internet Research (1) **OR**
LBT252	Customer Service and Supervisory Skills for Paraprofessionals (1) **OR**
+LBT254	Library Services for Children and Young Adults (2) **OR**
+LBT255	Organization and Management of the Small Library (3) **OR**
+LBT262	Computer Maintenance and Security for Libraries (1) **OR**
+LBT265	Database Management for Libraries (1) **OR**
+LBT266	Advances in Information Systems (1) **OR**
+LBT270	Practicum Projects (1) **OR**
+LBT273	Special Topics in Library Information Services (1) **OR**
+LBT274	Independent Study in Library Information Services (1) **OR**
+IFS101	Information Skills in the Digital Age (3). . 10

Track II - Library Practitioner (10 credits)

+LBT255	Organization and Management of the Small Library. 3
+LBT212	Introduction to Archival Methods (2) **OR**
+LBT215	Cataloging and Classification of Library Materials (2) **OR**
+LBT217	Serials Management (1) **OR**
LBT218	Basic Materials Repair (1) **OR**
LBT219	Collection Maintenance and Shelf Management (1) **OR**
+LBT234	Advanced Internet Research (1) **OR**
LBT252	Customer Service and Supervisory Skills for Paraprofessionals (1) **OR**
+LBT254	Library Services for Children and Young Adults (2) **OR**
+LBT262	Computer Maintenance and Security for Libraries (1) **OR**
+LBT265	Database Management for Libraries (1) **OR**
+LBT266	Advances in Information Systems (1) **OR**
+LBT270	Practicum Projects (1) **OR**
+LBT273	Special Topics in Library Information Services (1) **OR**
+LBT274	Independent Study in Library Information Services (1) **OR**
+IFS101	Information Skills in the Digital Age (3) . . 7

Track III - School Library Media Center (10 credits)

+LBT255	Organization and Management of the Small Library. 3
+LBT254	Library Services for Children and Young Adults. 2
ENH/EDU291	Children's Literature 3
+LBT212	Introduction to Archival Methods (2) **OR**
+LBT215	Cataloging and Classification of Library Materials (2) **OR**
+LBT217	Serials Management (1) **OR**
LBT218	Basic Materials Repair (1) **OR**
LBT219	Collection Maintenance and Shelf Management (1) **OR**
+LBT234	Advanced Internet Research (1) **OR** . . . . .
LBT252	Customer Service and Supervisory Skills for Paraprofessionals (1) **OR**
+LBT262	Computer Maintenance and Security for Libraries (1) **OR**
+LBT265	Database Management for Libraries (1) **OR**
+LBT266	Advances in Information Systems (1) **OR**
+LBT270	Practicum Projects (1) **OR**
+LBT273	Special Topics in Library Information Services (1) **OR**
+LBT274	Independent Study in Library Information Services (1) **OR**
+IFS101	Information Skills in the Digital Age (3) . . 2

Restricted Electives (9 credits)

BPC+++++	Any BPC Business-Personal Computers prefixed course (3-6) **OR**
CIS+++++	Any CIS Computer Information Systems prefixed course (3-6) **OR**
ENH+++++	Any ENH English Humanities prefixed course (3-6) **OR**
IFS+++++	Any IFS Information Studies prefixed course (3-6) **OR**
LBS+++++	Any LBS Library Skills prefixed course (3-6) 3-6
LBT+++++	Any LBT Library Technology prefixed course 1-9
+ART190	Art of Website Design 3
CIS105	Survey of Computer Information Systems 3
CIS133DA	Internet/Web Development Level I. 3
+CIS233BA	Internet/Web Development Level II-B . .1
+CIS233DA	Internet/Web Development Level II 3
+COM225	Public Speaking. 3
+COM230	Small Group Communication 3
COM263	Elements of Intercultural Communication. . 3
CPD102AH	Stress Management 2
CPD103BA	Women in Transition 2
EDU/ENH291	Children's Literature 3
EDU292	The Art of Storytelling 3
IFS101	Information Skills for the Digital Age . .3

+ indicates course has prerequisites and/or corequisites.

+MCO120	Media and Society	3
+MCO220	Cultural Diversity and the Media	3
OAS101	Computer Typing I: Keyboarding and Formatting	3
OAS111AA	Computer Keyboarding I.	1
+PSY255	Psychology of the Information Age	3
TQM101	Quality Customer Service.	3

General Education Requirements (25 credits)

First-Year Composition		
	Any approved general education course from the First-Year Composition area.	6
Oral Communication		
	Any approved general education course from the Oral Communication area	3
Critical Reading		
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment	3
Mathematics		
	Any approved general education course from the Mathematics area	3
Humanities and Fine Arts		
	Any approved general education course in the Humanities and Fine Arts area	3
Social and Behavioral Sciences		
	Any approved general education course from the Social and Behavioral Sciences area	3
Natural Sciences		
	Any approved general education course from the Natural Sciences area	4

CERTIFICATE OF COMPLETION (CCL) IN LIBRARY INFORMATION TECHNOLOGY, BASIC (20 CREDITS) MAJOR CODE: 5991

The Certificate of Completion (CCL) in Library Information Technology, Basic provides an introduction to library information services and practical skills for entry-level employment as a page, clerk, or library information assistant/technician, as well as to upgrade the skills of staff who presently work in library information organizations.

Required Courses (20 credits)

+LBT101	Foundation of Libraries and Information Services.	3
+LBT110	Introduction Technical Services and Collection Management	3
+LBT130	Introduction to Reference Skills and Resources	3
+LBT140	Multi-media for Libraries and Information Centers	3
+LBT150	Introduction to Public Services for Libraries and Information Centers	3
+LBT160	Introduction to Library Information Systems	3
+LBT271	Library Information Industry Careers and Portfolio Development	1
LBT272++	Internship (any module)	1

CERTIFICATE OF COMPLETION (CCL) IN LIBRARY INFORMATION TECHNOLOGY: ADVANCED (30 CREDITS) MAJOR CODE: 5913

The Certificate of Completion (CCL) in Library Information Technology: Advanced provides an opportunity for library employees or others to take basic and specialized courses leading to a thorough background as a library information technician.

Required Courses (20 credits)

+LBT101	Foundation of Libraries and Information Services.	3
+LBT110	Introduction Technical Services and Collection Management	3
+LBT130	Introduction to Reference Skills and Resources	3
+LBT140	Multi-media for Libraries and Information Centers	3
+LBT150	Introduction to Public Services for Libraries and Information Centers	3
+LBT160	Introduction to Library Information Systems	3
+LBT271	Library Information Industry Careers and Portfolio Development	1
+LBT272++	Internship (any module)	1

Restricted Electives (10 credits)

IFS101	Information Skills in the Digital Age	3
+LBT212	Introduction to Archival Methods.	2
+LBT215	Cataloging and Classification of Library Materials.	2
+LBT217	Serials Management	1
LBT218	Basic Materials Repair	1
LBT219	Collection Maintenance and Shelf Management.	1
+LBT234	Advanced Internet Research	1
+LBT252	Customer Service and Supervisory Skills for Paraprofessionals.	1
+LBT254	Library Services for Children and Young Adults.	2
+LBT255	Organization and Management of the Small Library.	3
+LBT262	Computer Maintenance and Security for Libraries.	1
+LBT265	Database Management for Libraries.	1
+LBT266	Advances in Information Systems	1
+LBT270	Practicum Projects.	1
+LBT271	Library Information Industry Careers	1
+LBT72++	Library Internship (any module).	1-3
+LBT273	Special Topics in Library Information Services (May be repeated).	1-3
+LBT274	Independent Study in Library Information Services.	1

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN LIBRARY INFORMATION TECHNOLOGY: PRACTITIONERS (23 CREDITS) MAJOR CODE: 5549

The Certificate of Completion (CCL) in Library Information Technology: Practitioners will qualify students working as a library manager or director to apply for certification through the regional Western Council of State Libraries Practitioner Certification program.

Required Courses (23 credits)

	Certificate of Completion in Library Information Technology: Basic. 20
LBT255	Organization and Management of the Small Library. 3

CERTIFICATE OF COMPLETION (CCL) IN LIBRARY INFORMATION TECHNOLOGY: SCHOOL LIBRARY MEDIA CENTER (28 CREDITS) MAJOR CODE: 5550

The Certificate of Completion (CCL) in Library Information Technology: School Library Media Center prepares and upgrades the skills of staff working in school library media centers.

Required Courses (28 credits)

	Certificate of Completion in Library Information Technology: Basic. 20
EDU291	Children's Literature (3) **OR**
ENH291	Children's Literature (3) 3
+LBT254	Library Services for Children and Young Adults. 2
+LBT255	Organization and Management of the Small Library. 3

Machine Technology Degree

- **Associate in Applied Science (AAS) in Machining and Product Development**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141

ASSOCIATE IN APPLIED SCIENCE (AAS) IN MACHINING AND PRODUCT DEVELOPMENT (66 CREDITS) MAJOR CODE: 3542

The Associate in Applied Science (AAS) in Machining and Product Development will prepare students to enter the job market with the entry-level skills to be able to develop new products with input from engineering sketches and drawings. The program will provide students with the broad range of skills and abilities, including machining skills, electro-mechanical assembly abilities, and product test and prove-out knowledge. Much of the program is designed to provide hands-on experience, with various machine shop machines and their accessories, as well as a suitable amount of related classroom material. Students who complete the program will have basic machining skills required to solve problems and technical challenges, and be able to work well in a product development environment or a custom, low volume production environment.

Program Prerequisites (3 credits)

GTC107	Technical Mathematics I **OR** Satisfactory score on math placement test . .3

Required Courses (44-47 credits)

DFT114	Machine Trades Blueprint Reading 3
+DFT115	Geometric Dimensioning and Tolerancing 3
+DFT252AA	Computer Aided Drafting I: AutoCAD . .3
GTC102	Machine Processes, Theory and Application 3
ELE100	Concepts of Electricity and Electronics . .3
GTC104	Manufacturing Processes 4
GTC106	Industrial Safety 2
+GTC108	Technical Mathematics II 3
+GTC185	Electro-Mechanical Devices 4
+GTC206	CNC Programming 3
GTC216	Properties of Materials 3
+GTC223	Advanced Machine Tools 3
+GTC208	Statistical Process Control (3) **OR**
MET131	Lean Manufacturing (3) **OR**
QCT143	Principles of Quality Assurance (3) 3
GTC129	Manufacturing Welding (3) **OR**
WLD101	Welding I (3) 3
GTC296++	Cooperative Education (1-4) **OR**
GTC298++	Special Projects (1-3). 1-4

General Education Requirements (22 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **OR**
+ENG107	First-Year Composition for ESL (3) **AND**
+ENG102	First-Year Composition (3) **OR**
+ENG108	First-Year Composition for ESL (3) **OR**
+ENG111	Technical Writing (3) 6

Oral Communication

	+Any approved General Education course in the Oral Communication area. 3

Critical Reading

+CRE101	Critical and Evaluative Reading I (3) **OR** Equivalent as indicated by assessment . .3

Mathematics

	Met by GTC108 in the Required Courses area

Humanities and Fine Arts

	Any approved general education course in the Humanities and Fine Arts Area . .3

Social and Behavioral Sciences

	Any approved general education course from the Social and Behavioral Sciences Area 3

Natural Sciences

	Any approved general education course from the Natural Sciences Area 4

+ indicates course has prerequisites and/or corequisites.

Manufacturing Technology Certificates/Degrees

- **Associate in Applied Science (AAS) in Manufacturing Engineering Technology**
- **Associate in Applied Science (AAS) in Manufacturing Technology**
- **Certificate of Completion (CCL) in Electromechanical Manufacturing Technology**
- **Certificate of Completion (CCL) in CAD/CAM/CNC I**
- **Certificate of Completion (CCL) in CAD/CAM/CNC II**
- **Certificate of Completion (CCL) in Machining I**
- **Certificate of Completion (CCL) in Machining II**
- **Certificate of Completion (CCL) in Manufacturing Management**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141

ASSOCIATE IN APPLIED SCIENCE (AAS) IN MANUFACTURING ENGINEERING TECHNOLOGY (66 CREDITS) MAJOR CODE: 3512

The Associate in Applied Science (AAS) in Manufacturing Engineering Technology prepares technologists with both conceptual and practical applications of processes, materials, and products related to manufacturing industries. The curriculum combines coursework in technology with a General Education component.

Program Prerequisites (3 credits)

+ELE101	Beginning Algebra for Technology (3) **OR** equivalent **OR** satisfactory score on a placement test **OR**
+GTC108	Technical Mathematics II (3) 3

Required Courses (48 credits)

+CHM130	Fundamental Chemistry (3) **AND**
+CHM130LL	Fundamental Chemistry Lab (1) 4
DFT114	Machine Trades Blueprint Reading 3
+DFT115	Geometric Dimensioning and Tolerancing 3
+DFT252AA	Computer Aided Drafting I: Auto CAD. .3
+ELE105	Algebra/Trigonometry for Technology. .5
GTC102	Machine Processes, Theory & Application 3
GTC104	Manufacturing Processes 4
GTC106AA	Industrial Safety 2
+GTC185	Electro-Mechanical Devices 4
+GTC206	CNC Programming 3
GTC216	Properties of Materials 3
+PHY111	General Physics I. 4
+PHY112	General Physics II 4
WLD101	Welding I (3) **OR**
GTC129	Manufacturing Welding (3). 3

General Education Requirements (18 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **AND**
+ENG102	First-Year Composition (3) 6

Oral Communication

+COM225	Public Speaking. 3

Critical Reading

	Any approved general education course in the Critical Reading area 3

Mathematics

	Met by +ELE105 in required courses area **OR** Met by +GTC108 in program prerequisites area.

Humanities and Fine Arts

REL101	Introduction to Religion (3) **OR**
HUM108	Contemporary Humanities (3) 3

Social and Behavioral Science

ECN211	Macroeconomic Principles 3

Natural Sciences

	Met by CHM130 **AND** CHM130LL in required courses area.

ASSOCIATE IN APPLIED SCIENCE (AAS) IN MANUFACTURING TECHNOLOGY (61-69 CREDITS) MAJOR CODE: 3616

The Associate in Applied Science (AAS) in Manufacturing Technology prepares students for employment as technicians and managers in the manufacturing industry. The program provides skills in computer programming and operation for current and future needs of the manufacturing industry. Students also gain knowledge, skills, and experience in traditional machining and manufacturing processes. The program is comprised of specialized curriculum in manufacturing technology, emphasizing mathematical and scientific theory, and a general education component.

Program Prerequisites (0-3 credits)

GTC107	Technical Mathematics I (3 credits) **OR** satisfactory score on math placement test.

Required Courses (40-47 credits)

DFT114	Machine Trades Blueprint Reading 3
+DFT115	Geometric Dimensioning and Tolerancing 3
+DFT252AA	Computer Aided Drafting I: Auto CAD. .3
GTC104	Manufacturing Processes 4
GTC106	Industrial Safety 2
+GTC108	Technical Mathematics II 3
GTC216	Properties of Materials 3
GTC296++	Cooperate Education (1-4) **OR**
GTC298++	Special Projects (1-3). 1-4

Select one of the following three (3) tracks:

Track I - CAD/CAM/CNC (18 credits)

GTC102	Machine Processes, Theory and Application 3
+GTC206	CNC Programming 3
+GTC236	CAD/CAM CNC Programming 3

+ indicates course has prerequisites and/or corequisites.

+GTC266	Solids Modeling	3
+GTC276	Solids Programming	3
+GTC208	Statistical Process Control (3) **OR**	
QCT143	Principles of Quality Assurance (3) **OR**	
MET131	Lean Manufacturing (3)	3

Track II - Electro-Mechanical (22 credits)

ELE100	Concepts of Electricity and Electronics	3
GTC102	Machine Processes, Theory and Application	3
+GTC181	Introduction to Fluid Power	3
+GTC185	Electro-mechanical Devices	4
+GTC206	CNC Programming	3
GTC129	Manufacturing Welding (3) **OR**	
WLD101	Welding I (3)	3
+GTC208	Statistical Process Control (3) **OR**	
QCT143	Principles of Quality Assurance (3) **OR**	
MET131	Lean Manufacturing (3)	3

Track III - Management (20-21 credits)

MET131	Lean Manufacturing	3
MGT147	Supply Chain Management	3
MGT229	Management and Leadership I	3
MGT251	Human Relations in Business (3) **OR**	
MGT253	Owning and Operating a Small Business(3)	3
MKT271	Principles of Marketing	3
TQM101	Quality Customer Service (3) **OR**	
TQM220	Leadership and Empowerment Strategies (2) **OR**	
TQM230	Teamwork Dynamics (2) **OR**	
TQM240	Project Management in Quality Organizations (2)	2-3
+GTC208	Statistical Process Control (3) **OR**	
QCT143	Principles of Quality Assurance (3)	3

General Education Requirements (21-22 credits)

First-Year Composition		
+ENG101	First-Year Composition (3) **OR**	
+ENG107	First-Year Composition for ESL (3) **AND**	
+ENG102	First-Year Composition (3) **OR**	
+ENG108	First-Year Composition for ESL (3) **OR**	
+ENG111	Technical Writing (3)	6
Oral Communication		
COM100	Introduction to Human Communication (3) **OR**	
COM110	Interpersonal Communication (3) **OR**	
+COM230	Small Group Communication (3)	3
Critical Reading		
+CRE101	Critical and Evaluative Reading I (3) **OR** Equivalent by assessment.	3
Mathematics		
	Met by +GTC108 in Required Courses area	
Humanities and Fine Arts		
	Any approved general education course in the Humanities and Fine Arts Area	2-3
Social and Behavioral Sciences		
	Any approved general education course from the Social and Behavioral Sciences Area	3
PSY125	Leadership and Group Relations (3) Recommended.	
Natural Sciences		
	Any approved general education course from the Natural Sciences Area	4

CERTIFICATE OF COMPLETION (CCL) IN ELECTROMECHANICAL MANUFACTURING TECHNOLOGY (34 CREDITS) MAJOR CODE: 5621

The Certificate of Completion (CCL) in Electromechanical Manufacturing Technology is designed to provide the student with the basic skills to be successful as an entry-level maintainer of simple to medium complexity electro-mechanical equipment. The basis for the program is the ability to read engineering drawings and electrical schematics in the quest to maintain and repair equipment. These skills are augmented with a good basis of mathematical theory, an introduction to machines and the machining processes, and instruction regarding the support of manufacturing equipment through effective maintenance of equipment.

Program Prerequisites (0-3 credits)

GTC107	Technical Mathematics I Satisfactory score on math placement test	3

Required Courses (34 credits)

DFT114	Machine Trades Blueprint Reading	3
+DFT252AA	Computer Aided Drafting I: AutoCAD	3
ELE100	Concepts of Electricity and Electronics	3
GTC104	Manufacturing Processes	4
GTC106	Industrial Safety	2
+GTC108	Technical Mathematics II	3
+GTC181	Introduction to Fluid Power	3
+GTC185	Electro-mechanical Devices	4
GTC216	Properties of Materials	3
MET131	Lean Manufacturing	3
+GTC208	Statistical Process Control (3) **OR**	
QCT143	Principles of Quality Assurance (3)	3

CERTIFICATE OF COMPLETION (CCL) IN CAD/CAM/CNC I (15 CREDITS) MAJOR CODE: 5616

The Certificate of Completion (CCL) in CAD/CAM/CNC I Introduces the skills needed to translate product sketches and engineering designs into electronic design systems that are the basis for CAD (Computer Aided Design) and CAM (Computer Aided Manufacturing) that follows. The data from CAD/CAM becomes the machine language to operate the CNC (Computer Numerical Control) systems that produce the machined product on CNC lathes, milling machines, and other manufacturing equipment.

+ indicates course has prerequisites and/or corequisites.

Program Prerequisites (0-3 credits)

GTC107	Technical Mathematics I Satisfactory score on math placement test 3

Required Courses (15 credits)

+GTC108	Technical Mathematics II 3
+GTC206	CNC Programming 3
GTC216	Properties of Materials 3
+GC236	CAD/CAM CNC Programming (3) **OR**
+GTC276	Solids Programming (3) 3
+GTC266	Solids Modeling. 3

CERTIFICATE OF COMPLETION (CCL) IN CAD/CAM/CNC II (30 CREDITS) MAJOR CODE: 5647

The Certificate of Completion (CCL) in CAD/CAM/CNC II builds on the skills and knowledge developed by the student in the Level I Program. The additional courses are designed to improve the student's understanding of the manufacturing processes employed in a modern manufacturing business to produce the CAD designs into an end product. The focus of these classes is to understand the limitations and capabilities of the manufacturing equipment in producing precision products. All courses apply to the AAS in Manufacturing Technology CAD/CAM/CNC option should the student desire to pursue additional education.

Required Courses (30 credits)

Certificate of Completion in CAD/CAM/CNC I. 15	
DFT114	Machine Trades Blueprint Reading 3
+DFT115	Geometric Dimensioning and Tolerancing 3
GTC104	Manufacturing Processes 4
GTC106	Industrial Safety 2
+GTC208	Statistical Process Control (3) **OR**
MET131	Lean Manufacturing (3) 3

CERTIFICATE OF COMPLETION (CCL) IN MACHINING I (15 CREDITS) MAJOR CODE: 5614

The Certificate of Completion (CCL) in Machining I introduces the student to the skills and knowledge necessary for application in a modern precision manufacturing work environment. Precision machining involves shaping metals and other materials to close tolerances and customer specification using precision machine tools. Some of these tools such as lathes, milling machines, and others are CNC (Computer Numerical Control) operated. The program combines classroom instruction with hands-on operation of machine tools to produce metal products.

Required Courses (15 credits)

DFT114	Machine Trades Blueprint Reading 3
GTC102	Machine Processes, Theory and Application 3
+GTC108	Technical Mathematics II 3
+GTC206	CNC Programming 3
GTC216	Properties of Materials 3

CERTIFICATE OF COMPLETION (CCL) IN MACHINING II (33 CREDITS) MAJOR CODE: 5645

The Certificate of Completion (CCL) in Machining II adds to the knowledge and skills obtained in the Level I program to further prepare students for employment in a precision machining establishment. This level further emphasizes the national metalworking standards for industry and the role of statistical and process control techniques to produce the final product. All courses apply to the AAS in Machining and Product Development should the student desire to pursuer additional education.

Required Courses (33 credits)

Certificate of Completion in Machining I 15	
+DFT115	Geometric Dimensioning and Tolerancing 3
+DFT252AA	Computer Aided Drafting I: AutoCAD . .3
GTC129	Manufacturing Welding 3
+GTC223	Advanced Machine Tools 3
+GTC208	Statistical Process Control 3
MET131	Lean Manufacturing 3

CERTIFICATE OF COMPLETION (CCL) IN MANUFACTURING MANAGEMENT (29-30 CREDITS) MAJOR CODE: 5625

The Certificate of Completion (CCL) in Manufacturing Management prepares students to work in supervisory or managerial positions in a manufacturing industry. The program is designed to provide an overview of manufacturing management issues for those wanting to become supervisors or managers or for those already working in the field who want to advance and update their knowledge and skills.

Program Prerequisites (0-3 credits)

GTC107	Technical Mathematics I **OR** Satisfactory score on math placement test. 3

Required Courses (29-30 credits)

DFT114	Machine Trades Blueprint Reading 3
GTC104	Manufacturing Processes 4
GTC106	Industrial Safety 2
+GTC108	Technical Mathematics II 3
+GTC208	Statistical Process Control 3
+GTC216	Properties of Materials 3
MGT229	Management and Leadership I 3
MGT147	Supply Chain Management. 3
MET131	Lean Manufacturing 3
TQM101	Quality Customer Service (3) **OR**
TQM220	Leadership and Empowerment Strategies (2) **OR**
TQM230	Teamwork Dynamics (2) **OR**
TQM240	Project Management in Quality Organizations (2). 2-3

+ indicates course has prerequisites and/or corequisites.

Micro Circuit Mask Design Certificates/Degrees

- **Associate of Applied Science (AAS) in Micro Circuit Mask Design**
- **Certificate of Completion (CCL) in Micro Circuit Mask Design**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141
Program Director: Todd Verch
Contact: (480) 461-7767

ASSOCIATE OF APPLIED SCIENCE (AAS) IN MICRO CIRCUIT MASK DESIGN (63 CREDITS) MAJOR CODE: 3505

The Associate of Applied Science (AAS) in Micro Circuit Mask Design prepares students to work in the microcircuit design field. The program emphasizes current technological trends in the industry and is designed both for those planning to enter a career in the field as well as for those already working in the field who want to advance and update their knowledge and skills. The curriculum combines coursework in microcircuit mask design with a general education component.

Program Prerequisites (6 credits)

+CSC100	Introduction to Computer Science for Non-Computer Majors 3
+ELE101	Beginning Algebra for Technology. 3

Required Courses (41 credits)

Students must earn a grade of "C" or better for each course listed in the required courses area.

DFT110	Technical Drafting I 3
+DFT245AA	Integrated Circuit Design-CMOS IA . . .3
+DFT245AB	Integrated Circuit Design-CMOS IB . . .3
+DFT252AA	Computer Aided Drafting I: Auto CAD. .3
+DFT254AA	Computer Aided Drafting II: Auto CAD . .3
+ELE105	Algebra/Trigonometry for Technology. .5
+ELE111	Circuit Analysis I. 4
+ELE112	Circuit Analysis II. 4
+ELE121	Solid-State Devices and Circuits I 4
+ELE131	Digital Logic and Circuits. 3
ELE181	Computer Programming for Technology. .3
GTC110	Semiconductor Processing Technology I . .3

General Education Requirements (22 credits)

First-Year Composition

+ENG101	First Year Composition (3) **OR**
+ENG107	First Year Composition for ESL (3) **AND**
+ENG111	Technical Writing (3) 6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**
COM110	Interpersonal Communication (3) **OR**
+COM230	Small Group Communication (3) 3

Critical Reading

+CRE101	Critical and Evaluative Reading (3) **OR** equivalent as indicated by assessment . .3

Humanities and Fine Arts

Any approved general education course from the Humanities and Fine Arts area . .3

Social and Behavioral Sciences

Any approved general education course from the Social and Behavioral Sciences area 3

Natural Sciences

+CHM130	Fundamental Chemistry (3) **AND**
+CHM130LL	Fundamental Chemistry (1) 4

CERTIFICATE OF COMPLETION (CCL) IN MICRO CIRCUIT MASK DESIGN (36 CREDITS) MAJOR CODE: 5504

The Certificate of Completion (CCL) in Micro Circuit Mask Design prepares students to work in the microcircuit design field. The program emphasizes current technological trends in the industry and is designed both for those planning to enter a career in the field as well as for those already working in the field who want to advance and update their knowledge and skills.

Program Prerequisites (6 credits)

+CSC100	Introduction to Computer Science for Non-Computer Majors 3
+ELE101	Beginning Algebra for Technology. 3

Required Courses (36 credits)

DFT110	Technical Drafting I 3
+DFT245AA	Integrated Circuit Design-CMOS IA . . .3
+DFT245AB	Integrated Circuit Design-CMOS IB . . .3
+DFT252AA	Computer Aided Drafting I: Auto CAD. .3
+DFT254AA	Computer Aided Drafting II: Auto CAD . .3
+ELE105	Algebra Trigonometry for Technology . .5
+ELE111	Circuit Analysis I. 4
+ELE131	Digital Logic and Circuits. 3
ELE181	Computer Programming for Technology. .3
GTC110	Semiconductor Processing Technology I . .3
+GTC296WC	Cooperative Education 3

Mortuary Science Degree

- **Associate in Applied Science (AAS) in Mortuary Science**

Program Director: Tom Taggart
Contact: (480) 988-8501

+ indicates course has prerequisites and/or corequisites.

ASSOCIATE IN APPLIED SCIENCE (AAS) IN MORTUARY SCIENCE (67-68 CREDITS) MAJOR CODE: 3765

The Associate in Applied Science (AAS) in Mortuary Science includes studies in public health, business management, natural sciences, legal, ethical and regulatory concerns, and clinical requirements associated with the mortuary field. The curriculum combines coursework in mortuary science with a general education component. The program is accredited by the American Board of Funeral Service Education (ABFSE). Graduation from this program prepares the student to sit for the National Board Examination and begin State Internship requirements.

Program Notes

Every student must take the National Board Examination as a requirement for graduation. The cost of that exam is the responsibility of the student.

Admission Criteria

Students must complete all program prerequisites with a minimum G.P.A. of 2.5, proof of high school graduation, or GED or permission of program director.

Program Prerequisites (32-36 credits)

ACC107	Bookkeeping Theory and Practice (4) **OR**
ACC111	Accounting Principles I (3) 3-4
BPC101AA	Introduction to Computers I (1) **OR**
BPC101AB	Introduction to Microcomputer I: Macintosh (1) 1
GBS205	Legal, Ethical, and Regulatory Issues in Business 3
MGT253	Owning and Operating a Small Business 3

General Education Requirements (25 credits)

First-Year Composition

Any approved general education course in the First-Year Composition area 6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**
COM110	Interpersonal Communication (3) 3

Critical Reading

Any approved general education course in the Critical Reading area 3

Mathematics

+MAT102	Mathematical Concepts/Applications (3) **OR** equivalent as indicated by assessment **OR** satisfactory completion of a higher level mathematics course 3

Humanities and Fine Arts

Any approved general education course in the Humanities and Fine Arts area (REL243 World Religion is recommended) 3

Social and Behavioral Sciences

PSY101	Introduction to Psychology (3) **OR**
PSY156	Understanding Death and Dying (3) 3

Natural Sciences

BIO160	Introduction to Human Anatomy and Physiology 4

Required Courses (32 credits)

MSP101	Orientation to Funeral Service 1
+MSP201	History and Sociology of Funeral Service . . 3
+MSP202	Embalming 4
+MSP203	Microbiology for Funeral Service 3
+MSP204	Chemistry for Funeral Service 3
+MSP205	Mortuary Administration I 3
+MSP206	Mortuary Administration II 3
+MSP207	Restorative Art 4
+MSP208	Legal, Regulatory, and Ethical Issues in Funeral Service 3
+MSP209	Pathology for Funeral Service 3
+MSP210	Counseling for Funeral Service 2

Music Certificates/Degrees

- **Associate in Applied Science (AAS) in Audio Production Technologies**
- **Certificate of Completion (CCL) in Audio Production Technologies**
- **Certificate of Completion (CCL) in Sound Design**
- **Associate in Applied Science (AAS) in Music Business**
- **Certificate of Completion (CCL) in Music Business**

Department Chairperson: Sue Anne Lucius
Contact: (480) 461-7577

ASSOCIATE IN APPLIED SCIENCE (AAS) IN AUDIO PRODUCTION TECHNOLOGIES (69 CREDITS) MAJOR CODE: 3024

The Associate in Applied Science (AAS) in Audio Production Technologies certificate and degree program offers students an opportunity to receive training on industry-standard equipment by instructors with real-world experience and professional resumes. Students learn the concepts and theory associated with recording arts technologies while applying them in lab settings appropriate to their skill levels. Students completing the degree in Audio Production Technologies will gain the knowledge base, competency, and confidence they need to enter the commercial music marketplace.

Required Courses (39-41 credits)

MTC191	Electronic Music I 3
+MTC192	Electronic Music II 3
MUC109	Music Business: Merchandising and the Law 3
MUC110	Music Business: Recording and Mass Media 3

+ indicates course has prerequisites and/or corequisites.

+MUC111	Digital Audio Workstation I (DAW I). . .3
+MUC112	Digital Audio Workstation II (DAW II) . .3
MUC195	Studio Music Recording I (3) **OR**
MUC195AA	Studio Music Recording I (3) 3
+MUC196	Studio Music Recording II 3
+MUC297AA	Music Internship 1

Select one of two (2) tracks:

Track I - Audio Production (14 credits)

MTC101	Introduction to Music Theory. 3
MTC103	Introduction to Aural Perception 2
MUC197	Live Sound Reinforcement I 3
+MUC198	Live Sound Reinforcement II 3
MTC180	Computer Literacy for Musicians (3) **OR**
+MUC295	Studio Music Recording III (3). 3

Track II - Sound Design Track (16 credits)

+MTC105	Music Theory I 3
+MTC106	Aural Perception I 1
MTC/TCM120	Introduction to Sound Design for Film and Video. 3
+MTC/TCM220	Advanced Sound Design for Film and Video 3
+MUC194	Introduction to Audio Mixing Techniques. 3
+MUC292	Sound Design. 3

General Education Requirements (28 credits)

First-Year Composition	
	+Any approved general education courses from the First-Year Composition area. . .6
Oral Communication	
	Any approved general education course from the Oral Communication area 3
Critical Reading	
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment . .3
Mathematics	
	+Any approved general education course from the Mathematics area 3
Humanities and Fine Arts	
	Any approved general education course from the Humanities and Fine Arts area . .6 MHL140 or MHL145 or MHL153 recommended
Social and Behavioral Sciences	
	Any approved general education course from the Social and Behavioral Sciences area 3
Natural Sciences	
	Any approved general education course from the Natural Sciences area. 4

CERTIFICATE OF COMPLETION (CCL) IN AUDIO PRODUCTION TECHNOLOGIES (39 CREDITS) MAJOR CODE: 5334

The Certificate of Completion (CCL) in Audio Production Technologies certificate and degree program offers students an opportunity to receive training on industry-standard equipment by instructors with real-world experience and professional resumes. Students learn the concepts and theory associated with recording arts technologies while applying them in lab settings appropriate to their skill levels. Students completing the program will gain the knowledge base, competency, and confidence they need to enter the commercial music marketplace.

Required Courses (39 credits)

MTC191	Electronic Music I 3
+MTC192	Electronic Music II 3
MUC109	Music Business: Merchandising and the Law 3
MUC110	Music Business: Recording and Mass Media 3
+MUC111	Digital Audio Workstation I (DAW I). . .3
+MUC112	Digital Audio Workstation II (DAW II) . .3
MUC195	Studio Music Recording I (3) **OR**
MUC195AA	Studio Music Recording I (3) 3
+MUC196	Studio Music Recording II 3
+MUC297AA	Music Internship 1
MTC101	Introduction to Music Theory. 3
MTC103	Introduction to Aural Perception 2
MUC197	Live Sound Reinforcement I 3
+MUC198	Live Sound Reinforcement II 3
MTC180	Computer Literacy for Musicians (3) **OR**
+MUC295	Studio Music Recording III (3). 3

CERTIFICATE OF COMPLETION (CCL) IN SOUND DESIGN (41 CREDITS) MAJOR CODE: 5686

The Certificate of Completion (CCL) in Sound Design offers students an opportunity to learn concepts associated with Sound Design production and recording arts technologies while applying them in lab settings. Upon completion of the core courses, students will have acquired skills allowing them the opportunity to apply for a broad range of positions in the audio post-production field including: Film & Television, Animation, Radio, Theatre, and Commercial Advertising.

Required Courses (41 credits)

MTC191	Electronic Music I 3
+MTC192	Electronic Music II 3
MUC109	Music Business: Merchandising and the Law 3
MUC110	Music Business: Recording and Mass Media 3
+MUC111	Digital Audio Workstation I (DAW I). . .3
+MUC112	Digital Audio Workstation II (DAW II) . .3
MUC195	Studio Music Recording I (3) **OR**
MUC195AA	Studio Music Recording I (3) 3
+MUC196	Studio Music Recording II 3

+ indicates course has prerequisites and/or corequisites.

+MUC297AA	Music Internship	1
+MTC105	Music Theory I	3
+MTC106	Aural Perception I	1
+MTC/TCM120	Introduction to Sound Design for Film and Video	3
+MTC/TCM220	Advanced Sound Design for Film and Video	3
+MUC194	Introduction to Audio Mixing Techniques	3
+MUC292	Sound Design	3

ASSOCIATE IN APPLIED SCIENCE (AAS) IN MUSIC BUSINESS (65 CREDITS) MAJOR CODE: 3017

The Associate in Applied Science (AAS) in Music Business program is an innovative curriculum designed to prepare students for today's music industry. The certificate and degree with a music business emphasis are designed for both the performing musician and the business student with limited performing experience. This program combines a flexible curriculum with an emphasis in business and marketing, along with music industry-related courses and experiences.

Required Courses (37 credits)

ACC109	Accounting Concepts (3) **OR**	
ACC111	Accounting Principles I (3)	3
BPC128	Introduction to Desktop Publishing	1
CIS131AA	Doing Business on the Internet	1
+COM259	Communication in Business and Professionals	3
GBS151	Introduction to Business	3
+MUC209	Music Business: Industry Leadership and E-Commerce (3) **OR**	
MGT253	Owning and Operating a Small Business (3)	3
MKT271	Principles of Marketing	3
MTC101	Introduction to Music Theory	3
MUC109	Music Business: Merchandising and the Law	3
MUC110	Music Business: Recording and Mass Media	3
MUC111	Digital Audio Workstation I (DAW I)	3
MUC195	Studio Music Recording I	3
MUC295AA	Self Promotion for Music	1
+MUC297AB	Music Internship	2
SBS230	Financial and Tax Management for Small Business	2

Restricted Electives (3 credits)

MHL+++	Any approved MHL prefixed courses	3

General Education Requirements (25 credits)

First-Year Composition		
+ENG101	First-Year Composition (3) **AND**	
+ENG102	First-Year Composition (3)	6
Oral Communication		
	Any approved general education course from the Oral Communication area	3
Critical Reading		
	Any approved general education course in the Critical Reading area	3
Mathematics		
	Any approved general education course from the Mathematics area	3
Humanities and Fine Arts		
	Any approved general education course from the Humanities and Fine Arts area	3
Social and Behavioral Sciences		
	Any approved general education course from the Social and Behavioral Sciences area	3
Natural Sciences		
	Any approved general education course from the Natural Sciences area	4

CERTIFICATE OF COMPLETION (CCL) IN MUSIC BUSINESS (40 CREDITS) MAJOR CODE: 5258

The Certificate of Completion (CCL) in Music Business program is an innovative curriculum designed to prepare students for today's music industry. The certificate and degree with a music business emphasis are designed for both the performing musician and the business student with limited performing experience. This program combines a flexible curriculum with an emphasis in business and marketing, along with music industry-related courses and experiences.

Required Courses (37 credits)

ACC109	Accounting Concepts (3) **OR**	
ACC111	Accounting Principles I (3)	3
BPC128	Introduction to Desktop Publishing	1
CIS131AA	Doing Business on the Internet	1
+COM259	Communication in Business and Professionals	3
GBS151	Introduction to Business	3
+MUC209	Music Business: Industry Leadership and E-Commerce (3) **OR**	
MGT253	Owning and Operating a Small Business (3)	3
MKT271	Principles of Marketing	3
MTC101	Introduction to Music Theory	3
MUC109	Music Business: Merchandising and the Law	3
MUC110	Music Business: Recording and Mass Media	3
MUC111	Digital Audio Workstation I (DAW I)	3
MUC195	Studio Music Recording I	3
MUC295AA	Self Promotion for Music	1
+MUC297AB	Music Internship	2
SBS230	Financial and Tax Management for Small Business	2

Restricted Electives (3 credits)

MHL+++	Any approved MHL prefixed course	3

+ indicates course has prerequisites and/or corequisites.

Network Administration Certificates/Degrees

- **Certificate of Completion (CCL) in Computer Hardware and Desktop Support**
- **Associate in Applied Science (AAS) in Linux Networking Administration**
- **Certificate of Completion (CCL) in Linux Associate**
- **Certificate of Completion (CCL) in Linux Networking Administration**
- **Certificate of Completion (CCL) in Linux Professional**
- **Associate in Applied Science (AAS) in Microsoft Applications Development**
- **Certificate of Completion (CCL) in Microsoft Applications Development**
- **Certificate of Completion (CCL) in Microsoft Desktop Support Technology**
- **Associate in Applied Science (AAS) in Network System Administration**
- **Certificate of Completion (CCL) in Network Administration: CISCO Network Associate**
- **Certificate of Completion (CCL) in Network Administration: CISCO Network Professional**
- **Certificate of Completion (CCL) in Network Administration: Microsoft Windows**
- **Certificate of Completion (CCL) in Network Administration: UNIX-Solaris**
- **Certificate of Completion (CCL) in Network Security**

Department Chairperson: Linda Collins
Contact: (480) 461-7077
Program Director: Mark Anderson
Contact: (480) 461-6114

CERTIFICATE OF COMPLETION (CCL) IN COMPUTER HARDWARE AND DESKTOP SUPPORT (16-20 CREDITS) MAJOR CODE: 5026

The Certificate of Completion (CCL) in Computer Hardware and Desktop Support is designed to provide training to work in an entry-level computer maintenance and help-desk position. Students will be provided the opportunity to apply technical concepts, fundamentals, and interpersonal skills in a help-desk environment through an internship.

Required Courses (16-20 credits)

BPC110	Computer Usage and Applications (3) **OR**
CIS105	Survey of Computer Information Systems (3) 3
BPC/CIS121AB	Microsoft Command Line Operations . .1
+BPC170	Computer Maintenance I: A+ Prep. 3
+BPC171	Recycling Used Computer Technology. .1
+BPC270	Microcomputer Maintenance II 3
CIS102	Interpersonal and Customer Service Skills for IT Professionals. 1
CIS190	Introduction to Local Area Networks (3) **OR**
CNT140	Cisco Networking Basics (4) **OR**
MST140	Microsoft Networking Essentials (3) . . 3-4
+CIS290++	Computer Information Systems Internship (1-3) **OR**
+CIS296++	Cooperative Education (any CIS296WA-WD module) (1-4) . . 1-4

ASSOCIATE IN APPLIED SCIENCE (AAS) IN LINUX NETWORKING ADMINISTRATION (61 CREDITS) MAJOR CODE: 3013

The Associate in Applied Science (AAS) degree in Linux Networking Administration will help to prepare students for a variety of industry recognized Linux certification exams as well as provide practical hands-on skills for the work place. The program includes a core of Linux classes including Linux Operating System Basics, System Administration, Network Administration and Network Security. These classes will ensure a student's knowledge and skill level in preparation for employment or for improving current professional skills. Objectives for a variety of industry certifications are encompassed within course and program objectives.

Required Courses (24-25 credits)

+BPC170	Computer Maintenance I: A+ Prep (3) **OR**
+BPC273	Advanced Server Computer Maintenance: Server+ Prep (3). 3
CIS126DL	Linux Operating System (3) **OR**
CIS126AL	Linux Operating System I (1) **AND**
+CIS126BL	Linux Operating System II (1) **AND**
+CIS126CL	Linux Operating System III (1). 3
+CIS238DL	Linux System Administration. 3
+CIS239DL	Linux Shell Scripting 3
+CIS240DL	Linux Network Administration. 3
+CIS271DL	Linux Security. 3
+CIS190	Introduction to Local Area Networks (3) **OR**
CNT140	Cisco Networking Basics (4) **OR**
MST140	Microsoft Networking Essentials (3) . . 3-4
MST150++	Microsoft Windows Professional (Note: any module) 3

Restricted Electives (12 credits)

BPC110	Computer Usage and Applications (3) **OR**
CIS105	Survey of Computer Information Systems (3) 3
BPC/CIS120DF	Computer Graphics: Adobe Photoshop. .3
BPC/CIS121AB	Microsoft Command Line Operations . .1
BPC/CIS133DA	Internet/Web Development Level I. 3
+BPC170	Computer Maintenance I: A+ Prep. 3
BPC/CIS224	Project Management Microsoft Project for Windows 3
+BPC270	Microcomputer Maintenance II 3
+BPC273	Advanced Server Computer Maintenance: Server+Prep 3
BPC/CIS120DC	Flash: Digital Animation. 3

+ indicates course has prerequisites and/or corequisites.

+CIS190	Introduction to Local Area Networks (3) **OR**	
+CNT140	Cisco Networking Basics (4) **OR**	
MST140	Microsoft Networking Essentials (3)	3-4
+CIS233DA	Internet/Web Development Level II	3
+CIS270	Essentials of Network and Information Security	3
+CIS296WC	Cooperative Education	3
CIS298AC	Special Projects	3
+CNT120	Adobe Web Design	3
+CNT150	Cisco Network Router Technologies	4
+CNT160	Cisco Switching Basics and Intermediate Routing	3
+CNT170	Cisco Wide Area Networks (WAN) Technologies	3
MST150++	Microsoft Windows Professional (Note: any module)	3
+MST152++	Microsoft Windows Server (Note: any module)	4
+MST155	Implementing Windows Network Infrastructure	3
+MST157	Implementing Windows Directory Services	3
+MST232	Managing a Windows Network Environment	3
+CIS250	Management of Information Systems	3
CIS280	Current Topics in Computing	3

General Education Requirements (25 credits)

First-Year Composition		
+ENG101	First-Year Composition (3) **AND**	
+ENG102	First-Year Composition (3)	6
Oral Communication		
	Any approved general education course from the Oral Communication area	3
Critical Reading		
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment	3
Mathematics		
+MAT102	Mathematical Concepts/Applications **OR** higher	3
Humanities and Fine Arts		
	Any approved general education course from the Humanities and Fine Arts area	3
Social and Behavioral Sciences		
	Any approved general education course from the Social and Behavioral Sciences area	3
Natural Sciences		
	Any approved general education course from the Natural Sciences area	4

CERTIFICATE OF COMPLETION (CCL) IN LINUX ASSOCIATE (24 CREDITS) MAJOR CODE: 5219

The Certificate of Completion (CCL) in Linux Associate will help to prepare students for a variety of industry-recognized Linux certification exams as well as provide practical hands-on skills for the work place. The program includes a core of Linux classes including Linux Operating System Basics, System Administration, Network Administration and Network Security. These classes will ensure a student's knowledge and skill level in preparation for employment or for improving current professional skills. Objectives for a variety of industry certifications are encompassed within course and program objectives.

Requirements: Students must earn a grade of "C" or better for all courses required within the program.

Required Courses (12 credits)

CIS126DL	Linux Operating System (3) **OR**	
CIS126AL	Linux Operating System I (1) **AND**	
+CIS126BL	Linux Operating System II (1) **AND**	
+CIS126CL	Linux Operating System III (1)	3
+CIS238DL	Linux System Administration	3
+CIS240DL	Linux Network Administration	3
+CIS271DL	Linux Security	3

Restricted Electives (12 credits)

BPC/CIS121AB	Microsoft Command Line Operations	1
BPC/CIS133DA	Internet/Web Development Level I (3) **OR**	
+CNT120	Adobe Web Design (3)	3
+BPC170	Computer Maintenance I: A+ Essentials Prep.	3
BPC/CIS224	Project Management Microsoft Project for Windows	3
+BPC273	Advanced Server Computer Maintenance: Server+ Prep	3
CIS105	Survey of Computer Information Systems	3
+CIS190	Introduction to Local Area Networks (3) **OR**	
+CNT140	Cisco Networking Basics (4) **OR**	
MST140	Microsoft Networking Essentials (3)	3-4
+CIS233DA	Internet/Web Development Level II	3
+CIS239DL	Linux Shell Scripting	3
+CIS270	Essentials of Network and Information Security	3
+CNT150	Cisco Network Router Technologies	3
MST150++	Microsoft Windows Professional (Note: any module)	3
CIS280	Current Topics in Computing	3

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN LINUX NETWORKING ADMINISTRATION (36-37 CREDITS) MAJOR CODE: 5225

The Certificate of Completion (CCL) in Linux Networking Administration will help to prepare students for a variety of industry-recognized Linux certification exams as well as provide practical hands-on skills for the work place. The program includes a core of Linux classes including Linux Operating System Basics, System Administration, Network Administration and Network Security. These classes will ensure a student's knowledge and skill level in preparation for employment or for improving current professional skills. Objectives for a variety of industry certifications are encompassed within course and program objectives.

Required Courses (24-25 credits)

+BPC170	Computer Maintenance I: A+ Essentials Prep (3) **OR**
+BPC273	Advanced Server Computer Maintenance (3). 3
CIS126DL	Linux Operating System (3) **OR**
CIS126AL	Linux Operating System I (1) **AND**
+CIS126BL	Linux Operating System II (1) **AND**
+CIS126CL	Linux Operating System III (1). 3
+CIS238DL	Linux System Administration. 3
+CIS239DL	Linux Shell Scripting 3
+CIS240DL	Linux Network Administration. 3
+CIS271DL	Linux Security. 3
+CIS190	Introduction to Local Area Networks (3) **OR**
CNT140	Cisco Networking Basics (4) **OR**
MST140	Microsoft Networking Essentials (3) . . 3-4
MST150++	Microsoft Windows Professional (Note: any module) 3

Restricted Electives (12 credits)

BPC110	Computer Usage and Applications (3) **OR**
CIS105	Survey of Computer Information Systems (3) 3
BPC/CIS120DF	Computer Graphics: Adobe Photoshop. .3
BPC/CIS121AB	Microsoft Command Line Operations . .1
BPC/CIS133DA	Internet/Web Development Level I. 3
+BPC170	Computer Maintenance I: A+ Prep. 3
BPC/CIS224	Project Management Microsoft Project for Windows 3
+BPC270	Microcomputer Maintenance II 3
+BPC273	Advanced Server Computer Maintenance: Server+ Prep 3
BPC/CIS120DC	Flash: Digital Animation. 3
+CIS190	Introduction to Local Area Networks (3) **OR**
+CNT140	Cisco Networking Basics (4) **OR**
MST140	Microsoft Networking Essentials (3) **OR**. 3-4
+CIS233DA	Internet/Web Development Level II 3
+CIS270	Essentials of Network and Information Security. 3
+CIS296WC	Cooperative Education 3
CIS298AC	Special Projects 3
+CNT120	Adobe Web Design 3
+CNT150	Cisco Network Router Technologies. . . .4
+CNT160	Cisco Switching Basics and Intermediate Routing 3
+CNT170	Cisco Wide Area Networks (WAN) Technologies. 3
MST150++	Microsoft Windows Professional (Note: any module) 3
+MST152++	Microsoft Windows Server (Note: any module) 4
+MST155	Implementing Windows Network Infrastructure 3
+MST157	Implementing Windows Directory Services 3
+MST232	Managing a Windows Network Environment 3
+CIS250	Management of Information Systems. . .3
CIS280	Current Topics in Computing 3

CERTIFICATE OF COMPLETION (CCL) IN LINUX PROFESSIONAL (12 CREDITS) MAJOR CODE: 5204

The Certificate of Completion (CCL) in Linux Professional will help to prepare students for a variety of industry-recognized Linux certification exams as well as provide practical hands-on skills for the work place. The program includes a core of Linux classes including Linux Operating System Basics, System Administration, Network Administration and Network Security. These classes will ensure a student's knowledge and skill level in preparation for employment or for improving current professional skills. Objectives for a variety of industry certifications are encompassed within course and program objectives.

Required Courses (6 credits)

CIS126DL	Linux Operating System (3) **OR**
CIS126AL	Linux Operating System I (1) **AND**
+CIS126BL	Linux Operating System II (1) **AND**
+CIS126CL	Linux Operating System III (1). 3
+CIS238DL	Linux System Administration. 3

Restricted Electives (6 credits)

BPC/CIS121AB	Microsoft Command Line Operations . .1
+BPC170	Computer Maintenance I: A+ Prep. 3
+BPC273	Advanced Server Computer Maintenance . . 3
CIS105	Survey of Computer Information Systems 3
+CIS190	Introduction to Local Area Networks. . .3
+CIS240DL	Linux Network Administration. 3
+CIS270	Essentials of Network and Information Security. 3
+CIS271DL	Linux Security. 3
+CNT140	Cisco Networking Basics (4) **OR**
MST140	Microsoft Networking Essentials (3) . . 3-4
+CNT150	Cisco Network Router Technologies. . . .3
MST150++	Microsoft Windows Professional (Note: any module) 3
CIS280	Current Topics in Computing 3

+ indicates course has prerequisites and/or corequisites.

ASSOCIATE IN APPLIED SCIENCE (AAS) IN MICROSOFT APPLICATIONS DEVELOPMENT (60-62 CREDITS) MAJOR CODE: 3838

The Associate in Applied Science (AAS) in Microsoft Applications Development is designed to provide training for developers who develop, deploy, and maintain applications and components using Visual Studio: Visual Basic (VB), C++, and Structured Query Language (SQL). It also provides training for Microsoft Certified Application Developer (MCAD) certification examinations. The MCAD credential is appropriate for professionals who use Microsoft technologies to develop and maintain department-level applications, components, Web or desktop clients, or back-end data services or work in teams developing enterprise applications. The program of study combines the technical aspects of the certificate program with selected general education courses in the area of English, communications, mathematics, humanities, social and behavioral sciences, and the natural sciences.

Job Description: Microsoft Certified Application Developers are professionals who use Microsoft technologies to develop and maintain department-level applications, components, Web or desktop clients, or back-end data services or work in teams developing enterprise applications.

Students entering the Microsoft Applications Development program often come with background or experience in the computer programming area. Students must consult with a program advisor, as the program prerequisites may not be necessary and may be waived as requirements to the program.

Program Prerequisites (6 credits)

CIS105	Survey of Computer Information Systems 3
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment **OR** permission of Department or Division . .3

Required Courses (22 credits)

BPC/CIS133DA	Internet/Web Development Level I (3) **OR**
BPC/CIS133AA	Internet/Web Development Level I-A (1) **AND**
+BPC/CIS133BA	Internet/Web Development Level I-B (1) **AND**
+BPC/CIS133CA	Internet/Web Development Level I-C (1) . .3
CIS102	Interpersonal and Customer Service Skills for IT Professionals 1
+CIS159	Visual Basic Programming I. 3
+CIS259	Visual Basic Programming II 3
+CIS164AG	Oracle: Data Modeling and Relational Database Design 2
+MST172	Visual Basic .NET Web Application Development 4
+MST176	Visual Basic .NET XML Web Services Development. 3
+MST254	Microsoft SQL Server Design and Implementation 3

Restricted Electives (16 credits)

+CIS119DO	Introduction to Oracle: SQL 3
+CIS150	Programming Fundamentals. 3
+CIS162++	Any CIS162 course 3
+CIS163AA	Java Programming: Level I 3
+CIS190	Introduction to Local Area Networks (3) **OR**
CNT140	Cisco Networking Basics (4) **OR**
MST140	Microsoft Networking Essentials (3) . . 3-4
+CIS225AB	Object-Oriented Analysis and Design . .3
+CIS235	e-Commerce 3

Students may select no more than four (4) credits combined from CIS290AA-AC and CIS296WA-WD courses.

+CIS290++	Computer Information Systems Internship (any module) (1-3) **OR**
+CIS296++	Cooperative Education (any module) (1-4). 1-4
MST150++	Any MST150 course 3
+MST152++	Any MST152 course 4
+MST244	Microsoft SQL Server Administration . .3
MST298++	Special Projects (any module). 1-3

General Education Requirements (22-24 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **AND**
+ENG102	First-Year Composition (3) **OR**
+ENG107	First-Year Composition for ESL (3) **AND**
+ENG108	First-Year Composition for ESL (3) 6

Oral Communication

Any approved general education course from the Oral Communication area 3

Critical Reading

Met by +CRE101 in the program prerequisites area

Mathematics

+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3) **OR** equivalent **OR** satisfactory completion of a higher level mathematics course . . . 3-5

Humanities and Fine Arts

Any approved general education course from the Humanities and Fine Arts area . .3

Social and Behavioral Sciences

Any approved general education course in the Social and Behavioral Sciences area 3

Natural Sciences

Any approved general education course in the Natural Sciences area 4

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN MICROSOFT APPLICATIONS DEVELOPMENT (22 CREDITS) MAJOR CODE: 5838

The Certificate of Completion (CCL) in Microsoft Applications Development is designed to provide training for developers who develop, deploy, and maintain applications and components using Visual Studio: Visual Basic (VB), C++, and Structured Query Language (SQL). It also provides training for Microsoft Certified Application Developer (MCAD) certification examinations. The Microsoft Certified Application Developer (MCAD) credential is appropriate for professionals who use Microsoft technologies to develop and maintain department-level applications, components, Web or desktop clients, or back-end data services or work in teams developing enterprise applications.

Students entering the Microsoft Applications Development program often come with background or experience in the computer programming area. Students must consult with a program advisor, as the program prerequisites may not be necessary and may be waived as requirements to the program.

Program Prerequisites (6 credits)

CIS105	Survey of Computer Information Systems 3
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment (3) **OR** permission of Department or Division 3

Required Courses (22 credits)

BPC/CIS133DA	Internet/Web Development Level I (3) **OR**
BPC/CIS133AA	Internet/Web Development Level I-A (1) **AND**
+BPC/CIS133BA	Internet/Web Development Level I-B (1) **AND**
+BPC/CIS133CA	Internet/Web Development Level I-C (1) . . 3
CIS102	Interpersonal and Customer Service Skills for IT Professionals 1
+CIS159	Visual Basic Programming I. 3
+CIS259	Visual Basic Programming II 3
+CIS164AG	Oracle: Data Modeling and Relational Database Design 2
+MST172	Visual Basic .NET Web Application Development 4
+MST176	Visual Basic .NET XML Web Services Development. 3
+MST254	Microsoft SQL Server Design and Implementation. 3

CERTIFICATE OF COMPLETION (CCL) IN MICROSOFT DESKTOP SUPPORT TECHNOLOGY (18-19 CREDITS) MAJOR CODE: 5473

The Certificate of Completion (CCL) in Microsoft Desktop Support Technology is designed to provide training to work in an entry-level computer maintenance and help-desk position. Students will develop the skills to successfully troubleshoot desktop environments running on the Microsoft Windows operating system. Courses in the program also help to prepare for the Microsoft Certified Desktop Support Technician (MCDST) examinations.

Program Prerequisites (2 credits)

In lieu of the courses listed below, students with experience in the information technology field may meet these program prerequisite requirements with the permission of the instructor.

BPC/CIS121AB	MS-DOS Operating System 1
CIS102	Interpersonal and Customer Service Skills for IT Professionals. 1

Required Courses (18-19 credits)

BPC110	Computer Usage and Applications (3) **OR**
CIS105	Survey of Computer Information Systems (3) 3
+BPC170	Computer Maintenance I: A+ Essentials Prep 3
+CIS190	Introduction to Local Area Networks (3) **OR**
CNT140	Cisco Networking Basics (4) **OR**
MST140	Microsoft Networking Essentials (3) . . 3-4
+MST141	Supporting Microsoft Windows Client Operating Systems 3
+MST142	Supporting Applications on Microsoft Windows Client Operating Systems 3
MST150XP	Microsoft Windows XP Professional . . .3

ASSOCIATE IN APPLIED SCIENCE (AAS) IN NETWORK SYSTEM ADMINISTRATION (66 CREDITS) MAJOR CODE: 3208

The Associate in Applied Science (AAS) in Network System Administration provides students with background knowledge and skills required for learning the specific tasks and industry-recognized standards associated with computer networks and data communications. The student will develop skills and knowledge required to perform local area network administration and management. The curriculum combines courses in network administration with a General Education component.

The Network core courses will also prepare students towards certification in Microsoft and Novell.

Program Prerequisites (3 credits)

+CRE101	Critical and Evaluative Reading I (3) **OR** Equivalent by assessment 3

+ indicates course has prerequisites and/or corequisites.

Required Courses (32 credits)

CIS105	Survey of Computer Information Systems 3
+BPC170	Computer Maintenance I: A+ Essentials Prep 3
+BPC270	Microcomputer Maintenance II 3
CIS126++	Unix Operating System (Any module) . .3
+CIS163AA	Java Programming: Level I 3
+MST150++	Microsoft Windows Professional (Any module). 3
+CIS266	Network Service and Support 4
+CIS270	Essentials of Network and Information Security 3
CNT140	Cisco Networking Basics (4) **OR**
CNT140AA	Cisco Networking Fundamentals (4) . . .4
TQM240	Project Management in Quality Organizations. 3

Restricted Electives (12 credits)

May select any courses except courses used to satisfy required courses.

+CIS175CB	Designing a Microsoft Windows 2000 Directory Services Infrastructure. 2
+CIS175CC	Designing a Microsoft Windows 2000 Networking Services Infrastructure 2
+CIS175CE	Supporting a Microsoft Windows 2000 Network Infrastructure 3
+CIS175CF	Implementing and Administering Microsoft Windows 2000 Directory Services 3
CIS175CG	Designing a Secure Microsoft Windows 2000 Network 3
+CIS238	Advanced UNIX System Administration 3
+CIS238DL	Linux System Administration. 3
+CIS238US	Unix Security 3
+CIS240DL	Linux Network Administration. 3
+CIS247DA	Cyber Forensics and Incident Handling . .3
+CIS271DL	Linux Security. 3
MST150++	Microsoft Windows Professional (Any module). 3
+MST152DA	Microsoft Windows 2000 Professional . .4
+MST152DB	Microsoft Windows 2003 Professional . .4
+MST155	Implementing Windows Network Infrastructure 3
+MST157	Implementing Windows Directory Services 3
+MST240	Microsoft Transmission Control Protocol/Internet Protocol (TCM/IP) . . .3
+MST253	Designing a Microsoft Windows 2000 Directory Services Infrastructure. 3
+CNT150	Cisco Networking Router Technologies. .4
+CNT150AA	Cisco Routing Protocols and Concepts . .4
+CNT160	Cisco Switching Basics and Intermediate Routing 3
+CNT160AA	Cisco Local Area Networking (LAN) Switching and Wireless. 4
+CNT170	Cisco Wide Area Networks (WAN) Technologies 3
+CNT170AA	Cisco Accessing the Wide-Area Network (WAN) 4
+CNT181	Cisco Securing IOS Networks 4
+CNT182	Cisco Secure PIX Firewall Configuration. 3
+CNT200	CCNP: Building Scalable Cisco Internetworks (BSCI) 4
+CNT210	Cisco CCNP II: Implementing Secure Converged Wide Area Networks 4
+CNT220	Cisco CCNP: Building Multilayer Switched Networks 4
+CNT230	Cisco CCNP IV: Optimizing Converged Networks 4
+CNT240	Cisco Voice over IP 4
+CNT145	Voice and Data Cabling. 4
+CNT185	Cisco Network Security 4
+CNT186	Fundamentals of Wireless LANs 4
+CSC120	Digital Design Fundamentals 4
ELE100	Concepts of Electricity and Electronics . .3
+ELT131	Digital and Logic Circuits. 4

General Education Requirements (22-24 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **AND**
+ENG102	First-Year Composition (3) 6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**
+COM225	Public Speaking (3) **OR**
+COM230	Small Group Communication (3) 3

Critical Reading

Met by +CRE101 in the program prerequisites area

Mathematics

+MAT150	College Algebra/Functions (5) **OR**
+MAT151	College Algebra/Functions (4) **OR**
+MAT152	College Algebra/Functions (3) 3-5

Humanities and Fine Arts

PHI214	Business Ethics (3) **OR**
	Any approved general education course in the Humanities and Fine Arts area . . .3

Social and Behavioral Sciences

ECN211	Macroeconomic Principles (3) **OR**
ECN212	Microeconomic Principles (3). 3

Natural Sciences

PHY101	Introduction to Physics 4

CERTIFICATE OF COMPLETION (CCL) IN NETWORK ADMINISTRATION: CISCO NETWORK ASSOCIATE (30-32 CREDITS) MAJOR CODE: 5205

The Certificate of Completion (CCL) in Network Administration: CISCO Network Associate provides students with background knowledge and skills required for learning the specific tasks and industry recognized standards associated with computer networks and data communications. This program also prepares students to complete the required certification tests for CISCO certification.

+ indicates course has prerequisites and/or corequisites.

The Network core courses will also prepare students towards certification in Microsoft and Novell.

Program Prerequisites (6 credits)

CIS105	Survey of Computer Information Systems 3
+CRE101	Critical and Evaluative Reading I 3

Required Courses (30-32 credits)

+BPC170	Computer Maintenance I: A+ Essentials Prep (3) **OR**
+BPC270	Microcomputer Maintenance II (3). 3
CIS126++	Unix Operating System (Any module) . .3
+MST150	Microsoft Windows Professional 3
+CIS266	Network Service and Support 4
+CIS270	Essential of Network and Information Security 3
CNT140	Cisco Networking Basics (4) **OR**
CNT140AA	Cisco Networking Fundamentals (4) . . .4
+CNT150	Cisco Networking Router Technologies (4) **OR**
+CNT150AA	Cisco Routing Protocols and Concepts (4). 4
+CNT160	Cisco Switching and Intermediate Routing (3) **OR**
+CNT160AA	Cisco Local Area Networking (LAN) Switching and Wireless (4) 3-4
CNT170	Cisco Wide Area Networks (WAN) Technologies (3) **OR**
+CNT170AA	Cisco Accessing the Wide–Area Network (WAN) (4) 3-4

CERTIFICATE OF COMPLETION (CCL) IN NETWORK ADMINISTRATION: CISCO NETWORK PROFESSIONAL (31 CREDITS) MAJOR CODE: 5328

The Certificate of Completion (CCL) in Network Administration: CISCO Network Professional equip students with marketable skills for learning the specific tasks and industry-recognized standards associated with network professional who can install, configure, and troubleshoot local and wide area networks for enterprise organizations with networks comprised of 100 to 500 or more nodes. The coursework emphasizes security, converged networks, quality of service (QoS), virtual private networks (VPN), broadband technologies, and integrating technologies in the network infrastructure. The program also prepares students to complete the required certification tests in Cisco Certified Network Professional (CCNP) certification, which indicates advanced or journeyman knowledge of networks.

The Network core courses will also prepare students towards certification in Microsoft and Novell.

Program Prerequisites (30-32 credits)

Network Administration: CISCO Network Associate. . 30-32

Required Courses (31 credits)

+CIS266	Network Service and Support 4
+CIS270	Essential of Network and Information Security 3
+CNT186	Fundamentals of Wireless LANs 4
+CNT200	Cisco Networking Advanced Routing . .4
+CNT210	Cisco Networking Remote-Access Networks 4
+CNT220	Cisco Networking Multi-Layer Switching. . 4
+CNT230	Cisco Network Troubleshooting 4
+CNT240	Cisco Voice over PD 4

CERTIFICATE OF COMPLETION (CCL) IN NETWORK ADMINISTRATION: MICROSOFT WINDOWS (29-30 CREDITS) MAJOR CODE: 5124

The Certificate of Completion (CCL) in Network Administration: Microsoft Windows provides students with background knowledge and skills required for learning the specific tasks and industry recognized standards associated with computer networks and data communications. This program also prepares students to complete the required certification tests for Microsoft Administrator.

The Network core courses will also prepare students towards certification in Microsoft and Novell.

Program Prerequisites (6 credits)

CIS105	Survey of Computer Information Systems 3
+CRE101	Critical and Evaluative Reading I 3

Required Courses (29-30 credits)

+BPC170	Computer Maintenance I: A+ Essentials Prep 3
+BPC270	Microcomputer Maintenance II 3
+CIS175CE	Supporting a Microsoft Windows 2000 Network Infrastructure (3) **OR**
+MST155	Implementing Windows Network Infrastructure (3). 3
+CIS175CF	Implementing and Administering Microsoft Windows 2000 Directory (3) **OR**
+MST157	Implementing Windows Directory Services (3) **OR**
+CIS175CB	Designing a Microsoft Windows 2000 Directory Services Infrastructure (2) **OR**
+MST253	Designing a Microsoft Windows 2000 Directory Services Infrastructure (3). .2-3
MST150	Microsoft Windows Professional 3
CNT140	Cisco Networking Basics (4) **OR**
CNT140AA	Cisco Networking Fundamentals (4) . . .4
+CIS266	Network Service and Support 4
+CIS270	Essentials of Network and Information Security 3
+MST152DA	Microsoft Windows 2000 Server (4) **OR**
+MST152DB	Microsoft Windows 2003 Server (4). . . .4

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN NETWORK ADMINISTRATION: UNIX-SOLARIS (26 CREDITS) MAJOR CODE: 5123

The Certificate of Completion (CCL) in Network Administration: UNIX-Solaris provides students with background knowledge and skills required for learning the specific tasks and industry-recognized standards associated with computer networks and data communications. This program also prepares students to complete the required certification tests for Solaris System Administration Level I.

The Network core courses will also prepare students towards certification in Microsoft and Novell.

Program Prerequisites (6 credits)

CIS105	Survey of Computer Information Systems	3
+CRE101	Critical and Evaluative Reading I	3

Required Courses (26 credits)

+BPC170	Computer Maintenance I: A+ Prep	3
CIS126DA	Unix Operating Systems	3
CNT140	Cisco Networking Basics (4) **OR**	
CNT140AA	Cisco Networking Fundamentals (4)	4
+CIS238	Advanced UNIX System Administration	3
+CIS238US	Unix Security	3
+CIS266	Network Service and Support	4
+CIS270	Essentials of Network and Information Security	3
TQM240	Project Management in Quality Organizations	3

CERTIFICATE OF COMPLETION (CCL) IN NETWORK SECURITY (22 CREDITS) MAJOR CODE: 5188

The Certificate of Completion (CCL) in Network Security program is designed to equip students with marketable skills and knowledge for adaptation to specific tasks and industry recognized standards associated with computer networks and data communications. This program also prepares students to complete the required certification tests for several industry certifications, including Cisco, Security and relevant certifications. Relevant certification tests are identified in Windows, and other individual course descriptions.

The Network core courses will also prepare students towards certification in CISCO and Microsoft.

Required Courses (22 credits)

CIS175CG	Designing a Secure Microsoft 2000 Network (3) **OR**	
+MST259	Designing Windows Network Security (3)	3
+CIS238US	UNIX Security (3) **OR**	
CIS271DL	Linux Security (3)	3
CIS247DA	Cyber Forensics and Incident Handling	3
+CIS270	Essentials of Network and Information Security	3
CNT186	Fundamentals of Wireless LANs	4
+CNT182	Cisco Secure Pix Firewall Configuration	3
AJS123	Ethics and the Administration of Justice	3

Nursing Certificates/Degrees

- **Certificate of Completion (CCL) in Nurse Assisting**
- **Certificate of Completion (CCL) in Practical Nursing**
- **Associate in Applied Science (AAS) in Nursing**

Department Chairperson: Debra Bitter
Contact: (480) 461-7262

CERTIFICATE OF COMPLETION (CCL) IN NURSE ASSISTING (6 CREDITS) MAJOR CODE: 5963

The Nurse Assisting program prepares students for entry level employment in various health care settings as a nursing assistant. The program combines classroom instruction with clinical laboratory, skilled care and acute care experiences. Students who complete the program are eligible to take a written and practical certification examination and work as a Certified Nursing Assistant. Licensing requirements are the exclusive responsibility of the Arizona State Board of Nursing.

The MCCD Nurse Assisting Program is approved by the Arizona State Board of Nursing.

Program Offerings

This program is offered at the following sites:

Chandler Gilbert Community College	480.988.8880
Estrella Mountain Community College	623.935.8949
Gateway Community College	602.286.8178
Glendale Community College	623.845.3350
Mesa Community College	480.461.7600
Mesa Community College/Boswell	623.974.7835
Paradise Valley Community College	602.787.7060
Phoenix College	602.285.7427
Rio Salado College	480.517.8580
Scottsdale Community College	480.423.6137

Waiver of Licensure/Certification Guarantee

Admission or completion from the MCCD Nurse Assisting Program does not guarantee obtaining a license or certificate to practice nursing. Licensure and certification requirements and the subsequent procedures are the exclusive right and responsibility of the Arizona State Board of Nursing. Students must satisfy the requirements of the Nurse Practice Act: Statutes, Rules and Regulations, independently of any college of school requirements for graduation.

Pursuant to A.R.S. § 32-1606(B)(17), an applicant for professional or practical nurse license by examination is not eligible for licensure if the applicant has any felony convictions and has not received an absolute discharge from the sentences for all felony convictions. The absolute discharge must be received five or more years before submitting this application. If you cannot prove that the absolute discharge date is five or more years, the Board cannot process your application.

+ indicates course has prerequisites and/or corequisites.

All nurse assistant applicants for certification will be fingerprinted to permit the Department of Public Safety to obtain state and federal criminal history information. All applicants with a positive history are investigated. If there is any question about eligibility for licensure or certification, contact the nursing education consultant at the Arizona State Board of Nursing (602.899.5150).

Health Declaration

It is essential that Nursing students be able to perform a number of physical activities in the clinical portion of the program. At a minimum, students will be required to lift patients, stand for several hours at a time and perform bending activities. Students who have a chronic illness or condition must be maintained on current treatment and be able to implement direct patient care. The clinical nursing 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 making application.

Health & Safety Requirements for MCCD Nurse Assisting Program

1. Students must submit a completed Health and Safety Documentation Checklist and maintain current status throughout the program.
2. Students must submit CPR card for Health Care Provider and maintain current status throughout the program.
3. Students must submit a current Fingerprint Clearance Card.
4. Health Provider Signature Form signed by a licensed health care provider.
5. Negative urine drug screen.

Grade Requirements

Students must obtain a "C" grade or better in all courses required within the program.

Course Fee Information

Please see class schedule for information regarding course fees.

University Transfer Students

For students planning a University Program.
Students who are planning to earn the Bachelor of Science in Nursing may obtain their prerequisite courses at the Maricopa Community Colleges. For information on courses that meet requirements for admission into a baccalaureate program, please contact a program advisor.

The Nurse Assisting Pathway

The nurse assisting pathway is designed to prepare students to complete the Nurse Assistant Certification through the Arizona State Board of Nursing to practice in a health care agency as a certified nurse assistant. Completion of the nurse assistant program of study provides job ready skills as a nursing assistant. Students may apply to the Nursing Program after completing the prerequisite courses and admission requirements.

Admission Criteria

Application and acceptance into the program, high school graduate or GED, and current Health Care Provider CPR Card required before beginning courses. All students must submit a copy of a fingerprint clearance card with their application for the Maricopa Community College District Nursing Program.

Requirements

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (6 credits)

+NUR158 Nurse Assisting 6

CERTIFICATE OF COMPLETION (CCL) IN PRACTICAL NURSING (31-41 CREDITS) MAJOR CODE: 5957

Practical Nursing Certificate of Completion (CCL) Program is available at nine of the Maricopa Community Colleges. Clinical experiences are provided in a variety of healthcare settings. The Practical Nursing Program provides eligibility for students to apply for the national exam for the practical nurse license. Licensing requirements are the exclusive responsibility of the Arizona State Board of Nursing.

The Practical Nursing Certificate of Completion (CCL) Program is approved by the Arizona State Board of Nursing.

Waiver of Licensure/Certification Guarantee:
Admission or graduation from the Nursing Program does not guarantee obtaining a license to practice nursing. Licensure requirements and the subsequent procedures are the exclusive right and responsibility of the State Board of Nursing. Students must satisfy the requirements of the Nurse Practice Act: Statutes, Rules and Regulations, independently of any college or school requirements for graduation.

Pursuant to A.R.S. § 32-1606(B)(17), an applicant for professional or practical nurse license by examination is not eligible for licensure if the applicant has any felony convictions and has not received an absolute discharge from the sentences for all felony convictions. The absolute discharge must be received five or more years before submitting this application. If you cannot prove that the absolute discharge date is five or more years, the Board cannot process your application.

All nurse applicants for certification and licensure will be fingerprinted to permit the Department of Public Safety to obtain state and federal criminal history information. If there is any question about eligibility for licensure or certification, contact the nursing education consultant at the Arizona State Board of Nursing (602.889.5150)

+ indicates course has prerequisites and/or corequisites.

Health Declaration

It is essential that Nursing students be able to perform a number of physical activities in the clinical portion of the program. At a minimum, students will be required to lift patients, stand for several hours at a time and perform bending activities. The clinical nursing experience also places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting 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.

Health & Safety Requirements for the Nursing Program:

1. Students must submit a Health and Safety Documentation Checklist verifying completion of all requirements and maintain current status throughout the program.
2. Students must submit the Health Declaration Form signed by a licensed health care provider.
3. Students must test negative on a timed urine drug screen.
4. Students must provide a copy of their current and valid Finger Print Clearance Card upon application.

Grade Requirements

Students must obtain a "C" grade or better or pass in "P/Z" graded courses in all courses in program.

University Transfer Students

For students planning a University Program
Students who are planning to earn the Bachelor of Science in Nursing may obtain their prerequisite courses at the Maricopa Community Colleges. For information on courses that meet requirements for admission into a baccalaureate program, please contact a program advisor.

PRACTICAL NURSE EXIT OPTION

Following completion of the practical nurse level program of study, the student is eligible to apply for licensure as a practical nurse. Licensed Practical Nurses (L.P.N.) are employed in acute, long-term, and community-based health care agencies under the direction of a registered nurse. Practical Nurses function within their legal scope of practice and use professional standards of care in illness care and health promotion activities for clients and families across the life span.

The Associate in Applied Science in Nursing degree program is approved by the Arizona State Board of Nursing and accredited by the National League for Nursing Accrediting Commission (NLNAC), 61 Broadway 33rd Floor, New York, New York 10006, 212.363.5555, ext 153.

Program Offerings

This program is offered at the following sites:
Chandler Gilbert Community College
Estrella Mountain Community College
GateWay Community College
Glendale Community College
Mesa Community College
Mesa Community College/Boswell
Paradise Valley Community College
Phoenix College
Rio Salado College
Scottsdale Community College

Program Notes

Students must earn a grade of "C" or better in all courses within the program.
+ indicates course has prerequisites and/or corequisites

The Nursing Program's Core Values of Caring, Holism, Nursing Role Development, Critical Thinking, Safe Practice, and Information Management and Technology are integrated into the student learning outcomes/program competencies.

Admission Criteria

High School diploma or GED.
Formal application and admission to the program is required. A passing score on a nursing program admission test is required to complete an application.

The Nursing Program Chair reserves the right to deny acceptance of an admission application if the applicant was dismissed for issues relating to academic integrity, unsafe patient care, and/or two (2) or more failures from any nursing program.

All applicants holding or receiving a certificate as a Nursing Assisting and/or license as a Practical Nurse must remain in good standing with the Board of Nursing. Once enrolled, students receiving any disciplinary actions against their certificate or license must notify the Nursing Program Chair within five (5) school days. The Nursing Program Chair reserves the right to restrict the student's participation in clinical experiences and involvement in patient care until the certificate and/or license is valid and unrestricted.

Program Prerequisites (18-20 credits)

Area Note: The credit hour range is subject to change depending on the student's educational experience.

BIO156	Introductory Biology for Allied Health (4) **OR**
BIO181	General Biology (Majors) I (4) **OR** One year of high school biology 4
+BIO201	Human Anatomy and Physiology I 4
+CHM130	Fundamental Chemistry (3) **AND**
+CHM130LL	Fundamental Chemistry Laboratory (1) **OR** One year of high school chemistry 4
+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3) **OR** Satisfactory completion of higher level mathematics course 3-5

PSY101 Introduction to Psychology (3) **OR**
+PSY240 Developmental Psychology (3) 3

Required Courses (21 credits)

+NUR151 Nursing Theory and Science I. 10
+NUR171 Nursing Theory and Science II 8
+NUR191 Practical Nursing Transition Course. . . .3

ASSOCIATE IN APPLIED SCIENCE (AAS) IN NURSING (61-74 CREDITS) MAJOR CODE: 3812

The Associate in Applied Science (AAS) in Nursing program is available at nine of the Maricopa Community Colleges. Clinical experiences are provided in a variety of healthcare settings. The Nursing Program provides eligibility for students to apply for the national exam for the registered nurse license. Licensing requirements are the exclusive responsibility of the State Board of Nursing.

The Associate in Applied Science (AAS) Nursing Program is approved by the Arizona State Board of Nursing and accredited by the National League for Nursing Accrediting Commission (NLNAC), 61 Broadway 33rd Floor, New York, New York 10006, 212.363.5555, ext 153.

Program Offerings

This program is offered at the following sites:
Chandler Gilbert Community College
Estrella Mountain Community College
GateWay Community College
Glendale Community College
Mesa Community College
Mesa Community College/Boswell
Paradise Valley Community College
Phoenix College
Rio Salado College
Scottsdale Community College

Waiver of Licensure/Certification Guarantee

Admission or graduation from the Nursing Program does not guarantee obtaining a license to practice nursing. Licensure requirements and the subsequent procedures are the exclusive right and responsibility of the Arizona State Board of Nursing. Students must satisfy the requirements of the Nurse Practice Act: Statutes, Rules and Regulations, independently of any college or school requirements for graduation.

Pursuant to A.R.S. § 32-1606(B)(17), an applicant for professional or practical nurse license by examination is not eligible for licensure if the applicant has any felony convictions and has not received an absolute discharge from the sentences for all felony convictions. The absolute discharge must be received five or more years before submitting this application. If you cannot prove that the absolute discharge date is five or more years, the Board cannot process your application.

All nursing applicants for licensure will be fingerprinted to permit the Department of Public Safety to obtain state and federal criminal history information. If there is any question about eligibility for licensure or certification, contact the nursing education consultant at the Arizona State Board of Nursing (602.889.5150).

Health Declaration

It is essential that Nursing students be able to perform a number of physical activities in the clinical portion of the program. At a minimum, students will be required to lift patients, stand for several hours at a time and perform bending activities. The clinical nursing experience also places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting 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.

Health & Safety Requirements for the Nursing Program

1. Students must submit a Health and Safety Documentation Checklist verifying completion of all requirements and maintain current status throughout the program.
2. Students must submit the Health Declaration Form signed by a licensed health care provider.
3. Students must test negative on a timed urine drug screen.
4. Students must provide a copy of their current and valid Finger Print Clearance Card upon application.

Grade Requirements

Students must obtain a "C" grade or better in all courses required within the program.

Course Fee Information

Please see class schedule for information regarding course fees.

University Transfer Students

For students planning a University Program
Students who are planning to earn the Bachelor of Science in Nursing may obtain their prerequisite courses at the Maricopa Community Colleges. For information on courses that meet requirements for admission into a baccalaureate program, please contact a program advisor.

REGISTERED NURSE PATHWAY

Associate in Applied Science (AAS) in Nursing Program

The Associate in Applied Science (AAS) in Nursing graduate is eligible to apply for licensure as a Registered Nurse (RN). The RN is educated as a generalist who delivers health care to clients and family groups and has competencies related to the art and science of nursing. The RN may be employed in a variety of acute, long term, and community based health care settings. The AAS degree in Nursing provides the graduate with an educational foundation for articulation into the university setting.

+ indicates course has prerequisites and/or corequisites.

The Nursing Program is approved by the Arizona State Board of Nursing and accredited by the National League for Nursing Accrediting Commission (NLNAC), 61 Broadway 33rd Floor, New York, New York 10006, 212.363.5555, ext 153.

Program Notes

Students must earn a grade of "C" or better in all courses required within the program.
+ indicates course has prerequisites and/or corequisites.

The Nursing Program's Core Values of Caring, Holism, Nursing Role Development, Critical Thinking, Safe Practice, and Information Management and Technology are integrated into the student learning outcomes/program competencies.

Admission Criteria

High School diploma or GED.
Formal application and admission to the program is required.
A passing score on a nursing program admission test is required to complete an application.
Applicants for Advanced Placement must receive a passing score on a practical nursing content exam for placement into Block 3.
The final decision rests with the Nursing Program Chair at the College to which the student is accepted.

The Nursing Program Chair reserves the right to deny acceptance of an admission application if the applicant was dismissed for issues relating to academic integrity, unsafe patient care, and/or two (2) or more failures from any nursing program.

All applicants holding or receiving a certificate as a Nursing Assisting and/or license as a Practical Nurse must remain in good standing with the Regulatory Board. Once enrolled, students receiving any disciplinary actions against their certificate or license must notify the Nursing Program Chair within five (5) school days. The Nursing Program Chair reserves the right to restrict the student's participation in clinical experiences and involvement in patient care until the certificate and/or license is valid and unrestricted.

Program Prerequisites (10-20 credits)

Area Note: The credit hour range is subject to change depending on the student's educational experience.

BIO156	Introductory Biology for Allied Health (4) **OR**
BIO181	General Biology (Majors) I (4) **OR** One year of high school biology 0-4
+BIO201	Human Anatomy and Physiology I 4
+CHM130	Fundamental Chemistry (3) **AND**
+CHM130LL	Fundamental Chemistry Laboratory (1) **OR** One year of high school chemistry . . . 0-4
+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3) **OR** Satisfactory completion of higher level mathematics course 3-5
PSY101	Introduction to Psychology (3) **OR**
+PSY240	Developmental Psychology (3) 3

Required Courses (35 credits)

+NUR151	Nursing Theory and Science I. 10
+NUR171	Nursing Theory and Science II 8
+NUR251	Nursing Theory and Science III 8
+NUR271	Nursing Theory and Science IV 7
+NUR291	Nursing Clinical Capstone 2

General Education (29 credits)

First-Year Composition

+ENG101	First-Year Composition (3) **OR**
+ENG107	First-Year Composition for ESL (3) **AND**
+ENG102	First-Year Composition (3) **OR**
+ENG108	First-Year Composition for ESL (3) 6

Oral Communication

	Waived

Critical Reading

+CRE101	Critical and Evaluative Reading I (3) **OR** Equivalent by assessment 3

Mathematics

	Met by MAT120, or MAT121, or MAT122 **OR** Satisfactory completion of higher level mathematics course in Program

Humanities and Fine Arts

	Any approved course in the Humanities and Fine Arts area. 2

Natural Science

+BIO202	Human Anatomy and Physiology II (4) **AND**
+BIO205	Microbiology (4) 8

Social and Behavioral Sciences

	Met by PSY101 or PSY240 in Program Prerequisites area. 0

Physical Education Certificates/Degrees

- **Certificate of Completion (CCL) in Nutrition for Fitness and Wellness**
- **Associate in Applied Science (AAS) in Strength, Nutrition, and Personal Training**
- **Certificate of Completion (CCL) in Strength and Conditioning Personal Trainer**
- **Associate in Applied Science (AAS) in Recreation Management**
- **Certificate of Completion (CCL) in Recreation Management**
- **Certificate of Completion (CCL) in Group Fitness Instructor**

Department Chairperson: Ann Stine
Contact: (480) 461-7546

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN NUTRITION FOR FITNESS AND WELLNESS (21 CREDITS) MAJOR CODE: 5302

The Certificate of Completion (CCL) in Nutrition for Fitness and Wellness will provide personal trainers and other nutrition paraprofessionals with a foundational nutrition background, in non-clinical settings. Students acquire the knowledge and skills to work in a general community setting, with a focus on improving well-being and healthy lifestyles.

Required Courses (21 credits)

Students must complete Required Courses in Block One before enrolling in Block Two courses.
FON100 may not be taken for credit if credit has been earned in FON100AA and/or FON100AC.

Block One

EXS130	Strength Fitness-Physiological Principles and Training Techniques 3
FON100	Introductory Nutrition (3) **OR**
FON100AA	Introductory Nutrition I (2) **AND**
+FON100AC	Introductory Nutrition II (1) **OR**
	Equivalent FON course 3
+FON247	Weight Management Theory. 3

AND

Block Two

EXS112	Professional Applications of Fitness Principles 3
EXS125	Introduction to Exercise Physiology 3
+FON210	Sports Nutrition and Supplements for Physical Activity 3
+FON230	Nutrition for Special Populations 3

ASSOCIATE IN APPLIED SCIENCE (AAS) IN STRENGTH, NUTRITION, AND PERSONAL TRAINING(66-69 CREDITS) MAJOR CODE: 3059

The Associate in Applied Science (AAS) in Strength, Nutrition, and Personal Training prepares students with the knowledge and experience required to be eligible for the American College of Sports Medicine (ACSM) Health and Fitness Instructor Certification, ACSM personal trainer certification, the National Strength and Conditioning Association (NSCA) personal trainer certification, and the American Council on Exercise (ACE) personal trainer certification. This degree will provide students with a stronger educational background making them more marketable in the field of fitness and nutrition. This degree will also meet the needs of individuals with existing degrees in such fields as Exercise Physiology, Nutrition, Athletic Training and other health related disciplines. Registered dietitians, clinical exercise physiologists, personal trainers, exercise specialists, strength and conditioning specialists, coaches, athletes and others interested in acquiring knowledge in exercise, nutrition and health are also eligible for this program.

Required Courses (41-42 credits)

EXS112	Professional Applications of Fitness Principles 3
EXS125	Introduction to Exercise Physiology 3
+EXS139	Practical Applications of Personal Training Skills and Techniques Internship (3) **OR**
+EXS139AA	Practical Applications of Personal Training Skills and Techniques Internship (1) **AND**
+EXS139AB	Practical Applications of Personal Training Skills and Techniques Internship (2) **OR**
+EXS285	Exercise Program Design and Instruction (3) 3
EXS145	Guidelines for Exercise Testing and Prescription. 3
FON100	Introductory Nutrition. 3
+FON210	Sports Nutrition and Supplements for Physical Activities 3
+FON230	Nutrition for Special Populations 3
+FON247	Weight Management Theory. 3
MGT253	Owning and Operating a Small Business 3
HES154	First Aid/Cardiopulmonary Resuscitation (3) **OR** BLS Health Care Provider and First Aid Certification 3
PSY101	Introduction to Psychology 3
+PSY215	Introduction to Sport Psychology 3

AND

Choose one of the following series for (5-6 credits):

Series 1 (6 credits)

EXS212CR	Instructional Competency Laboratory: Cardiorespiratory Exercises and Activities 2
EXS212FL	Instructional Competency Laboratory: Flexibility and Mind-Body Exercises . . .2
EXS212SC	Instructional Competency Lab: Muscular Strength and Conditioning . . .2

OR

Series 2 (5 credits)

EXS130	Strength Fitness-Physiological Principles and Training Techniques 3
EXS132	Cardiovascular Fitness: Physiological Principles and Training Techniques (2) **OR**
EXS212CR	Instructional Competency Laboratory: Cardiorespiratory Exercise and Activities (2) 2

OR

+ indicates course has prerequisites and/or corequisites.

Series 3 (5 credits)

EXS132	Cardiovascular Fitness: Physiological Principles and Training Techniques (2) **OR**
EXS212CR	Instructional Competency Laboratory: Cardiorespiratory Exercise and Activities (2) 2
+EXS275	Methods of Enhancing Physical Performance. 3

General Education (25-27 credits)

First Year Composition

+ENG101	First Year Composition (3) **AND**
+ENG102	First Year Composition (3) **OR**
+ENG107	First-Year Composition for ESL (3) **AND**
+ENG108	First-Year Composition for ESL (3) 6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**. 3
COM110	Interpersonal Communication (3)

Critical Reading

+CRE101	Critical and Evaluative Reading I. 3

Mathematics

+MAT120	Intermediate Algebra (5) **OR**
+MAT121	Intermediate Algebra (4) **OR**
+MAT122	Intermediate Algebra (3). 3-5

Humanities and Fine Arts

	Any approved general education course in the Humanities and Fine Arts area . . .3

Social and Behavioral Sciences

CFS205	Human Development (3) **OR**
HES100	Healthful Living (3) 3

Natural Sciences

BIO160	Introduction to Human Anatomy and Physiology 4

CERTIFICATE OF COMPLETION (CCL) IN STRENGTH AND CONDITIONING PERSONAL TRAINER (31-34 CREDITS) MAJOR CODE: 5445

The Certificate of Completion (CCL) in Strength and Conditioning Personal Trainer prepares students for employment in the fitness industry as Strength and Conditioning Personal Trainers/Coaches. This curriculum provides students with a fundamental knowledge of human physiology and anatomy, prevention and treatment of exercise related injuries, emergency response readiness, health appraisals and assessments; application of exercise fitness principles and strength training techniques; a fundamental knowledge of nutrition, weight control, stress management and exercise physiology, and biomechanics; skills in exercise testing and fitness measures as well as writing exercise prescriptions and program designs for diverse populations.

Required Courses (31-34 credits)

BIO160	Introduction to Human Anatomy and Physiology. 4
EXS112	Professional Applications of Fitness Principles. 3
EXS125	Introduction to Exercise Physiology 3
EXS130	Strength Fitness-Physiological Principles and Training Techniques. 3
EXS145	Guidelines for Exercise Testing and Prescription 3
+EXS275	Methods of Enhancing Physical Performance (3) **OR**
EXS212CR	Instructional Competency Laboratory: Cardiorespiratory Exercise and Activities (2) **AND**
EXS212FL	Instructional Competency Laboratory: Flexibility and Mind-Body Exercises (2) **AND**
EXS212SC	Instructional Competency Lab: Muscular Strength and Conditioning (2) 3-6
+EXS285	Exercise Program Design and Instruction (3) **OR**
+EXS139	Practical Applications of Personal Training Skills and Techniques Internship (3). 3
HES154	First Aid/Cardiopulmonary Resuscitation (3) **OR** BLS Health Care Provider and First Aid Certification 3
HES271	Prevention and Treatment of Athletic Injuries. 3
HES100	Healthful Living (3) **OR**
WED110	Principles of Physical Fitness and Wellness (3). 3

ASSOCIATE IN APPLIED SCIENCE (AAS) IN RECREATION MANAGEMENT (60-64 CREDITS) MAJOR CODE: 3053

The Associate in Applied Science (AAS) in Recreation Management is designed to prepare students for entry-level positions in the recreation field and provides the first half of a four-year undergraduate program of study in Recreation Management and/or Leadership. The program focuses on the positive application of play, recreation, and leisure across the life span. Along with required general education courses, the program includes foundational and practical experience in the programming and delivery of recreational services and the development of communication, group facilitation, management, leadership and technical skills.

Required Courses (32-34 credits)

BPC110	Computer Usage and Applications (3) **OR**
CIS105	Survey of Computer Information Systems (3) 3
COM100	Introduction to Human Communications (3) **OR**

+ indicates course has prerequisites and/or corequisites.

COM110	Interpersonal Communication (3). 3
HES154	First Aid/Cardiopulmonary Resuscitation. . 3
MGT101	Techniques of Supervision (3) **OR**
MGT126	Customer Service Skills and Strategies (3). 3
REC120	Leisure and the Quality of Life (3) **OR**
REC160	Leisure and Society (3) 3
REC150AB	Outdoor Adventure Skills 3
REC210	Leisure Delivery Systems 3
REC230	Programming of Recreation Services (3) **OR**
+HRM145	Events Management (3). 3
REC250	Recreation Leadership. 3
+REC282AA-AC	Volunteerism for Recreation: A Service-Learning Experience 1-3

Physical/Recreational Activities (4 credits)

Students must select four (4) different activities from the following list:

PED101BP	Backpacking (1) **OR**
PED103BP	Backpacking (0.5)
PED101CX	Cross Country Skiing (1) **OR**
PED103CX	Cross Country Skiing (0.5)
PED101RC	Rock Climbing (1) **OR**
PED102RC	Rock Climbing – Intermediate (1) **OR**
PED103RC	Rock Climbing (0.5) **OR**
PED201RC	Rock Climbing – Advanced (1)
PED101CP	Camping (1) **OR**
PED103CP	Camping (0.5)
PED101CY	Cycling – Indoor (1) **OR**
PED103CY	Cycling – Indoor (0.5) **OR**
PED101HK	Hiking (1) **OR**
PED102HK	Hiking (1) – Intermediate **OR**
PED103HK	Hiking (0.5) **OR**
PED201HK	Hiking - Advanced (1)
PED101MB	Mountain Biking the Southwest (1) **OR**
PED102MB	Mountain Biking the Southwest – Intermediate (1) **OR**
PED103MB	Mountain Biking the Southwest (0.5) **OR**
PED201MB	Mountain Biking the Southwest – Advanced (1)
PED101RS	Recreational Sports (1) **OR**
PED103RS	Recreational Sports (0.5)
REC155++	Any REC Recreation activity modules

Restricted Electives (6 credits)

AIS113	Proposal Writing 3
ARH145	History of American Indian Art 3
COM263	Elements of Intercultural Communication. . 3
COM281	Communication Activities 1
CPD102AS	Conflict Resolution 2
CPD103BL	Dynamics of Leadership (2) **OR**
LDR101	Emerging Leaders I (2) 2
EXS265	Theory of Coaching. 3
GBS120	Workplace Communication Skills 3
GCU221	Arizona Geography. 3
HES100	Healthful Living 3
HIS105	Arizona History. 3
HIS106	Southwest History 3
HRM110	Introduction to Hospitality and Tourism . . 3

General Education Requirements (22-24 credits)

First-Year Composition	
	Any approved general education course from the First-Year Composition area. . . 6
Oral Communication	
	Met by COM100 **OR** COM110 in the required courses area
Critical Reading	
+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated 3
Mathematics	
	Any approved general education course from the Mathematics area 3-5
Humanities and Fine Arts	
	Any approved general education course from the Humanities and Fine Arts area 3
Social and Behavioral Sciences	
	Any approved general education course from the Social and Behavioral Sciences area 3
Natural Sciences	
	Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION (CCL) IN RECREATION MANAGEMENT (39-43 CREDITS) MAJOR CODE: 5469

The Certificate of Completion (CCL) in Recreation Management is designed to prepare students with entry-level skills for the expanding field of recreation. The program provides a foundation for the positive application of play, recreation, and leisure across the life span. Through classroom and experiential learning activities, students gain knowledge of and practical experience in the programming and delivery of recreation services, and develop communication, group facilitation, management and leadership skills. Participation in recreation activity courses equips students with the technical skills necessary to plan, lead and facilitate safe outdoor recreation adventures and programs.

Required Courses (33-37 credits)

BPC110	Computer Usage and Applications (3) **OR**
CIS105	Survey of Computer Information Systems (3) 3
COM100	Introduction to Human Communications (3) **OR**
COM110	Interpersonal Communication (3). 3
HES154	First Aid/Cardiopulmonary Resuscitation . . 3
MGT101	Techniques of Supervision (3) **OR**
MGT126	Customer Service Skills and Strategies (3). 3
REC120	Leisure and the Quality of Life (3) **OR**
REC160	Leisure and Society (3) 3
REC150AB	Outdoor Adventure Skills 3
REC210	Leisure Delivery Systems 3
REC230	Programming of Recreation Services (3) **OR**
HRM145	Events Management (3). 3
REC250	Recreation Leadership. 3

+ indicates course has prerequisites and/or corequisites.

+REC282AA-AC	Volunteerism for Recreation: A Service Learning Experience 1-3
REC296WA-WC	Cooperative Education (any module) **OR**
REC298AA-AC	Special Projects (1-3). 1-3

Physical/Recreational Activities (4 credits)

Students must select four (4) different activities from the following list:

PED101BP	Backpacking (1) **OR**
PED103BP	Backpacking (0.5)
PED101CX	Cross Country Skiing (1) **OR**
PED103CX	Cross Country Skiing (0.5)
PED101RC	Rock Climbing (1) **OR**
PED102RC	Rock Climbing – Intermediate (1) **OR**
PED103RC	Rock Climbing (0.5) **OR**
PED201RC	Rock Climbing – Advanced (1)
PED101CP	Camping (1) **OR**
PED103CP	Camping (0.5)
PED101CY	Cycling – Indoor (1) **OR**
PED103CY	Cycling – Indoor (0.5) **OR**
PED101HK	Hiking (1) **OR**
PED102HK	Hiking (1) – Intermediate **OR**
PED103HK	Hiking (0.5) **OR**
PED201HK	Hiking – Advanced (1)
PED101MB	Mountain Biking the Southwest (1) **OR**
PED102MB	Mountain Biking the Southwest – Intermediate (1) **OR**
PED103MB	Mountain Biking the Southwest (0.5) **OR**
PED201MB	Mountain Biking the Southwest – Advanced (1)
PED101RS	Recreational Sports (1) **OR**
PED103RS	Recreational Sports (0.5)
REC155++	Any recreational activity modules

Restricted Electives (6 credits)

AIS113	Proposal Writing 3
ARH145	History of American Indian Art 3
COM263	Elements of Intercultural Communication . . 3
COM281	Communication Activities 1
CPD102AS	Conflict Resolution 2
CPD103BL	Dynamics of Leadership (2) **OR**
LDR101	Emerging Leaders I (2) 2
EXS265	Theory of Coaching. 3
GBS120	Workplace Communication Skills 3
GCU221	Arizona Geography. 3
HES100	Healthful Living 3
HIS105	Arizona History. 3
HIS106	Southwest History 3
HRM110	Introduction to Hospitality and Tourism . . 3

CERTIFICATE OF COMPLETION (CCL) IN GROUP FITNESS INSTRUCTOR (4 CREDITS) MAJOR CODE: 5414

The Certificate of Completion (CCL) in Group Fitness Instructor program is designed to provide the trained fitness instructor with additional, specialized skills in aerobics instruction, and will also prepare the student for certification in the aerobics field.

Program Prerequisites (13 credits)

EXS112	Professional Applications of Fitness Principles 3
EXS125	Introduction to Exercise Physiology 3
EXS130	Strength Fitness-Physiological Principles and Training Techniques. 3
EXS140	Principles of Safe Exercise 1
FON105	Nutrition Principles for Fitness Professionals 3

Required Courses (4 credits)

+EXS128	Methods of Group Fitness I. 2
+EXS129	Methods of Group Fitness II 2

Real Estate Certificates/Degrees

- **Associate in Applied Science (AAS) in Certified Residential Appraiser**
- **Certificate of Completion (CCL) in Real Estate**
- **Certificate of Completion (CCL) in Residential Appraisal Trainee**
- **Certificate of Completion (CCL) in Licensed Real Estate Appraiser**

Department Chairperson: Linda Collins
Contact: (480) 461.7077
Program Director: Chris Held
Contact: (480) 461.7568

ASSOCIATE IN APPLIED SCIENCE (AAS) IN CERTIFIED RESIDENTIAL APPRAISER (60 CREDITS) MAJOR CODE: 3104

The Associate in Applied Science (AAS) in Certified Residential Appraiser prepares students for the appraisal of residential land and real property. Licensed Real Estate Appraisal students will be prepared for the National Uniform State Certified Residential Real Property Appraiser Examination or its equivalent. Upon completion students will have completed the necessary education requirements designated by the National Appraisal Qualification board.

Required Courses (24 credits)

BPC110	Computer Usage and Applications (3) **OR**
CIS105	Survey of Computer Information Systems (3) 3
+GBS219	Statistics for Real Estate Appraisers. . . .3

+ indicates course has prerequisites and/or corequisites.

+REA281	Principles of Real Estate Law	3
+REA282	Real Estate Finance	3
REA270	Basic Appraisal Principles	2
REA271	Basic Appraisal Procedures	2
+REA272	Uniform Standards of Professional Appraisal Practice (USPAP)	1
REA273	Residential Market Analysis Highest and Best Use	1
REA274	Residential Appraiser Site Valuation and Cost Approach	1
+REA275	Residential Sales Comparison and Income Approaches	2
REA276AA	Residential Report Writing and Case Studies I	1
REA277	Statistics, Modeling and Finance	1
+REA278	Advanced Residential Applications and Case Studies	1

Restricted Electives (9-12 credits)

OAS108	Business English	3
GBS151	Introduction to Business	3
MGT251	Human Relations in Business	3
MKT271	Principles of Marketing	3
REA179	Real Estate Principles I	3
+REA180	Real Estate Principles II	3
+REA285	Real Estate Selling	3
+REA288	Real Estate Investment Strategy	3
TQM101	Quality Customer Service	3
TQM240	Project Management in Quality Organizations	2

General Education Requirements (27 credits)

First-Year Composition		
	Any approved General Education course in First Year composition	6
Oral Communication		
	Any approved General Education course in the Oral Communication area	3
Critical Reading		
+CRE101	Critical and Evaluative Reading I (3) **OR** Equivalent as indicated by assessment.	3
Mathematics		
MAT120	Intermediate Algebra	5
Humanities and Fine Arts		
	Any approved general education course in the Humanities and Fine Arts Area	3
Social and Behavioral Sciences		
ECN211	Macroeconomic Principles (3) **OR**	
ECN212	Microeconomic Principles (3)	3
Natural Sciences		
	Any approved general education course from the Natural Sciences Area	4

CERTIFICATE OF COMPLETION (CCL) IN REAL ESTATE (18 CREDITS) MAJOR CODE: 5653

The Certificate of Completion (CCL) in Real Estate prepares students to become accredited financial planners. The program emphasizes tax and investment management, securities, insurance, pension plans, and real estate. Completion of the certificate and several years of related experience qualify the students to sit for the national Certified Financial Planner (CFP) exam, administered by the international Board of Standards and Practices for Certified Financial Planners, Inc. (IBCFP).

Required Courses (18 credits)

REA179	Real Estate Principles I	3
+REA180	Real Estate Principles II	3
+REA281	Principles of Real Estate Law	3
+REA282	Real Estate Finance (3) **OR**	
+REA285	Real Estate Selling (3)	3
+REA283	Property Management (3) **AND**	
+REA288	Real Estate Investment Strategy (3) **OR**	
REA270	Basic Appraisal Principles (2) **AND**	
REA273	Residential Market Analysis Highest and Best use (1) **AND**	
REA271	Basic Appraisal Procedures (2) **AND**	
REA274	Residential Appraiser Site Valuation and Cost Approach (1)	6

CERTIFICATE OF COMPLETION (CCL) IN RESIDENTIAL APPRAISAL TRAINEE (15 CREDITS) MAJOR CODE: 5619

The Certificate of Completion (CCL) in Residential Appraisal Trainee will prepare students for entry level employment as a trainee in Real Estate Appraisal. Licensed Appraisal students will gain entry level knowledge in the field of appraisal. Upon completion students will have completed the necessary education requirements designated by the National Appraisal Qualification board.

Required Courses (15 credits)

REA179	Real Estate Principles I	3
REA270	Basic Appraisal Principles	2
+REA271	Basic Appraisal Procedures	2
+REA272	Uniform Standards of Professional Appraisal Practice (USPAP)	1
REA273	Residential Market Analysis Highest and Best Use	1
REA274	Residential Appraiser Site Valuation and Cost Approach	1
+REA275	Residential Sales Comparison and Income Approaches	2
REA276AA	Residential Report Writing and Case Studies I	1
REA277	Statistics, Modeling and Finance	1
+REA278	Advanced Residential Applications and Case Studies	1

+ indicates course has prerequisites and/or corequisites.

CERTIFICATE OF COMPLETION (CCL) IN LICENSED REAL ESTATE APPRAISER (30 CREDITS) MAJOR CODE: 5615

The Certificate of Completion (CCL) in Licensed Real Estate Appraiser will prepare students for a career as a Real Estate Residential Appraiser. Licensed Real Estate Appraisal students will be prepared for the National Uniform State Certified Residential Real Property Appraiser Examination or its equivalent. Upon completion students will have completed the necessary education requirements designated by the National Appraisal Qualification board.

Required Courses (30 credits)

BPC110	Computer Usage and Applications (3) **OR**	
CIS105	Survey of Computer Information Systems (3)	3
OAS108	Business English (3) **OR**	
+ENG101	First-English Composition (3)	3
ECN211	Macroeconomics Principles (3) **OR**	
ECN212	Microeconomics Principles (3)	3
+REA282	Real Estate Finance	3
+GBS219	Statistics for Real Estate Appraisers	3
+REA281	Principles of Real Estate law	3
REA270	Basic Appraisal Principles	2
REA271	Basic Appraisal Procedures	2
+REA272	Uniform Standards of Professional Appraisal Practice (USPAP)	1
REA273	Residential Market Analysis Highest and Best Use	1
REA274	Residential Appraiser Site Valuation and Cost Approach	1
+REA275	Residential Sales Comparison and Income Approaches	2
REA276AA	Residential Report Writing and Case Studies I	1
REA277	Statistics, Modeling and Finance	1
+REA278	Advanced Residential Applications and Case Studies	1

Veterinary Technology Degree

- **Associate in Applied Science (AAS) in Veterinary Technology/Animal Health**

Program Director: Jill Sheport
Contact (480) 461-7488

ASSOCIATE IN APPLIED SCIENCE (AAS) IN VETERINARY TECHNOLOGY/ANIMAL HEALTH (78 CREDITS) MAJOR CODE: 3015

The Associate in Applied Science (AAS) in Veterinary Technology/Animal Health program prepares students for careers in veterinary technology which require knowledge and skills involving basic medical sciences, animal care and management, veterinary medical care, and client communications and service. Veterinary technicians function as the paraprofessional assistants to veterinarians, biomedical researchers, other scientists, and animal control and humane organizations. Instruction includes practical clinical internship experience in veterinary emergency, large animal, small animal, and specialty practices, as well as in zoos, laboratories, humane societies, and other facilities.

Admission Criteria

High school graduation or G.E.D. equivalency.
Completion of program prerequisites.
Formal application and admission to the Veterinary Technology/Animal Health program.

Program Prerequisites (23-25 credits)

ANS110AA	Introduction to Animal Science	3
BIO181	General Biology (Majors) I	4
CHM130	Fundamental Chemistry (3) **AND**	
+CHM130LL	Fundamental Chemistry Laboratory (1)	4
+CRE101	Critical and Evaluative Reading (3) **OR** equivalent as indicated by assessment	3
+ENG101	First-Year Composition (3) **OR**	
+ENG107	First-Year Composition for ESL (3)	3
+ENG102	First-Year Composition (3) **OR**	
+ENG108	First-Year Composition for ESL (3) **OR**	
+ENG111	Technical Writing (3)	3
+MAT120	Intermediate Algebra (5) **OR**	
+MAT121	Intermediate Algebra (4) **OR**	
+MAT122	Intermediate Algebra (3)	3-5

Required Courses (43 credits)

AGB132	Agribusiness Accounting and Office Management	3
AGB139	Agribusiness Computer Operations	3
+ANH200	Veterinary Clinical Pathology Methods	3
+ANH205	Clinical Veterinary Anatomy and Physiology	3
+ANH210	Animal Nursing	2
+ANH220	Animal Pharmacology	3
+ANH230	Veterinary Radiography and Imaging	3
+ANH240	Veterinary Anesthesia, Surgery, and Emergency Nursing	3
+ANH250AA	Veterinary Technician Internship	0.5
+ANH250AB	Veterinary Technician Internship	0.5
+ANH250AC	Veterinary Technician Internship	0.5
+ANH250AD	Veterinary Technician Internship	0.5
+ANS112	Animal Science and Health Practices	2
+ANS222	Animal Anatomy and Physiology	3
+ANS222LL	Animal Anatomy and Physiology Laboratory	1
+ANS223AA	Animal Diseases	3
+BIO205	Microbiology	4
EQS105	Principles of Equine Science	3
+EQS298AA	Special Project	1
HCC145AA	Medical Terminology for Health Care Workers I	1

+ indicates course has prerequisites and/or corequisites.

Restricted Electives (3-4 credits)

+ANS212	Livestock Production and Management . . 3
ANS213	Animal Feeding 3
+BIO240	General Genetics 4
+BIO280	Animal Behavior 3
EQS120	Equine Anatomy and Physiology 3
EQS130	Equine Business and Law 3
EQS140	Equine Behavior 3
SBU200	Society and Business 3
	Any combination of ANS296 and/or ANS298 courses to total 3-4 credits
+ANS296++	Cooperative Education (any suffixed courses) **AND**
+ANS298++	Special Projects (any suffixed courses) 3-4

General Education Requirements (9 credits)

First-Year Composition

Met by any combination of ENG courses in the program prerequisites area

Oral Communication

COM100	Introduction to Human Communication (3) **OR**
COM110	Interpersonal Communication (3). 3

Critical Reading

Met by +CRE101 in program prerequisites area

Mathematics

Met by MAT120 **OR** MAT121 **OR** MAT122 in program prerequisites area

Humanities and Fine Arts

Any approved general education course in the Humanities and Fine Arts area . . . 3

Social and Behavioral Sciences

ECN100	Economics in American Society (3) **OR**
ECN211	Macroeconomic Principles (3) **OR**
ECN212	Microeconomic Principles (3). 3

Natural Sciences

Met by BIO181 in program prerequisites area

Welding Certificates/Degrees

- **Associate in Applied Science (AAS) in Welding**
- **Certificate of Completion (CCL) in Welding**
- **Certificate of Completion (CCL) in Manufacturing Welding**

Department Chairperson: Jon D'Ambrosio
Contact: (480) 461-7141
Program Director: Rod Hammil
Contact: (480) 461-7131

ASSOCIATE IN APPLIED SCIENCE (AAS) IN WELDING (65-69 CREDITS) MAJOR CODE: 3244

The Associate in Applied Science (AAS) in Welding prepares students to work in the field using oxyacetylene (gas) and electric (arc) processes. The program emphasizes knowledge and skill required to work with modern industrial welding equipment using advanced welding techniques including MIG (metal inert gas) and TIG (tungsten inert gas).

Requirements

Students must earn a grade of "C" or better in all courses required within the program.

Program Prerequisites (3 credits)

GTC107	Technical Mathematics I (3) **OR** satisfactory score on math placement test 3

Required Courses (41-42 credits)

DFT110	Technical Drafting I 3
+DFT111	Technical Drafting II. 3
GTC102	Machine Processes, Theory and Application (3) **OR**
GTC104	Manufacturing Processes (4) 3-4
GTC106AA	Industrial Safety 2
+GTC108	Technical Mathematics II 3
GTC216	Properties of Materials 3
WLD101	Welding I (3) **OR**
GTC129	Manufacturing Welding (3). 3
WLD103	Basic Blacksmithing and Metal Shaping. . 3
WLD106	Arc Welding. 5
+WLD206	Advanced Welding Heliarc and Wire Feed. 5
+WLD208	Advanced Arc Welding–Certification . . 5
+WLD225	Welding Inspection and Quality Control. . 3

Restricted Electives (3-5 credits)

DFT+++++	Any DFT prefixed course(s) except courses used to satisfy required courses area
GTC+++++	Any GTC prefixed course(s) except courses used to satisfy required courses area
QCT+++++	Any QCT prefixed course(s)
WLD+++++	Any WLD prefixed course(s) except courses used to satisfy required courses area

General Education Requirements (21-22 credits)

First-Year Composition

++ENG101	First-Year Composition (3) **OR**
++ENG107	First-Year Composition for ESL (3) **AND**
++ENG102	First-Year Composition (3) **OR**
++ENG108	First-Year Composition for ESL (3) **OR**
+ENG111	Technical Writing (3) 6

Oral Communication

COM100	Introduction to Human Communication (3) **OR**
COM110	Interpersonal Communication (3) **OR**
+COM230	Small Group Communication (3) 3

+ indicates course has prerequisites and/or corequisites.

Critical Reading		
	+CRE101	Critical and Evaluative Reading I (3) **OR** equivalent by assessment. 3
Mathematics		
		Met by GTC108 in required courses area
Humanities and Fine Arts		
		Any approved general education course in the Humanities and Fine Arts area 2-3
Social and Behavioral Sciences		
		Any approved general education course from the Social and Behavioral Sciences area
	PSY125	Leadership and Group Relations recommended 3
Natural Sciences		
		Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION (CCL) IN WELDING (27 CREDITS) MAJOR CODE: 5444

The Certificate of Completion (CCL) in Welding develops skills in oxyacetylene (gas) and electric (arc) welding with emphasis on preparing for the American Welding Society Arc certification exam.

Program Prerequisites (3 credits)

GTC107	Technical Mathematics I (3) **OR** satisfactory score on math placement test 3

Required Courses (27 credits)

DFT110	Technical Drafting I 3
GTC216	Properties of Materials 3
WLD101	Welding I 3
WLD106	Arc Welding. 5
+WLD206	Advanced Welding Heliarc and Wire Feed. 5
+WLD208	Advanced Arc Welding–Certification . .5
+WLD225	Welding Inspection and Quality Control. .3

CERTIFICATE OF COMPLETION (CCL) IN MANUFACTURING WELDING (26 CREDITS) MAJOR CODE: 5620

The Certificate of Completion (CCL) in Manufacturing Welding provides skill development in oxyacetylene (gas) and electric (arc) welding. Classes are conducted in laboratories that are equipped with modern industrial welding equipment and emphasize skill development in advanced welding techniques utilizing TIG and MIG machines.

Program Prerequisites (3 credits)

GTC107	Technical Mathematics I (3) **OR** satisfactory score on math placement test 3

Required Courses (26 credits)

DFT114	Machine Trades Blueprint Reading 3
GTC102	Machine Processes, Theory, & Application 3
GTC104	Manufacturing Processes 4
GTC106AA	Industrial Safety 2
+GTC108	Technical Mathematics II 3
GTC129	Manufacturing Welding 3
+WLD206	Advanced Welding–Heliarc and Wire Feed. 5
+WLD215	Welding Fabrication 3

+ indicates course has prerequisites and/or corequisites.

Course Descriptions

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AGB Agribusiness . . . 197
AGL Agricultural Landscape . . . 198
AGS Agricultural Science . . . 198
AJS Administration of Justice Studies . . . 199
ANH Animal Health . . . 202
ANS Animal Science . . . 203
APT Automotive Performance Technology . . . 204
ARB Arabic . . . 205
ARC Architecture . . . 205
ARH Art Humanities . . . 206
ART Art . . . 206
ASB Anthropology . . . 209
ASM Anthropology . . . 210
AST Astronomy . . . 210
AUT Automotive Technology . . . 210
BIO Biology . . . 211
BLT Building Safety and Construction Technology . . . 212
BPC Business–Personal Computers . . . 213
CAD Computer–Aided Drafting . . . 216
CCS Chicana and Chicano Studies . . . 216
CET Civil Engineering Technology . . . 216
CFS Child/Family Studies . . . 216
CHA Community Health Advocate . . . 217
CHD Chemical Dependency . . . 217
CHI Chinese . . . 218
CHM Chemistry . . . 218
CIS Computer Information Systems . . . 219
CNS Construction . . . 227
CNT Cisco Network Technology . . . 230
COM Communication . . . 232
CPD Counseling and Personal Development . . . 233
CRE Critical Reading . . . 233
CRW Creative Writing . . . 233
CSC Computer Science . . . 234
CTT Caterpillar Technician Training . . . 234
CWE Career Work Experience . . . 235
DAE Dental Assisting Education . . . 236
DAH Dance Humanities . . . 236
DAN Dance . . . 236
DFT Drafting . . . 238
DHE Dental Hygiene Education . . . 239
ECE Engineering Science . . . 240
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EPD Education Professional Development 249
EPS Entrepreneurial Studies 249
EQS Equine Science 250
ESL English as a Second Language 250
ETL Excellence/Teaching/Learning 251
EXS Exercise Science 251
FCS Family and Consumer Science 254
FLA Foreign Language 254
FON Food and Nutrition 254
FRE French 257
FSC Fire Science Technology 257
FUS Future Studies 259
GBS General Business 259
GCU Cultural Geography 260
GER German 260
GLG Geology 260
GPH Physical Geography 261
GTC General Technology 262
HBR Hebrew 264
HCC Health Core Curriculum 264
HCR Health Care Related 265
HES Health Science 265
HIS History 266
HLR Health Related 267
HRM Hotel Restaurant Management 267
HUM Humanities 267
IBS International Business 268
IFS Information Studies 268
IND Industry 268
INT Interior Design 268
ITA Italian 270
ITS Information Technology Security 270
JPN Japanese 270
JRN Journalism 270
JUD Judicial Studies 271
LAT Latin 272
LBS Library Skills 272
LBT Library Technology 272
MAT Mathematics 274
MCO Mass Communications 276
MET Manufacturing Technology 276
MGT Management 276
MHL Music: History/Literature 277
MIS Military Science 278
MKT Marketing 278
MMT Multimedia Technology 279
MSP Mortuary Science Program 279
MST Microsoft Technology 280
MTC Music: Theory/Composition 281
MUC Music: Commercial/Business 282
MUE Music: Education 283
MUP Music: Performance 283
NAV Navajo 286
NCE Nursing: Continuing Education 286
NUR Nursing Science: Basic 286
OAS Office Automation Systems 288
PED Physical Education 288
PHI Philosophy 289
PHS Physical Science 289
PHY Physics 290
POR Portuguese 290
POS Political Science 290
PSY Psychology 291
QCT Quality Control Technology 292
RDG Reading 293
REA Real Estate 293
REC Recreation 294
REL Religious Studies 295
RUS Russian 295
SBS Small Business Management 296
SBU Society and Business 296
SLG Sign Language 296
SOC Sociology 297
SPA Spanish 297
SWU Social Work 298
TCM Telecommunications 299
TEC Textiles and Clothing 299
THE Theater 301
THP Theater Performance/Production 301
TQM Total Quality Management 302
WED Wellness Education 303
WLD Welding Technology 303
WST Women's Studies 304

ACC-Accounting

ACC107 Bookkeeping Theory and Practice
Fundamental accounting practices; application to retail stores, professional firms and personal service operations. *Prerequisites: None. 4 credits 5 periods*

ACC109 Accounting Concepts
Introduction to accounting with emphasis on analysis and applications of financial information. *Prerequisites: None. GBSI51 and reading ability equivalent to RDG091 suggested, but not required. 3 credits 3 periods*

ACC111 Accounting Principles I
Fundamental theory of accounting principles and procedures. *Prerequisites: None. 3 credits 3 periods*

ACC115 Computerized Accounting
Mastery of a microcomputer accounting system including the general ledger, accounts receivable, accounts payable and payroll. *Prerequisites: ACC107, or higher level accounting course, or permission of instructor. 2 credits 3 periods*

ACC121 Income Tax Preparation
Preparation of and practical experience in preparing individual federal income tax returns using computer software. *Prerequisites: None. 3 credits 3 periods*

ACC230 Uses of Accounting Information I
Introduction to the uses of accounting information for internal and external purposes with emphasis on financial statement analysis. *Prerequisites: Grade of "C" or better in ACC111 or ACC211, or a grade of "C" or better in (ENG101 and MAT151 and CRE101), or equivalent, or satisfactory score on District placement exam. 3 credits 3 periods*

ACC240 Uses of Accounting Information II
Introduction to the uses of accounting information for internal and external purposes with emphasis on analysis for use by management. *Prerequisites: ACC230. 3 credits 3 periods*

ACC250 Introductory Accounting Lab
Procedural details of accounting for the accumulation of information and generation of reports for internal and external users. *Prerequisites: None. 1 credit 3 periods*

ACC282AA-AC Volunteerism Accounting: Service Learning Experience
Service-learning field experience within private/public agencies, educational institutions and citizen volunteer groups. May be repeated for a total of six (6) ACC282 credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: ACC111 or (ACC230 and ACC250) and permission of instructor. 1-3 credits 1-3 periods*

AES-Aerospace Studies

AES101 Air Force Today I
Introduction to U.S. Air Force and AFROTC. Topics include: the Air Force mission and organization, customs and courtesies, officer opportunities, officership and professionalism. *Prerequisites: None. 2 credits 2 periods*

AES103 Air Force Today II
Introduction to U.S. Air Force and AFROTC. Topics include: the Air Force mission and organization, customs and courtesies, officer opportunities, officership and professionalism. *Prerequisites: None. 2 credits 2 periods*

AES201 Evolution of USAF Air and Space Power I
Further preparation of AFROTC candidate. Topics include: Air Force heritage and leaders, communication skills, ethics, leadership, quality Air Force and values.
Prerequisites: None. 2 credits 2 periods

AES203 Evolution of USAF Air and Space Power II
Topics include: the Air Force mission and organization, customs and courtesies, officer opportunities, officership and professionalism. *Prerequisites: None. 2 credits 2 periods*

AGB-Agribusiness

AGB130 Establishing and Running an Agribusiness
Basic principles used in establishing and running an Agribusiness. Emphasis on business requirements to maintain a business enterprise in Arizona. *Prerequisites: None. 3 credits 3 periods*

AGB132 Agribusiness Accounting and Office Management
Practical uses of accounts and records with emphasis on accounting principles and analysis of the agricultural business. Business management procedures including appointment scheduling, client relations, fees, accounts and daily bookkeeping. Includes resume writing and interview techniques. *Prerequisites: None. 3 credits 3 periods*

AGB139 Agribusiness Computer Operations
Agribusiness operations for solving, forecasting and projecting agribusiness problems, agribusiness communications, accounting systems and database use. *Prerequisites: None. 3 credits 6 periods*

AGB140 Commercial Floral Design
Fundamentals of commercial floral design. Includes instruction and hands-on training in fresh, dried and silk plants, flowers, and greens; materials; supplies; gift items; and industry conditions, standards, and trends. Covers design principles, identification, selection, care, maintenance, handling and use of floral design material, ordering, pricing, recordkeeping computer usage and customer relations. *Prerequisites: None. 3 credits 5 periods*

AGB142 Floriculture
Principles and species of floriculture. Includes instruction in cultural and production requirements of cut flowers and foliage. Covers general production information and basic plant physiology principles, propagation, production temperatures, plant nutrients, pest management and greenhouse construction and operations. *Prerequisites: None. 3 credits 5 periods*

AGB290 Internship
Supervised field training for Agribusiness students with local industry businesses. *Prerequisites: Student shall be in final semester before graduation and departmental approval. 3 credits 6 periods*

AGL-Agricultural Landscape

AGL181 Landscape Construction Techniques
The methods used in site preparation, installation of edgings, construction of walks, patios and decks, installation of sprinkler systems, rock scapes, and the planting of trees, shrubs, ground covers, and lawns. *Prerequisites: None. 3 credits 6 periods*

AGL188 Arizona Landscape Design
Designed for residential homeowners and beginning professionals. Emphasis on plant material groupings and basic design principles. History of landscape use, special features of landscapes, irrigation systems, and lawn-to-desert planting conversion techniques. *Prerequisites: None. 2 credits 3 periods*

AGL189 Landscape Design I
Beginning landscape design with emphasis on developing drawing and drafting skills needed to create freehand drawings, landscape graphics, detail views, symbols, legends, lettering specifications, and drafting standards. Introduction to basic principles of landscape design. *Prerequisites: None. 3 credits 6 periods*

AGL190 Landscape Design II
Advanced study of the principles of landscape design. Emphasis on development and design of landscapes including patios, barbecues, bancos, water features, gazebos. Use of artistic elements including statuary, sculpture, ironwork and murals. Design and implementations of low voltage landscape lighting; solving design problems; importance of texture, color, and form of plant materials used in design; importance of form, composition, and function to design of landscape. *Prerequisites: AGL189. 3 credits 6 periods*

AGL282 Landscape Computer-Aided Design
Computer-aided landscape design, site layout and analysis, landscape design modeling, graphics, sprinkler design, detail drawings, landscape legends, sectional and 3-D views, E-Z estimate and database use. *Prerequisites: (AGB139, or CAD100, or CAD101) and AGL189, or permission of instructor. 3 credits 6 periods*

AGS-Agricultural Science

AGS164 Plant Growth and Development
Principles of growth in relation to seed germination, emergence, growth, and reproduction processes of plants, and the environmental influences on plant growth processes. *Prerequisites: None. 4 credits 6 periods*

AGS165AA Crop Science
Study of the importance of crops for food, feed and fiber. Cultural practices for raising the major crops in Arizona, including planting, environmental modifications, harvesting, handling and quality control. *Prerequisites: AGS164 or permission of department. 3 credits 5 periods*

AGS168 Grounds Equipment Management
Selection, use, and maintenance of grounds equipment, including both manual and power equipment. *Prerequisites: None. 3 credits 5 periods*

AGS170 Pesticides
Chemistry and classification of pesticides. Interpretation of pesticide labels. *Prerequisites: None. .5 credit .5 period*

AGS171 Insect Identification
Concepts of insect identification. *Prerequisites: None. .5 credit .5 period*

AGS172 Household Pests
Problems associated with household pests. *Prerequisites: None. .5 credit .5 period*

AGS173 Wood-Destroying Pests
Problems associated with wood-destroying pests. *Prerequisites: None. .5 credit .5 period*

AGS174 Regulations: Federal and State
Federal and state pesticide regulations and guidelines for licensing pest control use. *Prerequisites: None. .5 credit .5 period*

AGS175 Pesticide Safety and Use of Equipment
Federal and state pesticides safety regulations and use of equipment. *Prerequisites: None. .5 credit .5 period*

AGS176 Environment and Toxicology of Pesticides
Environmental concepts, endangered species and toxicology associated with the use of pesticides. *Prerequisites: None. .5 credit .5 period*

AGS177 Aquatic Pest Control
Aquatic ecosystems, pest organisms and their control. *Prerequisites: None. .5 credit .5 period*

AGS178 General Pest Control
Arthropods and other pest organisms and their control. *Prerequisites: None. .5 credit .5 period*

AGS179 Terrestrial Weed Control
Terrestrial weeds and their control. *Prerequisites: None. .5 credit .5 period*

AGS182 Gardening Practices and Techniques
Cultural practices of vegetables, fruits and ornamental plants as they relate to organic and inorganic gardening. *Prerequisites: None. 2 credits 2 periods*

AGS182AA Gardening Practices and Techniques
Cultural practices of vegetables, fruits and ornamental plants as they relate to organic and inorganic gardening. *Prerequisites: None. 2 credits 4 periods*

AGS183 Urban Plant Identification and Use
Identification, growth, cultural requirements, uses, maintenance and care of landscape trees, shrubs, vines and ground covers commonly used in Arizona. *Prerequisites: None. 3 credits 3 periods*

AGS186 Greenhouse Management and Construction
Principles and practices of greenhouse operation; control of environmental factors and cultural practices affecting the production of greenhouse crops. *Prerequisites: None. 3 credits 5 periods*

AGS187 Indoor Foliage Plants
Environmental and nutritional requirements for foliage plants used for interior decoration. Includes identification, nomenclature and uses. *Prerequisites: None. 3 credits 3 periods*

AGS192 Urban Plant Care
Establishment, care and preservation of ornamental trees, shrubs, vines and ground cover plants used in landscape for human well-being and pleasure. *Prerequisites: None. 3 credits 5 periods*

AGS255 Plant Tissue Culture
Plant tissue culture techniques for cloning, reproduction, and manufacturing including media mixing, cell growth and development, aseptic transfer, manipulation, observation, and documentation. *Prerequisites: AGS164. 3 credits 5 periods*

AGS260 Origin and Composition of Soils
Derivation, classification and evaluation of soils, emphasizing their chemical, physical and biological properties in relation to plant growth. *Prerequisites: None. 4 credits 6 periods*

AGS261 Soil Fertility and Management
Relationship of soils, crops and climatic factors to economic use of commercial fertilizer. *Prerequisites: None. 3 credits 3 periods*

AGS264 Irrigation and Water Management
Irrigation and drainage problems relating to pumps, motors, pipe lines, ditches and wells in the Southwest. Installation of sprinkler, drip and subirrigation, time clock installation and repair. Land measurement and principles of land leveling. *Prerequisites: None. 3 credits 5 periods*

AGS268 Insect, Weed and Pest Control
Interrelationship of insects, weeds, and plant diseases with the environment as affected by soils, temperature, water and agricultural chemicals. Life cycles, biological interrelationships, identification and control. *Prerequisites: None. 4 credits 6 periods*

AGS284 Lawn and Turf Care
Factors that affect the establishment and maintenance of turf grasses. Includes budgets, schedules and selection of equipment. *Prerequisites: None. 3 credits 3 periods*

AGS285 Propagation of Horticultural Plants
Principles and processes of propagation of crops using seed, budding, grafting and cuttings in greenhouse structures and open ground. *Prerequisites: None. 3 credits 5 periods*

AGS290 Internship
Supervised field training for Urban Horticulture students with local industry businesses. *Prerequisites: Student shall be in final semester before graduation and departmental approval. 3 credits 6 periods*

AGS296WD Cooperative Education
Work-college experiences that involve the combined efforts of educators and employers to accomplish an outcome related to the career objectives of the students. *Prerequisites: Completion of at least twelve (12) college credits, minimum 2.6 grade point average, and be able to obtain a position related to student's academic or career goals (student's present job may qualify); or permission of instructor. Corequisites: Must be concurrently enrolled in at least one class which is related to student's major or career interest or with permission of the instructor. 4 credits 20 periods*

AJS-Administration of Justice Studies

AJS101 Introduction to Criminal Justice
An introduction to crime and society's responses to it. Examines the nature and causes of crime, the criminal law, constitutional safeguards, and the organization and operation of the criminal justice system including the police, courts, jails, prisons, probation and parole departments, and community corrections agencies. Covers the history of the criminal justice system, terminology and career opportunities. *Prerequisites: None. 3 credits 3 periods*

AJS109 Substantive Criminal Law
Covers philosophy of legal sanctions and historical development from the common law to modern American criminal law, classifications of crimes, elements of and parties to crimes, general definitions of crimes, common defenses utilized. Includes specific offenses and the essential elements of each offense. Required in AJS curriculum. *Prerequisites: None. 3 credits 3 periods*

AJS119 Computer Applications in Justice Studies
Provides literacy in microcomputer applications in major areas of the criminal justice system. Examines availability and uses of current software packages in criminal justice work. Provides hands-on experience with appropriate integrated software packages pertaining to justice studies. *Prerequisites: None. 3 credits 4 periods*

AJS123 Ethics and the Administration of Justice
Introduces and explores ethical issues and the justice system. Focuses on ethics and the law, the police, courts and corrections. Reviews ethical theory, concepts and practices as they relate to administration of justice. Encourages critical thinking and value decision making in criminal justice system situations. *Prerequisites: None. 3 credits 3 periods*

AJS139 Emergency Response to Terrorism
Fundamentals of emergency response to suspected terrorist events. Historical perspective of terrorist activities and methods by which responders can identify and protect themselves and the public from these threats. Coordination of responding agencies. *Prerequisites: None. 3 credits 3 periods*

AJS146 Disaster Recovery Operations
Specialized knowledge and skills for the emergency manager in developing programs and activities associated with disaster recovery assistance and mitigation actions that reduce losses from future disasters. *Prerequisites: None. 3 credits 3 periods*

AJS147 Emergency Preparedness
Emergency preparedness related to natural and manmade disasters. Planning concepts and the planning process; awareness and education programs and strategies for the general community as well as business and industries. *Prerequisites: None. 3 credits 3 periods*

AJS148 Fundamentals of Emergency Management
Emergency management systems including career opportunities, function, tasks and responsibilities of the emergency management program manager; role of the emergency manager in mitigation, preparedness, response, and recovery; past civil defense and current emergency management systems since evolution from World War II. *Prerequisites: None. 3 credits 3 periods*

AJS149 Hazard Mitigation
Knowledge and skills required to develop programs to reduce losses from future disasters, emergencies, and other extreme events caused by natural and man-made hazards. *Prerequisites: None. 3 credits 3 periods*

AJS151 Firearms I
Moral aspects, legal provisions, safety precautions and restrictions covering the use of firearms, and the firing of sidearms and shotguns. *Prerequisites: None. 1 credit 1 period*

AJS153 Firearms II/Handguns
Advanced familiarization with handguns. Variations of basic shooting stance. Legal and moral repercussions of self-defense. Includes range practice. *Prerequisites: AJS151 or approval of instructor. 1 credit 1 period*

AJS192 Serial Killers and Mass Murderers
The study of serial killers, mass murderers and their victims. Examines the history and frequency of these crimes, profiles the killers and their victims, explores theories of causation, and discusses the problems and techniques of investigation, prosecution, punishment, and prevention. *Prerequisites: None. 3 credits 3 periods*

AJS195 International and Domestic Terrorism
An overview of the history, structure, goals, and activities of domestic and international terrorist groups. Explores theories explaining terrorism and reviews methods used to combat it. *Prerequisites: None. 3 credits 3 periods*

AJS200 Current Issues in Criminal Justice
Examines current issues, techniques and trends in the Criminal Justice System. *Prerequisites: None. 3 credits 3 periods*

AJS201 Rules of Evidence
A practical insight into the rules of evidence to include how to recognize evidence: the general rules governing admissibility of evidence; the "hearsay" rule and its exceptions; the use of documentary evidence, written memoranda, photographs and recordings; corpus delicti; opinion evidence, circumstantial evidence and evidential privileges. Required in AJS curriculum. *Prerequisites: None. 3 credits 3 periods*

AJS205 Criminal Justice Report Writing
Characteristics of reports and field notes, and the importance and uses of each. Form, style, and procedures for writing various reports, including elements of composition, required substance, proper and improper conclusions, and descriptions of persons and property. *Prerequisites: None. 3 credits 3 periods*

AJS210 Constitutional Law
An examination of the U. S. Constitution as it relates to the law enforcement function. Includes statutory law and judicial decisions governing the areas of arrest, search and seizure, interrogations and confessions, self-incrimination and other constitutional guarantees. Required in AJS curriculum. *Prerequisites: None. 3 credits 3 periods*

AJS212 Juvenile Justice Procedures
Examines the history and development of juvenile justice theories, procedures and institutions. *Prerequisites: None. 3 credits 3 periods*

AJS215 Criminalistics: Physical Evidence
The scientific analysis and examination of physical evidence with emphasis on scientific investigation, recognition, collection and preservation of evidence. Topics include fingerprints, shoe prints, tool marks, firearms identification, paint chips and arson. *Prerequisites: None. 3 credits 3 periods*

AJS216 Criminalistics: Biological Evidence
The scientific analysis and examination of biological evidence with emphasis on collection and preservation of evidence. Topics discussed include blood, drugs, blood alcohol, hairs and fibers, and topics of special interest in criminalistics. *Prerequisites: None. 3 credits 3 periods*

AJS217 Court Procedures
Study of procedures practiced by courts of general and original jurisdiction. Extensive use of mock and moot trial methods used to prepare students in legal research, case preparation and presentation, and adversary hearings. *Prerequisites: Permission of instructor. 3 credits, 3 periods*

AJS225 Criminology
Study of deviance; society's role in defining behavior; theories of criminality and the economic, social and psychological impact of crime; relationships between statistics and crime trends. Examines crime victimization and the various types of crime and categories of offenders. Required in the AJS curriculum. *Prerequisites: None. 3 credits 3 periods*

AJS230 The Police Function
Theories of procedures and methods of operations of public policy with emphasis on discretionary powers available to the working police officer. Career opportunities and current trends in law enforcement presented. *Prerequisites: None. 3 credits 3 periods*

AJS240 The Correction Function
Examines the history and development of correctional theories and institutions. *Prerequisites: None. 3 credits 3 periods*

AJS241 Police Photography
Emphasis on proper procedure for photographing crime scenes, accident scenes and laboratory specimens. Discussion of photographic techniques, equipment, lighting techniques, aerial photography, video and motion pictures, macro and micro photography, filters and preparation for court presentation using selected simulations. *Prerequisites: None. 3 credits 3 periods*

AJS258 Victimology and Crisis Management
Focuses on victimology and techniques of crisis intervention and the importance of multicultural perspective. Includes coverage of sexual assault, family violence, child abuse, post-traumatic stress disorder, substance abuse, coping skills, stress management and community resources. *Prerequisites: None. 3 credits 3 periods*

AJS260 Procedural Criminal Law
Concerned with the understanding of procedural criminal law. Examines the rationale underlying major court holdings, the procedural requirements that stem from these holdings and their effect on the daily operations of the criminal justice system. *Prerequisites: None. 3 credits 3 periods*

AJS269AC Internship
Supervised field training for preservice administration of justice students. Maximum of three (3) credit hours allowed in program. *Prerequisites: Student sponsored by governmental enforcement agency or departmental approval. 3 credits 15 periods*

AJS270 Community Relations
Examination, recognition and understanding of community problems; community action programs; methods of coping with human behavior, victimology, conflict, and communication; ethnic and minority cultures and environments; the community and relationships with the criminal justice system. *Prerequisites: None. 3 credits 3 periods*

AJS275 Criminal Investigation I
Introduction to the theory of criminal investigation. Examines crime scene procedures, case preparation, interviewing, and basic investigative techniques. *Prerequisites: None. 3 credits 3 periods*

AJS282AA-AC Volunteerism for Administration of Justice: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. May be repeated for a total of six (6) AJS282 credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

AJS289AJ Street Gangs I
Introduction to street gang identification, history, culture, and current trends, specifically in the western United States. *Prerequisites: Certified officer or permission of instructor. 1 credit 1 period*

AJS290AI Theories of Criminal Behavior
Theories of human behavior and crime. Biological, sociological and psychological approaches to the theories of criminal behavior. *Prerequisites: None. 1 credit 1 period*

AJS290AU Child Abuse Investigation
Definition and investigation of the causes and effects of child abuse. *Prerequisites: None. 1 credit 1 period*

AJS290AW Narcotics and Dangerous Drugs
Pharmacological effects of the use and abuse of drugs, including a description of common abuse patterns and investigative techniques used in the enforcement of drug laws. *Prerequisites: None. 1 credit 1 period*

AJS290BE Probation and Parole
Current issues in probation and parole, including sentencing, parole revocation, and administrative procedure. *Prerequisites: None. 1 credit 1 period*

AJS290BH Sex Crimes Investigation
Investigative procedures employed by the police and courtroom procedures utilized by the prosecuting attorney in sex-related crimes. *Prerequisites: None. 1 credit 1 period*

AJS290BU Family Violence
Family violence issues as they relate to the criminal justice response. *Prerequisites: None. 1 credit 1 period*

AJS290BV Victim Assistance
An overview of victim issues emphasizing strategies used to reduce the trauma associated with crime. Includes description of counseling methods, referral procedures and intervention techniques, and community resources. *Prerequisites: None. 1 credit 1 period*

ANH-Animal Health

ANH200 Veterinary Clinical Pathology Methods
Fundamental studies of laboratory techniques and procedures involved in evaluating veterinary clinical samples. Includes hematology, urinalysis, hemostasis, blood biochemistry and enzymology, serology, cytology and parasitology. The veterinary technician's role in sample collection, sample storage and handling, and performance of analytic procedures. Use of laboratory equipment and quality control. *Prerequisites: (ANS223, BIO205, and admission to the second year of the Veterinary Technology/Animal Health program) or permission of instructor. 3 credits 6 periods*

ANH205 Clinical Veterinary Anatomy and Physiology
Focuses on unique anatomic structures and physiological processes which are clinically important in veterinary medicine. Anatomical and physiological bases of clinic procedures, animal disease processes, and veterinary treatments. *Prerequisites: ANS222 and ANH222LL. Course Note: Intended for Veterinary Technology/Animal Health program students. 3 credits 6 periods*

ANH210 Animal Nursing
Instruction in and hands-on application of techniques of veterinary nursing care, patient assessment, equipment operation, diagnostic sample collection, and medical treatment. Physical examination, clinical nutrition, and reproductive management of the dog and cat. Operation of E.C.G. and anesthetic machine. Fluid therapy, wound therapy, and bandaging. Surgical instruments and packs. Common diagnostic and therapeutic procedures on animals. *Prerequisites: (ANS112, ANH205, and admission to the Veterinary Technology/Animal Health program) or permission of instructor. 2 credits 4 periods*

ANH220 Animal Pharmacology
Actions and uses of pharmacological agents used in veterinary medicine; drug classifications, modes of action, indications and contraindications, routes of administration, and mechanisms of elimination. Dispensing and pharmacy management, and laws regulating controlled substances. Solving medical math problems and calculating drug doses. *Prerequisites: ANS110, ANS213, ANS222, ANS223 and admission to the Veterinary Technician/Animal Health program. 3 credits 5 periods*

ANH230 Veterinary Radiography and Imaging
Veterinary and radiographic terminology; radiation and electrical protection; technical principles; radiographic equipment operations; fundamentals of latent and visible image formation, X-ray film characteristics, intensifying screens and film holders; theory and application of darkroom chemistry and processing; use and maintenance of veterinary X-ray processing equipment, and radiographic duties of the veterinary technician. Lab allows for practical application of theories and radiographic positioning as taught in lecture. *Prerequisites: (ANS112, ANS222, ANS222LL, and admission to the Veterinary Technician/Animal Health program) or permission of instructor. 3 credits 6 periods*

ANH240 Veterinary Anesthesia, Surgery, and Emergency Nursing
Veterinary surgical nursing skills associated with aseptic technique and proper protocol in the surgery suite. Pre- and post-op monitoring, record keeping and client education skills. Procedures and techniques with intravenous and inhalation anesthetics, surgical asepsis, skin preparation, instrument sterilization techniques and monitoring veterinary patients for vital signs. *Prerequisites: ANS112, ANH210, ANH220, and admission to the Veterinary Technician/Animal Health program. 3 credits 6 periods*

ANH250AA Veterinary Technician Internship
Provides Veterinary Technology program students with off-campus clinical experience in veterinary practices. Opportunity for practical application and development of knowledge, skills, and abilities acquired in program coursework. Exposure to practice philosophies, methodologies, and real-life situations requiring critical thinking and decision-making abilities. Includes instruction and evaluation by veterinarians or veterinary technicians guided by the American Veterinary Medical Association's Veterinary Technology Student Essential and Recommended Skills list. *Prerequisites: AGS132, ANH205, ANS112, and admission to the Veterinary Technology/Animal Health program. .5 credit .5 period*

ANH250AB Veterinary Technician Internship

Provides Veterinary Technology program students with off-campus clinical experience in a large animal general veterinary practice. Opportunity for practical application and development of knowledge, skills, and abilities acquired in program coursework. Exposure to practice philosophies, methodologies, and real-life situations requiring critical thinking and decision-making abilities. Includes instruction and evaluation by veterinarians or veterinary technicians guided by the American Veterinary Medical Association's Veterinary Technology Student Essential and Recommended Skills list. *Prerequisites: ANH250AA. .5 credit .5 period*

ANH250AC Veterinary Technician Internship

Provides Veterinary Technology program students with off-campus clinical experience in an emergency veterinary clinic and in a veterinary specialty practice. The internship hours will be split equally between the emergency clinic and the specialty practice. Specialty practices may include surgery, ophthalmology, internal medicine, dentistry, dermatology, radiology, exotics, zoo, research, and others. Opportunity for practical application and development of knowlege, skills, and abilities acquired in program coursework. Exposure to practice philosophies, methodologies, and real-life situations requiring critical thinking and decision-making abilities. Includes instruction and evaluation by veterinarians or veterinary technicians guided by the American Veterinary Medical Association's Veterinary Technology Student Essential and Recommended Skills list. *Prerequisites: ANH250AB. .5 credit .5 period*

ANH250AD Veterinary Technician Internship

Continuing practical application and mastery of knowledge, skills, and abilities in the selected clinical setting. Exposure to practice philosophies, methodologies, and real-life situations requiring critical thinking and decision-making abilities. Includes instruction and evaluation by veterinarians or veterinary technicians guided by the American Veterinary Medical Association's Veterinary Technology Student Essential and Recommended Skills list. *Course Notes: ANH250AD allows the last-semester Veterinary Technology Program student to elect to repeat the off-campus clinical experience of either ANH250AA, ANH250AB, or ANH250AC, depending upon their career interest. Prerequisites: ANH250AC. .5 credit .5 period*

ANS-Animal Science

ANS110AA Introduction to Animal Science

Survey of the total animal industry, including the basis for genetic improvement, principles of nutrition and reproduction, and scientific analysis of meat, milk and egg production. Study of local agricultural production businesses. *Prerequisites: None. 3 credits 5 periods*

ANS112 Animal Science and Health Practices

Training in and supervised performance of skills necessary in the husbandry and clinical care and treatment of animals. Occupational hazards and safety in livestock, companion animal, and laboratory animal facilities. Introduction to medical terminology. Restraint and handling, feeding and housing of a variety of animal species. Physical examination of various species of animals. Principles of sanitation, disinfection, sterilization and aseptic technique. Principles and techniques of medication administration, fluid therapy and vaccination. Familiarization with operation of various types of animal care equipment. Introduction to laboratory techniques. Professional ethics and the human-animal bond. *Prerequisites: ANS110. 2 credits 5 periods*

ANS115 Livestock Selection and Evaluation

Selection and improvement of beef cattle, dairy cattle, sheep, swine, and stock horses. Study of the skeleton and its influence on shape, muscle structure, and general economic usefulness. Critical appraisal of animals and their value for agricultural purposes. *Prerequisites or Corequisites: ANS110, or permission of instructor. 3 credits 5 periods*

ANS212 Livestock Production and Management

Production and management of beef cattle, dairy cattle, sheep, swine, stock horses, goats and poultry. Evaluation of livestock for agricultural purposes. Housing and care requirements of common livestock. *Prerequisites or Corequisites: ANS110, or permission of instructor. 3 credits 3 periods*

ANS213 Animal Feeding

Principles of animal nutrition and digestion. Selection, evaluation and use of feeds to meet the needs of various classes of farm animals. Study of ruminants and how they utilize feed. Essentials of a balanced ration. Feed materials, quality and preparation in developing balanced rations. *Prerequisites: None. 3 credits 3 periods*

ANS222 Animal Anatomy and Physiology

Comparative evaluation of the anatomy and physiological functions of various body systems of livestock, companion animals, and laboratory animals. *Prerequisites: ANS110. Corequisites: ANS222LL. Note: BIO100 or one year of high school biology with a grade of "C" or better is highly recommended. 3 credits 3 periods*

ANS222LL Animal Anatomy and Physiology Lab

Laboratory experience in support of ANS222. Includes dissection of preserved animal specimens. *Prerequisites: None. Corequisites: ANS222. 1 credit 3 periods*

ANS223 Animal Diseases

Study of common infectious, parasitic, metabolic, immunologic and degenerative diseases of domestic animals. Infectious disease transmission, mechanisms of disease, the host-parasite relationship and host responses to disease agents. Clinical signs and management of common diseases. Life cycles of common parasites. Principles of disease prevention, environmental management, vaccination and zoonosis. Diagnostic techniques including gross and microscopic identification of common animal pathogens. *Prerequisites: ANS222 and (BIO100 or one year of high school biology with a grade of "C" or better). 3 credits 3 periods*

ANS223AA Animal Diseases

Study of common infectious, parasitic, metabolic, immunologic and degenerative diseases of domestic animals. Infectious disease transmission, mechanisms of disease, the host-parasite relationship and host responses to disease agents. Clinical signs and management of common diseases. Life cycles of common parasites. Principles of disease prevention, environmental management, vaccination and zoonosis. Diagnostic techniques including gross and microscopic identification of common animal pathogens. *Prerequisites: ANS222 and (BIO100 or one year of high school biology with a grade of "C" or better). 3 credits 5 periods*

APT-Automotive Performance Technology

APT101 Automotive Service Operations

Basic principles of working in an automotive service area. Management-employee relations, resume writing, interviewing, shop practices, flat-rate system, equipment care and tools. *Prerequisites: None. 2 credits 2 periods*

APT111 Internal Combustion Engines Theory

Study of construction and operating principles of internal combustion engines and related lubrication, cooling, fuel and electrical systems. *Prerequisites: None. 3 credits 3 periods*

APT121AA Automatic Transmission (General Motors)

The fundamentals and principles of automatic transmissions presently in use by General Motors Corporation automobiles. Diagnosis, service and reconditioning procedures necessary to maintain these units. *Prerequisites: None. 3 credits 5 periods*

APT131 Automotive Power Trains

Designed for beginning automotive students. Operation, diagnosis, service and repair of the automotive power train. Includes clutches, torque converters, standard and automatic transmissions and transaxles, front and rear drive axles, drive shafts, differentials and transfer case. *Prerequisites: None. 6 credits 10 periods*

APT141 Alignment, Steering and Suspension

Designed for beginning automotive students. Fundamental principles of steering and suspension systems. Includes two-wheel and four-wheel alignment procedures. Emphasis on diagnosis, testing, service and rebuilding. *Prerequisites: None. 6 credits 10 periods*

APT151 Automotive Brake Systems

Designed for beginning automotive students. Fundamentals of drum, disc and ABS brakes. Includes training in diagnosis, testing, service and repair. *Prerequisites: None. 4 credits 7 periods*

APT161 Automotive Electrical/Electronic Systems I

Designed for beginning automotive students. The principle of electricity; the mathematical computations involved with Ohm's Law; the use of meters; electrical schematics; the theory of electrical components as they relate to automobiles; the diagnosis, testing, service and repair of batteries, starting systems and charging systems, lighting systems and instrumentation. *Prerequisites: None. 4 credits 7 periods*

APT171 Automotive Air Conditioning

Designed for beginning automotive students. Theory and principles of ventilation, heating, automotive refrigeration, vacuum-electric controls and automatic temperature control systems. Includes training in diagnosis, testing, service and repair. *Prerequisites: None. 4 credits 7 periods*

APT181 Engine Performance and Diagnosis I

Designed for beginning automotive students. Engine construction and operating principles, including lubrication, cooling, induction, exhaust, fuel, emission and ignition systems. Includes training in diagnosis, testing, service and repair. *Prerequisites: None. 6 credits 10 periods*

APT262 Automotive Electrical and Electronic Systems II

Designed for experienced students. Electrical accessory circuits including horns, wipers, defoggers, automatic door locks, power mirrors, power windows and power seats. Also introduction to body computers, advanced lighting circuits and instrumentation, and chassis electronic control systems. Includes training in diagnosis, testing, service and repair. *Prerequisites: APT161 or instructor permission. 4 credits 7 periods*

APT282 Engine Performance and Diagnosis II

Designed for the experienced engine performance student. Training in fuel systems, emission systems, distributorless ignition systems, turbo charging, computerized engine controls and engine driveability. Includes training in diagnosis, testing, service and repair. *Prerequisites: APT181 or permission of instructor. 6 credits 10 periods*

ARB-Arabic

ARB101 Elementary Arabic I
Introduction to the basic alphabet, grammar, pronunciation and vocabulary of the Arabic language. Listening, speaking, reading and writing skills. *Prerequisites: None. 4 credits 5 periods*

ARB102 Elementary Arabic II
A continuation of ARB101. Continued study of grammar and vocabulary, with emphasis on pronunciation and speaking skills. *Prerequisites: ARB101 or equivalent. 4 credits 5 periods*

ARB201 Intermediate Arabic I
Review of essential grammar of the Arabic language and study of the Arabic culture. Continued practice and development of reading, writing and speaking skills. Emphasis on both fluency and accuracy in the spoken language. *Prerequisites: ARB102 or departmental approval. 4 credits 5 periods*

ARB202 Intermediate Arabic II
Advanced grammatical structures in Arabic. Further development of language skills with emphasis on speaking the language. *Prerequisites: ARB201 or departmental approval. 4 credits 5 periods*

ARC-Architecture

ARC100 Introduction to Environmental Design
A survey of design through historical evaluation of built environments and works of well-known architects. Principles, concepts and skills associated with designs of actual and imagined ideas and things. Emphasis on social, technical, environmental and theoretical forces that impact design. *Prerequisites: None. 3 credits 6 periods*

ARC120 Design Fundamentals I
An introduction to architectural drawing and graphic representation methods. Using architectural drawings and graphic representations as visualization and problem-solving methods. Emphasis on visual communication and the application and development of the visual design via process as well as product. *Prerequisites: None. 3 credits 6 periods*

ARC140 Rendering and Portfolio Development
Two-dimensional and three-dimensional drawings and rendering methods, including freehand and/or use of drawing tools for presentation of ideas. Techniques for use of pencil, ink and colors. Professional formatting of portfolios. *Prerequisites: None. 3 credits 6 periods*

ARC251 Architectural Desktop I
Residential construction drawing using Architectural Desktop (ADT). Includes preliminary workspace setups, configuration procedures, modules operations and on-screen menus applicable for producing components of a building model. *Prerequisites: CNS130 or permission of department. 3 credits 6 periods*

ARC160 Site Planning
Emphasis on the basic art of site planning, using professional design techniques and principles of architecture to develop site plans. Selection of materials, awareness of problems, and emphasis on the production of site plan drawings using board and/or computer aided drafting (CAD) skills. *Prerequisites: DFT122 or permission of program director. 3 credits 6 periods*

ARC161 Residential Architectural Drafting
Basics of residential drafting and documentation topics and techniques. Includes preliminary planning and preparation for residential documentation; use of the local building codes and standards; complete drawing and annotation of a floor plan, reflected ceiling plan, roof plan, building sections, framing plan and exterior elevations. *Prerequisites: CNS130 or permission of department. 3 credits 6 periods*

ARC162 Advanced Residential Architectural Drafting
Advanced residential drafting and documentation topics and techniques. Includes site orientation, layout and legal description; window and door schedules; interior elevation of kitchen and bathrooms; advanced instruction on framing and structural detail methods; foundation systems, support and layout; and other needed residential details and layouts. *Prerequisites: CNS130 and ARC161, or permission of department. 3 credits 6 periods*

ARC163 Commercial Architectural Drafting
Fundamental commercial drafting and documentation topics and techniques. Includes preliminary planning and preparation for commercial documentation; use of the local building codes and standards; building methods and materials of commercial structures; complete drawing and annotation of a floor plan, reflected ceiling plan, roof plan, building sections and exterior elevations. *Prerequisites: CNS130 or permission of department. 3 credits 6 periods*

ARC164 Advanced Commercial Architectural Drafting
Further development of advanced commercial drafting and documentation topics and techniques. Covers commercial building materials and methods, specifications, land drawings, foundation plans, interior elevations and more details specific to commercial buildings. *Prerequisites: (CNS130 and ARC163) or permission of department. 3 credits 6 periods*

ARC165 Introduction to Architecture Professional Practice and Ethics
Professional, legal and ethical issues in architecture practice and services. Includes marketing issues, communications, standards, insurance and bonds, agreements, contracts and contractors, standard American Institute of Architecture (AIA) forms and conditions, selection of contractors and bidding procedures. *Prerequisites: None. 3 credits 3 periods*

ARC225 Fundamentals of Architectural Detailing
Introduction to construction/architecture detailing. Examines functional, construction-related and aesthetic applications of detailing. *Prerequisites: CNS130, or CNS180, or permission of department. 3 credits 6 periods*

ARC226 Advanced Architectural Detailing
Advanced methods of detailing major construction materials such as wood, steel and concrete, ranging from simple residential to more complicated commercial structures. Includes detailing foundations, exterior and interior walls, roof and ceiling areas. *Prerequisites: CNS130, or CNS180, or permission of department. 3 credits 6 periods*

ARC282AA-AC Volunteerism for Architecture: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. May not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in college catalog. *Prerequisites: Permission of department. 1-2 credits 1-3 periods*

ARC290AA-AC Architecture Internship
Architecture internship office and field experience with private agencies, public agencies or citizen volunteer groups. May not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in college catalog. *Prerequisites: ARC282++, or permission of department. 1-3 credits 1-3 periods*

ARC296WA-WD Cooperative Education
Work-college experiences that involve the combined efforts of educators and employers to accomplish an outcome related to the career objectives of the students. *Prerequisites: Completion of at least twelve (12) college credits, minimum 2.6 grade point average, and be able to obtain a position related to student's academic or career goals (student's present job may qualify); or permission of instructor. Corequisites: Must be concurrently enrolled in at least one class which is related to student's major or career interest or with permission of the instructor. 1-4 credits 5-20 periods*

ARC298AA-AC Special Projects
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. *Prerequisites: Permission of Program Director or instructor. 1-3 credits 1-3 periods*

ARH-Art Humanities

ARH100 Introduction to Art
Understanding and enjoyment of art through study of painting, sculpture, architecture, design, photography and decorative arts. Emphasis on contemporary topics and cultural diversity in the arts. *Prerequisites: None. 3 credits 3 periods*

ARH101 Prehistoric Through Gothic Art
History of art from prehistoric through medieval period. *Prerequisites: None. 3 credits 3 periods*

ARH102 Renaissance Through Contemporary Art
History of art from around the world from the Renaissance through contemporary period. *Prerequisites: None. 3 credits 3 periods*

ARH115 History of Photography
Survey of history of photography from beginning to present. Emphasizes medium's impact upon society and the other visual arts. Technical developments, aesthetic concerns and individual photographers studied. *Prerequisites: None. 3 credits 3 periods*

ART-Art

ART100 Introduction to Computer Graphic Art
Conceptualization, visualization and production of art using the computer. *Prerequisites: None. 1 credit 2 periods*

ART111 Drawing I
Fundamental principles of drawing. Emphasis on composition and facility in objective and expressive representation, using a variety of drawing media. *Prerequisites: None. 3 credits 6 periods*

ART112 Two-Dimensional Design
Study of fundamental elements and principles of two-dimensional design. *Prerequisites: None. 3 credits 6 periods*

ART113 Color
Investigation seeking visual solutions to a variety of problems concerning color in two and three dimensions and modes of color appearances, including light and effects in design and theory of design. *Prerequisites: ART112. 3 credits 6 periods*

ART115 Three-Dimensional Design
Fundamental principles of three-dimensional design. *Prerequisites: ART112. 3 credits 6 periods*

ART116 Life Drawing I
Use of form, structure and anatomy of draped and undraped human figure to develop basic principles of sound draftsmanship. *Prerequisites: None. 3 credits 6 periods*

ART117 Life Drawing II
Further study of form, structure and anatomy of the draped and undraped human figure with emphasis on composition. *Prerequisites: ART116. 3 credits 6 periods*

ART122 Drawing and Composition II
Emphasis on composition and exploration of drawing media. *Prerequisites: ART111. 3 credits 6 periods*

ART131 Photography I
Basic black and white photographic principles and techniques. Camera functions and controls. Darkroom experience in film processing and printmaking. Camera required. *Prerequisites: None. 3 credits 6 periods*

ART132 Photography II
Advanced camera and darkroom techniques. Aesthetic awareness with personal expression. *Prerequisites: ART131 or permission of instructor. 3 credits 6 periods*

ART142 Introduction to Digital Photography
Fundamentals of digital photography. Includes camera operations, exposure techniques, introduction to digital output, and theory of digital photography. *Prerequisites: None. 3 credits 6 periods*

ART143 Intermediate Digital Photography
Intermediate theory and techniques of digital photography. Aesthetic awareness and personal expression from image capture through intermediate techniques in the digital darkroom. Introduction to high-resolution digital output. *Course Note: Semi-adjustable, high-resolution digital camera is required. Prerequisites: ART142 or permission of instructor. 3 credits 6 periods*

ART161 Ceramics I
Introduction to ceramic materials and techniques of hand construction, decorating, glazing and throwing on potter's wheel. *Prerequisites: None. 3 credits 6 periods*

ART162 Ceramics II
Major emphasis on wheel throwing, glaze making and decorating techniques. *Prerequisites: ART161. 3 credits 6 periods*

ART165 Watercolor Painting I
Transparent and gouache watercolor painting. *Prerequisites: (ART111 and ART112), or permission of instructor. 3 credits 6 periods*

ART166 Watercolor Painting II
Painting in water soluble media. Emphasis on individual techniques and design. *Prerequisites: ART165. 3 credits 6 periods*

ART167 Painting I
Exploration of technical and expressive possibilities of various painting media in easel painting. *Prerequisites: (ART111 and ART112), or permission of instructor. 3 credits 6 periods*

ART168 Painting II
Continued refinement of painting skills and investigation of new possibilities in painting. *Prerequisites: ART167 or permission of instructor. 3 credits 6 periods*

ART169 Two-Dimensional Computer Design
Generation of electronic two-dimensional images and traditional methods of visual problem solving. Understanding of computer techniques and art presentation methods. *Prerequisites or Corequisites: ART100 or permission of instructor. 3 credits 6 periods*

ART170 Three-Dimensional Computer Design
Artistic manipulation of computer images. Emphasis on color and three- dimensional design in production of these images. Existing software used to generate three-dimensional art. *Prerequisites: ART100, ART169, or permission of instructor. 3 credits, 6 periods*

ART177 Computer-Photographic Imaging
Introduction to the multiple elements of microcomputer-photographic imaging. Basic foundation in the use of the photographic manipulation of images using software programs. Special attention to aesthetic foundations underlying photographic composition. *Prerequisites or Corequisites: ART100 or permission of instructor. 3 credits 6 periods*

ART183 Computer Aided Graphic Arts I
Graphic design use in microcomputer; black and white graphics, standard and color brushes, lines, shapes, area fills and fonts. Application to illustration, advertising graphics, typography and video interaction. *Prerequisites or Corequisites: ART100 or permission of instructor. 3 credits 6 periods*

ART184 Computer Animation
The art of animation (animated sequences, special effects, titles, etc.) using the computer. Construction characters, background graphics, color, scaling, storyboard, cells, timing, editing, and surface rendering. Screening and discussion of selected animated short films and videos. *Prerequisites: ART100, or ART111, or ART116, or permission of instructor. 3 credits 6 periods*

ART190 Art of Web Site Design
Print vocabulary, relationships and typographic style for HTML (HyperText Markup Language) and World Wide Web publication. Discussion of color, proportion and design emphasis. Producing Web sites using HyperText Markup Language (HTML), digital text and graphics to produce artistic form and content for the Web. *Prerequisites: ART100, ADA/ART180AB, or ADA/ART180AC, or ADA/ART180AE, or permission of instructor. 3 credits 6 periods*

ART192 Advanced Web Presentation Design
Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. *Prerequisites: ART/MMT190 or permission of instructor. ART180AM and ART180AN suggested but not required. 3 credits 6 periods*

ART202 Digital Arts Survey
Designed for broad overview of the digital arts. Experience in digital based media, creative problem solving, design and aesthetics. *Prerequisites: ART100 or permission of instructor. 3 credits 6 periods*

ART203 Aesthetics of Web Design
Develop portfolio-level web design projects. Emphasis on advanced elements and principles of design. Continued development of aesthetic awareness and personal expression. Evaluation of aesthetic principles throughout semester. *Prerequisites: ART/MMT190 or permission of instructor. 3 credits 6 periods*

ART211 Drawing and Composition III
Advanced development of drawing skill with emphasis on compositional theory. *Prerequisites: ART122 or permission of instructor. 3 credits 6 periods*

ART216 Life Drawing III
Advanced creative study from models in various painting and drawing media. *Prerequisites: ART117 or permission of instructor. 3 credits 6 periods*

ART217 Life Drawing IV
Further development of skills in expressive drawing materials and techniques as applied to finished drawings of the human form. *Prerequisites: ART216 or permission of instructor. 3 credits 6 periods*

ART222 Drawing and Composition IV
Further study of drawing techniques with emphasis on individual problems and techniques. *Prerequisites: ART211 or permission of instructor. 3 credits 6 periods*

ART234 Color Photography I
Basic principles of color theory, camera and input and output techniques using slide film or digital photography. *Prerequisites: ART131, or ART142, or permission of instructor. Course Note: Film or digital camera is required. 3 credits 6 periods*

ART235 Color Photography II
Basic theories and techniques of color negative materials. *Prerequisites: ART234 or permission of instructor. 3 credits 6 periods*

ART255 Art Marketing
Career goals, presentation of artist and artwork (portfolio, resume, business cards, catalog), pricing and selling works, networking, establishing a studio, promotion and publicity, writing press releases, proposal writing, business ethics, artist rights, copyright law, contracts and agreements, royalties, record keeping, and communication skills. *Prerequisites: None. 3 credits 3 periods*

ART255AA Self Promotion
Career goals, presentation of artist, communication skills, keeping files and records, developing self-promotional materials. *Prerequisites: None. 1 credit 1 period*

ART255AB The Portfolio
Choosing the right pieces to include, presenting artwork, developing the portfolio. *Prerequisites: ART255AA or permission of instructor. 1 credit 1 period*

ART255AC Marketing Fine Art
Exhibitions and galleries, establishing a studio, alternative markets. *Prerequisites: ART255AB or permission of instructor. 1 credit 1 period*

ART261 Ceramics III
Emphasis on wheel-throwing skill and individual style development. *Prerequisites: ART162. 3 credits 6 periods*

ART262 Ceramics IV
Experimental work in clays and glazes. *Prerequisites: ART261. 3 credits 6 periods*

ART265 Watercolor Painting III
Continuation of watercolor painting with emphasis on control and expression. *Prerequisites: ART166. 3 credits 6 periods*

ART266 Watercolor Painting IV
Advanced problems directed toward more personal expression. *Prerequisites: ART265. 3 credits 6 periods*

ART267 Painting III
Development of materials and techniques of painting. Individual problem solving. *Prerequisites: ART168 or permission of instructor. 3 credits 6 periods*

ART268 Painting IV
Advanced problems in painting. Study with greater emphasis on personal expression. *Prerequisites: ART267 or permission of instructor. 3 credits 6 periods*

ART270 Intermediate Computer Photographic Imaging
Intermediate microcomputer-based photographic imaging techniques. Refinement of aesthetic awareness and personal expression. *Prerequisites: ART177, or (ART177AA and ART177AB). 3 credits 6 periods*

ART274 Advanced Computer Photographic Imaging
Advanced microcomputer-based photographic imaging techniques. Advanced manipulation techniques of photographic images. Continued development of aesthetic awareness and personal expression. *Prerequisites: ART270. 3 credits 6 periods*

ART283 Computer-Aided Graphic Arts II
Advanced skill development of graphic art through use of the microcomputer. Emphasis on computer design and techniques for producing all types of camera-ready advertising art for printed matter and package design. Includes illustration, typography, photo imaging and color separation. *Prerequisites: ADA183, or ART183, or permission of instructor. 3 credits 6 periods*

ART289 Computer Illustration
Introduction to the multiple elements of commercial illustration using the microcomputer. Basic foundation in the use of computer techniques, including color paint and draw programs for the production of commercial illustrations for publications and printed matter. Use of input and output devices. *Prerequisites or Corequisites: ART100 or permission of instructor. 3 credits 6 periods*

ART290AC Studio Art
Studio course for art majors allowing continuation in a subject field. *Course Notes: ART290AC may be repeated for credit. Prerequisites: Permission of instructor. 3 credits 6 periods*

ART291 Digital Prepress
Introduction to multiple elements of digital prepress concepts and techniques using the microcomputer. Basic foundation in the use of trapping and stripping software for the desktop. Use of electronic page layout techniques, including color separations, registration, spot colors, impositions, signatures and output production devices. Emphasis on prepress concepts. *Prerequisites: ART100 or permission of instructor. 3 credits 6 periods*

ART295BC Art Workshop/Seminar: Sculpture
Advanced level workshop seminar in art disciplines. *Prerequisites: Minimum of three (3) credits introductory and three (3) credits intermediate level courses in specific field, or permission of department/division chair. 3 credits 6 periods*

ART295DC Art Workshop/Seminar: Photography
Advanced level workshop seminar in art disciplines. *Prerequisites: Minimum of three (3) credits introductory and three (3) credits intermediate level courses in specific field, or permission of department/division chair. 3 credits 6 periods*

ART295GB Art Workshop/Seminar: Ceramics
Advanced level workshop seminar in art disciplines. *Prerequisites: Minimum of three (3) credits introductory and three (3) credits intermediate level courses in specific field, or permission of department/division chair. 2 credits 4 periods*

ASB-Anthropology

ASB102 Introduction to Cultural and Social Anthropology
Principles of cultural and social anthropology, with illustrative materials from a variety of cultures. The nature of culture; social, political and economic systems; religion, esthetics and language. *Prerequisites: None. 3 credits 3 periods*

ASB202 Ethnic Relations in the United States
Basic concepts and processes, including historic overview of interethnic relations in the United States: culture, race, ethnicity, ethnocentrism, prejudice, discrimination, racism, assimilation, acculturation, and individual and group responses to interethnic contact. Cultural knowledge and intercultural communication skills and perspectives as fundamental tools for successful management of social relations in a multicultural world. *Prerequisites: None. 3 credits 3 periods*

ASB211 Women in Other Cultures
Cross-cultural analysis of the economic, social, political and religious factors that affect women's status in traditional and modern societies. *Prerequisites: None. 3 credits 3 periods*

ASB214 Magic, Witchcraft and Healing: An Introduction to Comparative Religion
Origins, elements and forms of religion; a comparative survey of religious beliefs, myths, rituals and symbolism including magic, witchcraft and healing as practiced in selected regions of the world; the place of religion in the total culture. *Prerequisites: None. 3 credits 3 periods*

ASB220 Anthropology Goes to the Movies
Archaeology and anthropology through the lens of popular films of the 20th and 21st century. Explores the popularity of ancient humans as a topic for film ventures and how accurately they are portrayed. Provides the student with a basic knowledge of anthropology and offers film images of anthropologists and archaeologists and the practice of archaeology and anthropology. Analyzes accuracy of films depicting culture and our human past. *Prerequisites: None. 3 credits 3 periods*

ASB222 Buried Cities and Lost Tribes: Old World
Introduction to archaeology through discoveries and the researchers who made them. Emphasis on methods of archaeological fieldwork and what these discoveries reveal about humanity, including the nature of archaeological inquiry, the development of human social groups, the changing role of religion in evolving societies, the origins of agriculture, the origins of settled lifeways, the rise of cities and complex societies, political strife across different cultures and the forces which tend to fragment societies. Examples drawn from Africa, Asia, Europe, the Pacific Islands and Australia. *Prerequisites: None. 3 credits 3 periods*

ASB223 Buried Cities and Lost Tribes: New World
Introduction to archaeology through discoveries and the researchers who made them. Emphasis on methods of archaeological fieldwork and what these discoveries reveal about humanity, including the nature of archaeological inquiry, the development of human social groups, the changing role of religion in evolving societies, the origins of agriculture, the origins of settled lifeways, the rise of cities and complex societies, political strife across different cultures and the forces which fragment societies. Examples drawn from North America, Central America and South America. *Prerequisites: None. 3 credits 3 periods*

ASB231 Introduction to Archaeological Field Methods
Excavation of an archaeological site; recording and interpreting data collected during the field experience. Overview of the cultures concerned; contemporary issues in archaeology. *Prerequisites: None. 4 credits 8 periods*

ASB234 Art and Archaeology of Ancient Egypt
Introduction to the major social, political, religious and economic institutions of Ancient Egypt. The historical events and people that shaped Egyptian civilization. *Prerequisites: None. 3 credits 3 periods*

ASB235 Southwest Archaeology
Anthropological perspective and comparative study of the cultures of prehistoric native people of the North American Southwest. *Prerequisites: None. 3 credits 3 periods*

ASB245 Indians of the Southwest
Comparative study of the cultures, including the histories and present status of Indians of the Southwest. *Prerequisites: None. 3 credits 3 periods*

ASB251 Introduction to Museums
The changing nature of museum practice in acquiring and managing collections and disseminating information. *Prerequisites: None. 3 credits 3 periods*

ASB252 Anthropology of Sport
Cross-cultural examination of symbolic and social dimensions of sports, past and present. *Prerequisites: None. 3 credits 3 periods*

ASB282AA-AC Volunteerism for Anthropology: A Service-Learning Experience
Service-learning field experience within private institutions or businesses, governmental agencies and citizen volunteer groups. May be repeated for a total of six (6) ASB282 credit hours; may not repeat specific agency assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

ASM-Anthropology

ASM104 Bones, Stones and Human Evolution
Study of human evolution and variation; including fossil hominids and their tools, primate anatomy and behavior, human genetics and the environment and human biology. *Prerequisites: None. 4 credits 5 periods*

ASM265 Laboratory Methods in Archaeology
Techniques of artifact. Basic archaeological research techniques; methods of report writing. *Prerequisites: None. Course Note: ASM265 may be repeated for a total of eight (8) credit hours. 4 credits 4 periods*

ASM275 Introduction to Forensic Anthropology
Introduction to forensic anthropology. Survey of the role of forensic anthropologist, from the crime scene to the courtroom. Understand how a forensic anthropologist can determine life history of an individual. Contributions of forensic anthropology to crime scene and other legal investigations. How forensic anthropology is used to decipher historic cases, and how it is depicted in popular culture. Case studies involving criminal investigations, mass disaster incidents, and global human rights issues. *Prerequisites: None. 3 credits 3 periods*

AST-Astronomy

AST111 Introduction to Astronomy I
Introduction to astronomy for the non-science major. History of astronomy, properties of light, instruments, the solar system and nearby stars. *Prerequisites: MAT092 or equivalent. 3 credits 3 periods*

AST112 Introduction to Astronomy II
Introduction to astronomy for the non-science major. Structure and evolution of stars, star clusters, galaxies and cosmology. *Prerequisites: MAT092 or equivalent. 3 credits 3 periods*

AST113 Astronomy I Laboratory
Astronomical observation and exercises to supplement AST111. *Prerequisites or Corequisites: AST111. 1 credit 3 periods*

AST114 Astronomy II Laboratory
Astronomical observation and exercises to supplement AST112. *Prerequisites or Corequisites: AST112. 1 credit 3 periods*

AUT-Automotive Technology

AUT097 General Automotive Maintenance
A study of automotive systems operation and maintenance for the consumer. Purchasing service for cars and performing minor maintenance. *Prerequisites: None. 3 credits 3 periods*

AUT270AA-AC Automotive Technology Internship
Automotive work experience in the automotive service industry. Eighty hours of designated work per credit. Maximum of four (4) credits can be earned by taking combinations of AUT270AA, or AUT270AB, or AUT270AC. *Prerequisites: Departmental approval. 1-3 credits 1-3 periods*

AUT282AA-AC Volunteerism for Automotive: A Service-Learning Experience
Service-learning field experience within private/public agencies, educational institutions and citizen volunteer groups. May be repeated for a total of six (6) AUT282 credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

AUT296WA-WD Cooperative Education
Work-college experiences that involve the combined efforts of educators and employers to accomplish an outcome related to the career objectives of the students. *Prerequisites: Completion of at least twelve (12) college credits, minimum 2.6 grade point average, and be able to obtain a position related to student's academic or career goals (student's present job may qualify); or permission of instructor. Corequisites: Must be concurrently enrolled in at least one class which is related to student's major or career interest or with permission of the instructor. 4 credits 5-20 periods*

AUT298AA-AC Special Projects

Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. *Prerequisites: Permission of Program Director or instructor. 1-3 credits 1-3 periods*

BIO-Biology

BIO080 Fundamentals of Life Science

Consists of modules corresponding to biology courses offered in Maricopa Community College District. If student performance is inadequate in currently enrolled biology course, enrollment may be changed to appropriate BIO080 module. Change only allowed if prerequisite met for currently enrolled course. *Prerequisites: None. (arranged)*

BIO100 Biology Concepts

A one-semester introductory course covering basic principles and concepts of biology. Methods of scientific inquiry and behavior of matter and energy in biological systems are explored. Field trips may be required at student's expense. *Prerequisites: None. 4 credits 6 periods*

BIO105 Environmental Biology

Fundamentals of ecology and their relevance to human impact on natural ecosystems. Field trips may be required at student's expense. *Prerequisites: None. 4 credits 6 periods*

BIO108 Plants and Society

A global study of plants in relation to humans; as a source of food, fiber, drugs, and other products; for aesthetic value, survival, and energy. *Prerequisites: None. 4 credits 6 periods*

BIO109 Natural History of the Southwest

Study of the common plants and animals of the Southwest including their distribution, adaptation, behavior, and ecology. Introduction to basic field and laboratory techniques used in the study of natural history. Specific field problems presented dealing with plant and animal analysis and ecological interrelationships. *Prerequisites: None. Course Note: Field trips may be required. 4 credits 6 periods*

BIO145 Marine Biology

A survey of marine environments and their biotic communities with emphasis on the natural history of marine organisms. *Prerequisites: None. 4 credits 6 periods*

BIO156 Introductory Biology for Allied Health

An introductory biology course for allied health majors with an emphasis on humans. Topics include fundamental concepts of cell biology, histology, microbiology, and genetics. *Prerequisites: None. One year high school chemistry or one semester of college-level chemistry recommended. 4 credits 6 periods*

BIO160 Introduction to Human Anatomy and Physiology

Principles of scientific method. Structural organization, homeostasis and control mechanisms of the body. Specific chemistry concepts. Structure and function of the major systems of the body. *Prerequisites: None. 4 credits 6 periods*

BIO181 General Biology (Majors) I

The study and principles of structure and function of organisms at the molecular and cellular levels. A detailed exploration of the chemistry of life, the cell, and genetics. *Prerequisites: None. One year of high school or one semester of college-level biology and chemistry is strongly recommended. Course Notes: Field trips may be required at student's expense. 4 credits 6 periods*

BIO182 General Biology (Majors) II

The study and principles of structure and function of living things at cellular, organismic, and higher levels of organization. A detailed exploration of the mechanisms of evolution, biological diversity, biology of organisms, and ecology. *Prerequisites: A grade of "C" or better in BIO181. Course Notes: Field trips may be required. 4 credits 6 periods*

BIO201 Human Anatomy and Physiology I

Study of structure and function of the human body. Topics include cells, tissues, integumentary system, skeletal system, muscular system, and nervous system. *Prerequisites: (A grade of "C" or better in BIO156, or BIO181) or (a grade of "C" or better in one year high school biology course). (CHM130 or higher numbered CHM prefixed course) or (one year of high school chemistry) suggested but not required. 4 credits 6 periods*

BIO202 Human Anatomy and Physiology II

Continuation of structure and function of the human body. Topics include endocrine, circulatory, lymphatic, respiratory, digestive, urinary and reproductive systems; fluid and electrolyte balance. *Prerequisites: A grade of "C" or better in BIO201. 4 credits 6 periods*

BIO205 Microbiology

Study of microorganisms and their relationship to health, ecology and related fields. *Prerequisites: (BIO156 or BIO181 with a grade of "C" or better) or (one year high school biology with a grade of "C" or better). (CHM130 or higher numbered CHM prefixed course) or (one year of high school chemistry) suggested but not required. 4 credits 6 periods*

BIO211AA Biotechnology Seminar: Biomedical Applications

Special topics in biotechnology with an emphasis on current issues not covered in other life science courses. *Course Notes: BIO211AA may be repeated for a total of two (2) credit hours. Prerequisites: None. 1 credit 1 period*

BIO212AA Biotechnology I
Intensive introduction to biotechnology, including media and solution preparation, routine manipulations of DNA, structural properties of DNA and regulation of gene expression. *Prerequisites or Corequisites: BIO181, or BIO247, or permission of instructor. 5 credits 9 periods*

BIO212AB Biotechnology II
Intensive introduction to biotechnology, including protein biochemistry, techniques for handling and purifying proteins, recombinant deoxyribonucleic acid (DNA), sequencing deoxyribonucleic acid (DNA), testing deoxyribonucleic acid (DNA) fragments for promoter activity and analysis of deoxyribonucleic acid (DNA) sequences for open reading frames, promoters and homology. *Prerequisites: BIO212AA. 5 credits 9 periods*

BIO212AC Biotechnology III
Intensive introduction to biotechnology, including techniques for working with proteins, especially antibodies. Testing for presence of and purifying antibodies. Techniques for working with eukaryotic cells. *Prerequisites: BIO212AB. 5 credits 9 periods*

BIO220 Biology of Microorganisms
Detailed study of microbial cells, their structure, genetics, physiology and taxonomy. *Prerequisites: BIO181. Corequisites: (CHM152 and CHM152LL) or (CHM154 and CHM154LL). 4 credits 6 periods*

BIO240 General Genetics
Intensive introduction to the field of genetics including historical perspective, Mendelian insights and patterns of inheritance, exceptions to expected Mendelian ratios, quantitative genetics, non-Mendelian inheritance, pedigree analysis, molecular levels of gene expression, genetic control of metabolic pathways, analytic dissection of molecular mechanisms behind DNA replication, transcription, translation, and gene regulation in both prokaryotes and eukaryotes, population genetics, genetics of behavior, and genetics of evolution and speciation. *Prerequisites: BIO181. 4 credits 4 periods*

BIO244 General Genetics Laboratory
Introductory laboratory course in support of BIO240. Designed to familiarize students with basic laboratory skills and equipment used in genetic research. *Prerequisites: BIO181. Corequisites: BIO240. 1 credit 3 periods*

BIO247 Applied Biosciences: Biotechnology
Applies concepts of molecular and cellular biology of bacteria, animals and plants to real-world problems. *Prerequisites: A grade of "C" or better in BIO181. One semester of college- level chemistry or equivalent recommended. 4 credits 6 periods*

BIO249 Applied Biosciences: Biotechnology Internship
Internship/work experience in a biotechnology laboratory. Setting, achieving, and evaluating goals for hands-on learning experiences in a biotechnology laboratory. Development of skills and knowledge needed to work in a biotechnology laboratory. *Prerequisites: BIO247 or permission of instructor. Course Notes: Requires a minimum of 320 clock hours in the biotechnology laboratory setting. 4 credits 4 periods*

BIO280 Animal Behavior
A study of the genetics, physiology, ecology and evolutionary history of animal behavior. *Prerequisites: BIO100, or BIO105, or BIO181, or equivalent, or permission of instructor. 3 credits 3 periods*

BIO297AA-AC Volunteerism for Biology: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. May be repeated for a total of six (6) BIO297 credit hours; may not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of Program Director or instructor. 1-3 credits 1-3 periods*

BLT-Building Safety and Construction Technology

BLT121 Electrical Codes
Principles of safe electrical installations and proper inspection procedures. Topics include conduit installation, transformer service, raceways, control circuits, grounding and bonding, hazardous occupancies and the National Electrical Code. *Prerequisites: None. 3 credits 3 periods*

BLT127 Plumbing Codes
Code requirements and construction practices. Topics include underground and above ground plumbing, venting and finish plumbing. *Prerequisites: None. 3 credits 3 periods*

BLT128 Mechanical Codes
Code requirements and construction practices. Topics include duct work, conductors and fuel supply, insulation and controls. *Prerequisites: None. 3 credits 3 periods*

BLT140 Environmentally Responsible Building
An overview of environmentally responsible building and a historical survey of building methodologies. Introduces design concepts and strategies related to the mitigation of environmental impacts. Examines building processes, environmental issues and the interdependent nature of our built environment. Topics include human impacts, climate and geography, sustainability, renewable energies, water use and energy, resource efficiency, building materials, indoor air quality and waste reduction. *Prerequisites: None. 3 credits 3 periods*

BLT262 Introduction International Residential Code (IRC)

Covers International Residential Code for various trades, including building, mechanical, plumbing and electric, for one and two-family residential construction. *Preparation for voluntary certification (IRC building inspection). Prerequisites: None. 3 credits 3 periods*

BLT263 Building Code

Designed specifically to acquaint students with safety principles of building construction under the Uniform Building Code, including structural requirements for wood, masonry and concrete, fire resistance of building construction, fire resistant materials, and ratings and occupancy requirements. *Prerequisites: None. 3 credits 3 periods*

BPC-Business-Personal Computers

BPC100AD Computing Fundamentals

Fundamental computer concepts and terminology for business and personal computers. *Prerequisites: None. 1 credit 2 periods*

BPC100BD Key Software Applications

Covers basic features of software applications for business and personal computers. *Prerequisites: None. 1 credit 1 period*

BPC100CD Living Online

Fundamental network and Internet concepts and terminology for business and personal computers. Covers basic features of electronic mail applications. *Prerequisites: None. 1 credit 1 period*

BPC100DD Internet and Computing Fundamentals

Fundamental computer and Internet concepts and terminology for business and personal computers. Covers basic features of software applications. *Prerequisites: None. 3 credits 4 periods*

BPC101AA Introduction to Computer I

Computer software applications for the personal computer, including electronic spreadsheet and word processing, keyboarding review, and a desktop environment. *Prerequisites: None. 1 credit 2 periods*

BPC101AB Introduction to Microcomputers I: Macintosh

Microcomputer software applications for the Macintosh personal computer, including electronic spreadsheet and word processing, keyboarding review, and a desktop environment. *Prerequisites: None. 1 credit 2 periods*

BPC101AC Introduction to Handheld Devices

Using, configuring, and personalizing common digital handheld devices, such as Personal Digital Assistants (PDAs) and phones. *Prerequisites: None. 1 credit 2 periods*

BPC106AH MS Outlook: Level I

Messaging and word processing functions of a Microsoft Outlook electronic work state. *Prerequisites: None. .5 credit .5 period*

BPC106BH Microsoft Outlook: Level II

Microsoft Outlook features including sort, filter and group items; templates and forms; information sharing by public folders and Net Folders; share and fax contacts; and record activities in the Journal. Outlook environment customization also covered. *Prerequisites: BPC106AH or permission of instructor. .5 credit, .5 period*

BPC110 Computer Usage and Applications

Introduction to business and personal computer operations and usage. Software applications for analyzing and solving business problems including word processing, spreadsheet, database, and presentation graphics. *Prerequisites: None. 3 credits 4 periods*

BPC111AA Computer Keyboarding I

Mastery of essential microcomputer keyboarding skills. Emphasis on touch typing of alphabetic and numeric keys and symbols. *Prerequisites: None. 1 credit 1.7 periods*

BPC114AE Excel: Level I

Computer spreadsheet skills for solving business problems using Excel, including calculations, forecasting and projections. *Prerequisites: None. 1 credit 2 periods*

BPC114BE Excel: Level II

Additional Excel spreadsheet techniques, including macro programming, database searching, extraction, and linking to obtain prescribed reports and graphs. *Prerequisites: BPC/CIS114AE or permission of instructor. 1 credit 2 periods*

BPC114CE Excel: Level III

Additional Excel spreadsheet techniques, including complex macros, statistics and matrix manipulation. Project design using multiple, integrated spreadsheets. *Prerequisites: BPC/CIS114BE or permission of instructor. 1 credit 1 period*

BPC114DE Excel Spreadsheet

Computer spreadsheet skills for solving business problems using Excel, including calculations, forecasting, projections, macro programming, database searching, extraction, linking, statistics and matrix manipulation. Production of graphs and reports. Project design using multiple, integrated spreadsheets. *Prerequisites: None. 3 credits 5 periods*

BPC117AM Database Management: Microsoft Access Level I

Introduction to the basic elements of a current version of the Microsoft Access database management program for casual and beginning users. *Prerequisites: None. 1 credit 2 periods*

BPC117BM Database Management: Microsoft Access – Level II

Exploration of additional components of the Microsoft Access database management program. *Prerequisites: BPC117AM, or CIS117AM, or permission of instructor. 1 credit 2 periods*

BPC117CM Database Management: Microsoft Access - Level III

Application of the features of the Microsoft Access program to some common database management problems. *Prerequisites: BPC117BM or CIS117BM. 1 credit 1 period*

BPC117DM Microsoft Access: Database Management

Introduction to the basic elements, exploration of additional components and common database management problems related to the Microsoft Access program. *Course Note: Combines the contents of BPC/CIS117AM and BPC/CIS117BM and BPC/CIS117CM. Prerequisites: None. 3 credits 5 periods*

BPC118AB PowerPoint: Level I

Use of PowerPoint software to produce professional-quality presentation visuals. *Prerequisites: None. 1 credit 2 periods*

BPC118BB PowerPoint: Level II

Use of PowerPoint software to add movement and sound to desktop presentations to enhance audience attention. *Prerequisites: BPC/CIS118AB. 1 credit 2 periods*

BPC120DB Computer Graphics: Adobe Illustrator

Provides students with the capability to use Adobe Illustrator graphics software on a computer. Basic foundation course in the use of electronic techniques to create, manipulate, and edit images, text, abstract art, graphics design, color graphics and business charts; determine file formats appropriate for web and print; utilize tools to optimize graphics and create a PDF file. *Prerequisites: None. 3 credits 3 periods*

BPC120DC Flash: Digital Animation

Provides students with the ability to use Flash graphics software on microcomputers. Covers basic animation techniques used in the creation, manipulation and editing of Flash animation graphics. *Prerequisites: None. 3 credits 4 periods*

BPC120DF Computer Graphics: Adobe Photoshop

Provides students with the capability to use Adobe Photoshop graphics software on a computer. Basic foundation course in the use of electronic techniques to select, manipulate and edit images, work with masks, channels and layers; combine raster and vector graphics; print in color, manage color and create graphics for the web. *Prerequisites: None. 3 credits 4 periods*

BPC120DG Fireworks: Web Graphics

Use of graphics software to create and edit vector and bitmap (raster) graphics. Creation and manipulation of paths and special effects. Covers slices, buttons, pop-up menus, navigation bars, and animations for use in web sites. *Prerequisites: None. 3 credits 4 periods*

BPC120DK Introduction to Digital Video Editing

Introduction to digital video editing comprised of a foundation for video import, export, and editing functions. Includes parts and function of a video camera, preproduction and production, incorporating photographs, titles, graphics, animation and audio, capturing, editing, rendering and outputting digital video. *Prerequisites: None. 3 credits 4 periods*

BPC121AB Microsoft Command Line Operations

Use of the Microsoft command line interface: basic concepts, internal and external commands, subdirectories, and editor. *Prerequisites: None. 1 credit 2 periods*

BPC121AE Windows Operating System: Level I

Specific topics include booting and shutting down the computer, navigating the desktop, start button features, taskbar status and receiving online help support. Exploring and managing folders and files, running programs, and learning about Wordpad and Paint application programs. *Prerequisites: None. 1 credit 2 periods*

BPC122AE Windows Operating System: Level II

Additional capabilities of the Windows program that configure devices and customize the presentation of the operating system. System tools, control panel utilities, the My Computer, Network Neighborhood and Microsoft Exchange desktop icons. Other helpful utilities presented. *Prerequisites: BPC/CIS121AE, or permission of instructor. 1 credit 2 periods*

BPC123 Introduction to Speech Recognition (SR)

Basic installation, training and use of commands and methods associated with speech recognition systems. *Prerequisites: None. 1 credit 2 periods*

BPC125 Microcomputer Set-Up and Maintenance

How to install and maintain a microcomputer (personal computer). Steps used to set up new or add options to a previously installed microcomputer. Installation of internal options (memory, graphics, modems, etc.), as well as external options and devices (printers, monitors, communications, etc.). Troubleshoot (identify and repair or have repaired) microcomputer problems. *Prerequisites: None. 1 credit 1 period*

BPC128AF Introduction to Desktop Publishing: MS Publisher

Presents basic concepts of commercially prepared software used to do desktop publishing. Incorporates a combination of narrative and pictorial/graphic creation and presentation, including set up, text entry, graphic generation, text and graphic merging, and other computer-based functions. *Prerequisites: None. 1 credit 2 periods*

BPC133AA Internet/World Wide Web: Level I-A

Overview of the Internet and its resources. Hands-on experience with various Internet communication tools. *Prerequisites: None. 1 credit 2 periods*

BPC133BA Internet/World Wide Web: Level I-B

Exploration of additional Internet resources. Hands-on experience with a variety of resource discovery and information retrieval tools as well as enhancement of Web pages. *Prerequisites: BPC/CIS133AA. 1 credit 1 period*

BPC133CA Internet/Web Development Level I-C

Web site development using enhancement codes. Includes frames, style sheets and javascript as well as design principles and typography. *Prerequisites: BPC/CIS133BA. 1 credit 1 period*

BPC133DA Internet/Web Development Level I

Overview of the Internet/WWW and its resources. Hands-on experience with various Internet/WWW communication, resource discovery and information retrieval tools. Web page development also included. *Prerequisites: None. 3 credits 4 periods*

BPC135DK Word: Level I

Using Word word processing software to create and name files, edit text, format and print a variety of documents. *Prerequisites: None. 2 credits 2 periods*

BPC170 Computer Maintenance I: A+ Prep

Technical aspects of the microcomputer, including system setup (hardware and software) and basic troubleshooting. Emphasis on basic troubleshooting, use of tools, hardware components and hardware/software interfacing. *Prerequisites: CIS105 and BPC121AB, or permission of instructor. 3 credits 4 periods*

BPC171 Recycling Used Computer Technology

Use of hardware maintenance knowledge and skills to refurbish used computers. May be repeated for a total of three (3) credits. *Prerequisites or Corequisites: BPC170 or permission of instructor. 1 credit 2 periods*

BPC210 Advanced Computer Usage and Applications

Advanced application of software for business and personal computers including word processing, spreadsheet, database and presentation. Includes integration of applications and Internet. *Prerequisites: BPC110, or permission of instructor. 3 credits 4 periods*

BPC217AM Advanced Microsoft Access: Database Management

Advanced database concepts including database design, primary and secondary key selection and relationships between tables. Queries, subforms, macros, events, Visual Basic modules and Access Internet features also covered. *Prerequisites: (BPC/CIS117DM or BPC/CIS117CM). 3 credits 4 periods*

BPC220DF Advanced Photoshop

Goes beyond the basic use of palettes, selections, layers, menus, and tool options, and focuses on using Photoshop software's advanced features to manipulate and correct digital and digitally produced images. *Prerequisites: (BPC/CIS120AF, BPC/CIS120BF and BPC/CIS120CF) or BPC/CIS120DF, or permission of instructor. 3 credits 4 periods*

BPC224 Project Management Microsoft Project for Windows

Introduction to project management concepts while working with MS Project to solve complex project management networks, including creating Gantt and PERT charts, tracking project progress, planning for restrictions and integrating MS Project with other software packages such as Excel, Word, PowerPoint and cc Mail. *Prerequisites: None. 3 credits 4 periods*

BPC225 Computer Configuration and Enhancement

Configuration and enhancement of a computer. Emphasis on configuration of hardware and software to optimize computer performance. Includes memory configuration and the identification and troubleshooting of configuration problems. *Prerequisites: BPC125 or permission of instructor. 1 credit 2 periods*

BPC235DK Word: Level II

Using Word word processing software features such as math, columns, macros, styles, graphics, sort, outlines and table of contents. *Prerequisites: BPC/OAS135DK or permission of instructor. 2 credits 2 periods*

BPC250 Post-Advanced Computer Usage and Applications

Post-advanced applications of software for business and personal computers including word processing, spreadsheet, database and presentation. Includes integration of applications and Internet. *Prerequisites: BPC210 or permission of instructor. 3 credits 4 periods*

BPC270 Microcomputer Maintenance II

Advanced technical aspects of maintaining and servicing microcomputers. Emphasis placed on installation, periodic maintenance, diagnosis, and/or problem resolution of power system, motherboard, memory, storage devices and network interface cards. Extensive use of software diagnostic and utility tools. *Prerequisites: BPC170 with a grade of "C" or better, or permission of instructor. 3 credits 4 periods*

BPC273 Advanced Server Computer Maintenance: Server+ Prep

Focuses on complex technical aspects of the microcomputer server, including hardware installation, configuration, and troubleshooting. Strong emphasis on network operating systems installations, data storage subsystems, and data recovery. Preparation for the CompTIA Server+ examination. *Prerequisites: (BPC170 and MST140), or permission of instructor. 3 credits 4 periods*

BPC282AA-AC Volunteerism for Business Personal Computer: A Service-Learning Experience
Service-learning field experience within private/public agencies, educational institutions and citizen volunteer groups. May be repeated for a total of six (6) BPC282 credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: BPC110 and (BPC114DA, or BPC117DA, or BPC130 (any module), or BPC135 (any module), or BPC217AA) and permission of instructor. 1-3 credits 1- 3 periods*

CAD-Computer-Aided Drafting

CAD167 Architectural Drawings (REVIT) I: Residential CAD
Introduction to REVIT architectural modeling software used by the architectural industry. Advanced software utilization and skills pertinent to architectural documentation. Emphasis on residential working drawings. *Prerequisites: CAD145 or permission of instructor. CAD255 recommended. 3 credits 6 periods*

CCS-Chicana and Chicano Studies

CCS101 Chicana and Chicano Studies
Introduction to the wealth and diversity of Chicana and Chicano Studies research from a variety of disciplinary perspectives through the use of a series of historical and social scientific studies, novels, testimonios, and films. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

CCS111 Introduction to Chicana and Chicano Culture
A study of Chicano popular culture, including cultural themes and artistic expression. Expression of Chicano experience in American society from the perspective of the social sciences. Analyzes Chicano self-identity and social and cultural dynamics of the Chicano community. *Prerequisites: None. 3 credits 3 periods*

CET-Civil Engineering Technology

CET101 Surveying I
Fundamental surveying principles including theory and field work using the level and transit, horizontal measurement by tape or stadia, benchmark and profile leveling traverse surveys and computations, establishment of line and grade. Designed to develop semi-professional personnel working for private or government engineering agencies. *Prerequisites: DFT107, or GTC108, or MAT182, or MAT187, or equivalent, or departmental permission. 3 credits 5 periods*

CET102 Surveying II
Surveying principles including triangulation, municiple and land surveys, topographic surveys, earthwork, state plane coordinate systems, stadia methods, practical astronomy, highway curves, superelevations and construction. *Prerequisites: CET101 or departmental permission. 3 credits 5 periods*

CET201 Boundary Control and Legal Principles I
Principles of land surveying, boundary controls, ethical and legal principles, and office practices. *Prerequisites: CET101 or departmental permission. 3 credits 3 periods*

CET202 Boundary Control and Legal Principles II
Application of principles to actual case studies. Emphasis on proper form and clarity in legal description writing. Procedure for filing subdivision plats and preparation for land surveyors' registration examinations. *Prerequisites: CET201 or departmental permission. 3 credits 3 periods*

CET257 Route and Construction Surveying
Principles and field practice of route and construction surveying, including route control surveys, construction control, topographic mapping, highway curves, and computations for roadways, utilities, bridges, buildings, small commercial sites, and subdivisions. *Prerequisites: CET102 or departmental permission. 3 credits 5 periods*

CFS-Child/Family Studies

CFS101AH Art Activities for the Young Child
The creative use of art media and techniques at appropriate developmental levels. *Prerequisites: None. 1 credit 1 period*

CFS101AJ Music Activities for the Young Child
Experiences with music in singing, rhythm instruments, creative movements and games, as well as the development of music appreciation and basic listening skills. *Prerequisites: None. 1 credit 1 period*

CFS101AP Science Activities for the Young Child
Interpreting the study of science in early childhood education as a part of a dynamic growth process offered by the child's daily life experiences. *Prerequisites: None. 1 credit 1 period*

CFS101AR Learning with Toys
Use of creative imagination with toys to enable the child alone or with others to explore the world. Includes evaluating proper use of toys and appropriate developmental skills. *Prerequisites: None. 1 credit 1 period*

CFS102 Emergency Care for Child Care Providers
Basic emergency medical care for child care providers. Emphasis on design of emergency plan of action, Basic Life Support, recognition and management of common childhood injuries and illnesses. Designed to meet the Arizona Department of Health Services child care worker requirements. *Prerequisites: None. 1 credit 1 period*

CFS157 Marriage and Family Life
Study of marriage and the family as a social system, including models of family analysis, intra- and interpersonal relations, and cross-cultural and historical patterns. *Prerequisites: None. 3 credits 3 periods*

CFS160 Using Music, Speech and Movement with Children's Literature
Using elements of music, speech and movement with children's literature, including rhymes, chants, songs and books to enhance children's social, physical, cognitive, and emotional development. *Prerequisites: None. 1 credit 1 period*

CFS176 Child Development
Study of the science of human development from conception through adolescence. Includes observation skills, parent and adult roles in the lives of children, and contemporary issues. *Prerequisites: None. 3 credits 3 periods*

CFS179 Child Care: A Multifaceted Career
Overview of the child care field. Focus on enhancing children's self-esteem, providing for children's nutritional needs and developing adequate safety and sanitation practices. *Prerequisites: None. 1 credit 1 period*

CFS205 Human Development
Explores the growth and development process over the human life span. Research and theoretical approaches; physical, cognitive, social and personality development from birth through adulthood and death. *Prerequisites: None. 3 credits 3 periods*

CFS206 Child and Family Organizations: Management and Administration
Examination of management and administration of community-based child and family organizations within the context of organizational behaviors. Focus on attributes of effective organizations: the impact of organizational culture and learning, work-place diversity and employee motivation. *Prerequisites: None. 3 credits 3 periods*

CFS207 Organization and Community Leadership in Child and Family Organizations
Examination of organization and community leadership as it applies to the management and administration of community-based child and family services organizations. Provides overview of leadership styles and function. *Prerequisites: None. 3 credits 3 periods*

CFS208 Child and Family Organizations: Fiscal Management and Grant Writing
Examination of fiscal accountability and resource development as it applies to the management and administration of community-based child and family social service organizations. Provides overview of grant development processes beginning with research into governmental and private funding sources through fiscal and grant audit processes. Includes budget development, risk management, and cost control issues. *Prerequisites: None. 3 credits 3 periods*

CFS212 Creative Activities for the Young Child
Children's development in play, creativity and the arts. Focus on learning environment for creative expression. Field experiences with children in groups required. *Prerequisites: CFS176/ ECH176, or permission of instructor. 3 credits 3 periods*

CFS259 Sexuality Over the Life Span
Examination of the physical, psychological, social and cultural contributions to human sexuality. Emphasis on family life and cultural variation. Examination of facts and myths, current literature and changing mores regarding human sexuality. Sexuality of males and females in contemporary society; impact of sexual trends on society; home/school issues in sexuality education. *Prerequisites: Permission of department. Student must be 18 years or older. 3 credits 3 periods*

CHA-Community Health Advocate

CHA101 Introduction to Diabetes
Purpose, role and function of the Community Health Advocate. Overview of diabetes, including types, symptoms, effects, risk factors and history of diabetes specific to Native Americans. Traditional ways of maintaining well-being. Nutritional concerns related to diabetes. *Prerequisites: None. Corequisites: HCC130AA, HCC130AB, HCC130AC, HCC130AD, HCC130AE, HCC130AF and HCC146. 2 credits 2 periods*

CHA102 Preventative Stages of Diabetes
Preventative health care practices for the control of primary, secondary and tertiary forms of diabetes. Methods of reducing risks and managing effects of diabetes, including financial, community and medical resources to support the diabetic patient. *Prerequisites: None. Corequisites: CHA101, HCC130AA, HCC130AB, HCC130AC, HCC130AD, HCC130AE, HCC130AF and HCC146. 3 credits 3 periods*

CHA103 Transcultural Advocacy
Characteristics of an effective transcultural community health advocate. Communication skills and educational methodologies and tools for working with diabetic patients and their families. Community resources for the diabetic patient. Includes 50 hours of service-learning experience in a healthcare setting. *Prerequisites: None. Corequisites: CHA101, HCC130AA, HCC130AB, HCC130AC, HCC130AD, HCC130AE, HCC130AF and HCC146. 3 credits 3 periods*

CHD-Chemical Dependency

CHD265 Co-Dependency
Theory and application of current research in co-dependency, a recognizable pattern of dysfunctional personality traits, predictably found within most members of chemically dependent families. Emphasis on characteristics, techniques for evaluation, intervention and treatment. *Prerequisites: None. 1 credit 1 period*

CHI-Chinese

CHI101 Elementary Chinese (Mandarin) I
Introduction to the basic grammar, pronunciation and vocabulary of the Mandarin Chinese language. Includes the study of Chinese culture, practice of listening, speaking, reading and writing skills. *Prerequisites: None. 5 credits 6 periods*

CHI102 Elementary Chinese (Mandarin) II
Continued study of grammar and vocabulary along with the study of Chinese culture. Emphasis on pronunciation and speaking skills. *Prerequisites: CHI101 or equivalent. 5 credits 6 periods*

CHI115 Beginning Chinese Conversation I
Introduction to Chinese sound system, basic grammar and vocabulary necessary to develop speaking ability in Mandarin Chinese. Designed for students seeking speaking and listening ability with little emphasis on writing and reading Chinese characters. *Prerequisites: None. 3 credits 3 periods*

CHM-Chemistry

CHM107 Chemistry and Society
A survey of chemistry and its impact on the environment. Completion of CHM107LL is required to meet the Natural Science requirement. *Prerequisites: None. 3 credits 3 periods*

CHM107LL Chemistry and Society Laboratory
Laboratory experience in support of CHM107. *Prerequisites or Corequisites: CHM107. 1 credit 3 periods*

CHM130 Fundamental Chemistry
Elements of general chemistry for all students. Serves to prepare the student for CHM151 or CHM230. *Course Notes: Content designed to meet the needs of students in such areas as agriculture, home economics, nursing and physical education among others. Prerequisites: Grade of "C" or better in CHM090 or MAT091, or MAT092, or MAT102, or satisfactory score on math placement exam. 3 credits 3 periods*

CHM130LL Fundamental Chemistry Laboratory
Laboratory experience in support of CHM130. *Prerequisites or Corequisites: CHM130. 1 credit 3 periods*

CHM138 Chemistry for Allied Health
Elements of fundamental and organic chemistry. Includes the general chemical behavior of inorganic matter and the structure of organic and biochemical systems. Course designed for specific allied health programs at MCCD. May not be applicable to other allied health programs or transferable. *Prerequisites: Grade of "C" or better in CHM090; or one year of high school chemistry with a grade of "C" or better; or MAT092 or MAT102 or satisfactory score on placement exam. 3 credits 3 periods*

CHM138LL Chemistry for Allied Health Lab
Laboratory experience in support of CHM138, Chemistry for Allied Health. *Prerequisites: None. Corequisites: CHM138. 1 credit 3 periods*

CHM151 General Chemistry I
Detailed study of principles of chemistry. For science majors and students in pre-professional curricula. *Prerequisites: (CHM130 and CHM130LL) or (one year high school chemistry with a grade of "C" or better taken within the last five years), and completion of Intermediate Algebra or equivalent. Completion of all prerequisites within the last two years is recommended. Course Notes: Students may receive credit for only one of the following: CHM150 or CHM151. 3 credits 3 periods*

CHM151LL General Chemistry I Laboratory
Laboratory experience in support of CHM151. *Prerequisites: CHM130LL or permission of instructor. Prerequisites/ Corequisites: CHM150 or CHM151. 1 credit 3 periods*

CHM152 General Chemistry II
A study of the chemical properties of the major groups of elements, equilibrium theory, thermodynamics, electrochemistry and other selected topics. Completion of CHM152LL required to meet the Natural Science requirement. *Prerequisites: CHM150 or CHM151 and CHM151LL. Completion of CHM150 or CHM151 and CHM151LL within the last two years recommended. 3 credits 3 periods*

CHM152LL General Chemistry II Laboratory
Laboratory experience in support of CHM152. *Prerequisites: CHM151LL or permission of instructor. Prerequisites or Corequisites: CHM152. 1 credit 3 periods*

CHM230 Fundamental Organic Chemistry
Chemistry of representative groups of organic compounds, emphasizing biological applications. *Course Notes: Content designed to meet the needs of students in agriculture, home economics, nursing, pre-physician assistant and physical education among others. Prerequisites: (CHM130 and CHM130LL), or (CHM150 or CHM151 and CHM151LL). Completion of (CHM130 and CHM130LL) or (CHM150 or CHM151 and CHM151LL) within the last two years recommended. 3 credits 3 periods*

CHM230LL Fundamental Organic Chemistry Lab
Laboratory experience in support of CHM230. *Prerequisites: CHM130LL, or CHM151LL, or equivalent. Corequisites: CHM230. 1 credit 3 periods*

CHM235 General Organic Chemistry I
Rigorous introduction to chemistry of carbon-containing compounds. Reaction mechanisms and recent methods of synthesis emphasized. *Prerequisites: CHM152 and CHM152LL, or CHM154 and CHM154LL. Completion of (CHM152 and CHM152LL) or (CHM154 and CHM154LL) within the last two years recommended. 3 credits 3 periods*

CHM235LL General Organic Chemistry I Laboratory
Laboratory experience in support of CHM235. *Prerequisites: CHM152LL, or CHM154LL, or equivalent. Prerequisites/Corequisites: CHM235. 1 credit 4 periods*

CHM236 General Organic Chemistry IIA
Study of chemistry of carbon-containing compounds continued. Structural determination and additional reaction mechanisms and modern methods of synthesis emphasized. *Prerequisites: CHM235 and CHM235LL. Completion of CHM235 and CHM235LL within the last two years recommended. 3 credits 3 periods*

CHM236LL General Organic Chemistry IIA Laboratory
Laboratory experience in support of CHM236. *Prerequisites: CHM235LL or equivalent. Prerequisites or Corequisites: CHM236. 1 credit 4 periods*

CHM260 Fundamental Biochemistry
Structures, properties, and functions of proteins, enzymes, nucleic acids, carbohydrates and lipids; the utilization and synthesis of these materials by living systems and the relationship of the processes to energy production and utilization. Designed for students in agriculture, dental hygiene, home economics, nursing, and physical therapy. *Prerequisites: CHM230 and CHM230LL, or CHM236 and CHM236LL, or CHM238 and CHM238LL. Completion of CHM230 and CHM230LL, or CHM236 and CHM236LL, or CHM238 and CHM238LL within the last two years recommended. 3 credits 3 periods*

CHM260LL Fundamental Biochemistry Laboratory
Laboratory experience in support of CHM260. *Prerequisites: CHM230 and CHM230LL or instructor approval. Corequisites: CHM260. 1 credit 3 periods*

CIS-Computer Information Systems

CIS102 Interpersonal and Customer Service Skills for IT Professionals
Examines behaviors necessary to develop and support an effective client service organization. Focuses on methods of increasing the effectiveness of help-desk professionals when responding to a range of customer conditions. *Prerequisites: None. 1 credit 1 period*

CIS105 Survey of Computer Information Systems
Overview of computer technology, concepts, terminology and the role of computers in society. Discussion of social and ethical issues related to computers. Use of word processing, spreadsheet, database and presentation software. Includes programming and use of the Internet. Exploration of relevant emerging technologies. *Prerequisites: None. 3 credits 4 periods*

CIS106AA Captivate: Video Presentations
Introduction to the basics of video project creation with Captivate. Includes computer video screen capture, video narration, file formats, import and integrate digital resources and video production. *Prerequisites: None. 1 credit 2 periods*

CIS106AB Camtasia: Video Presentations
Introduction to the basics of video project creation with Camtasia. Includes computer video screen capture, video narration, file formats, import and integrate digital resources and video production. *Prerequisites: None. 1 credit 2 periods*

CIS107 The Electronic Game Industry
Introduction to the electronic game industry, including history, market, distribution and publishing channels, business models, team roles, and career landscape. Technical topics covered include software engineering, artificial intelligence, game physics, computer graphics, and networking. *Prerequisites: CIS105, or permission of instructor. 3 credits 4 periods*

CIS108 Electronic Portfolio Development
Compile, reflect on and select prior learning experiences and artifacts. Design, produce and publish an online portfolio that documents prior learning. Includes techniques for presenting the electronic portfolio for evaluation. *Prerequisites: (CIS105 or BPC110), or permission of instructor. 1 credit 2 periods*

CIS109AM Networking Technology I
Computer networking basics. Network services, transmission media and connectivity devices covered. Open Systems Interconnection (OSI) Reference Model. *Prerequisites: None. 2 credits 2 periods*

CIS114AE Excel: Level I
Computer spreadsheet skills for solving business problems using Excel, including calculations, forecasting and projections. *Prerequisites: None. 1 credit 2 periods*

CIS114BE Excel: Level II
Additional Excel spreadsheet techniques, including macro programming, database searching, extraction and linking to obtain prescribed reports and graphs. *Prerequisites: BPC/CIS114AE or permission of instructor. 1 credit 2 periods*

CIS114CE Excel: Level III
Additional Excel spreadsheet techniques, including complex macros, statistics and matrix manipulation. Project design using multiple, integrated spreadsheets. *Prerequisites: BPC/CIS114BE or permission of instructor. 1 credit 1 period*

CIS114DE Excel Spreadsheet
Computer spreadsheet skills for solving business problems using Excel, including calculations, forecasting, projections, macro programming, database searching, extraction, linking, statistics and matrix manipulation. Production of graphs and reports. Project design using multiple, integrated spreadsheets. *Prerequisites: None. 3 credits 5 periods*

CIS117AM Database Management: Microsoft Access–Level I
Introduction to the basic elements of a current version of the Microsoft Access database management program for casual and beginning users. *Prerequisites: None. 1 credit 2 periods*

CIS117BM Database Management: Microsoft Access–Level II

Exploration of additional components of the Microsoft Access database management program. *Prerequisites: BPC117AM, or CIS117AM, or permission of instructor. 1 credit 2 periods*

CIS117CM Database Management: Microsoft Access–Level III

Application of the features of the Microsoft Access program to some common database management problems. *Prerequisites: BPC117BM or CIS117BM. 1 credit 1 period*

CIS117DM Microsoft Access: Database Management

Introduction to the basic elements, exploration of additional components and common database management problems related to the Microsoft Access program. *Course Notes: Combines the contents of BPC/CIS117AM and BPC/CIS117BM and BPC/CIS117CM. Prerequisites: None. 3 credits 5 periods.*

CIS118AB PowerPoint: Level I

Use of PowerPoint software to produce professional-quality presentation visuals. *Prerequisites: None. 1 credit 2 periods*

CIS118BB PowerPoint: Level II

Use of PowerPoint software to add movement and sound to desktop presentations to enhance audience attention. *Prerequisites: BPC/CIS118AB. 1 credit 2 periods*

CIS119DO Introduction to Oracle: SQL

Use of Oracle tools and methodologies to fulfill real-world business information requirements. Hands-on exercises for designing, creating, and maintaining database structures to store, retrieve, update, and display data in a relational database using the SQL programming language. Creating and maintaining database objects. Advanced retrieval techniques. *Prerequisites: CIS105, or permission of instructor. 3 credits 4 periods*

CIS120DB Computer Graphics: Adobe Illustrator

Provides students with the capability to use Adobe Illustrator graphics software on a computer. Basic foundation course in the use of electronic techniques to create, manipulate, and edit images, text, abstract art, graphics design, color graphics and business charts; determine file formats appropriate for web and print; utilize tools to optimize graphics and create a PDF file. *Prerequisites: None. 3 credits 4 periods*

CIS120DC Flash: Digital Animation

Provides students with the ability to use Flash graphics software on microcomputers. Covers basic animation techniques used in the creation, manipulation and editing of Flash animation graphics. *Prerequisites: None. 3 credits 4 periods*

CIS120DF Computer Graphics: Adobe Photoshop

Provides students with the capability to use Adobe Photoshop graphics software on a computer. Basic foundation course in the use of electronic techniques to select, manipulate and edit images, work with masks, channels and layers; combine raster and vector graphics; print in color, manage color and create graphics for the web. *Prerequisites: None. 3 credits 4 periods*

CIS120DG Fireworks: Web Graphics

Use of graphics software to create and edit vector and bitmap (raster) graphics. Creation and manipulation of paths and special effects. Covers slices, buttons, pop-up menus, navigation bars, and animations for use in web sites. *Prerequisites: None. 3 credits 4 periods*

CIS120DK Introduction to Digital Video Editing

Introduction to digital video editing comprises of a foundation for video import, export, and editing functions. Includes parts and function of a video camera, preproduction and production, incorporating photographs, titles, graphics, animation and audio, capturing, editing, rendering and outputting digital video. *Prerequisites: None. 3 credits 4 periods*

CIS120DL Digital Video Compositing: After Effects

Includes creating visual effects for video projects. Techniques and methodologies used to create shots for big budget special effects will be explored. Topics such as color and light matching, keying, motion tracking, rotoscoping and working with film will be discussed. *Prerequisites: None. 3 credits 4 periods*

CIS121AB Microsoft Command Line Operations

Use of the Microsoft command line interface: basic concepts, internal and external commands, subdirectories, and editor. *Prerequisites: None. 1 credit 2 periods*

CIS121AE Windows Operating System: Level I

Specific topics include booting and shutting down the computer, navigating the desktop, start button features, taskbar status, and receiving on-line help support. Exploring and managing folders and files, running programs, and learning about Wordpad and Paint application programs. *Prerequisites: None. 1 credit 2 periods*

CIS122AE Windows Operating System: Level II

Additional capabilities of the Windows program that configure devices and customize the presentation of the operating system. System tools, control panel utilities, the My Computer, Network Neighborhood and Microsoft Exchange desktop icons. Other helpful utilities presented. *Prerequisites: BPC/CIS121AE or permission of instructor. 1 credit 2 periods*

CIS126AA UNIX Operating System: Level I

Use of the UNIX operating system: system components, built-in commands, files and directories, editors, and UNIX shell and command lines. *Prerequisites: None. 1 credit 2 periods*

CIS126AL Linux Operating System I
Introduction to the Linux operating system. Develop knowledge and skills required to install, configure a Linux-based workstation including basic network functions. *Prerequisites: None. 1 credit 2 periods*

CIS126BL Linux Operating System II
Introduction to the Linux operating system. Develop knowledge and skills required to configure a Linux-based workstation including basic printing functions. Learn basic command line and Graphical User Interface (GUI) desktop environment utilities and applications. *Prerequisites: CIS126AL or permission of instructor. 1 credit 1 period*

CIS126CL Linux Operating System III
Introduction to the Linux operating system. Develop knowledge and skills required to install and configure applications, and to troubleshoot a Linux-based workstation including basic network functions. Learn basic command line and Graphical User Interface (GUI) desktop environment utilities and applications. *Prerequisites: CIS126BL or permission of instructor. 1 credit 1 period*

CIS126DA UNIX Operating System
Use of a UNIX operating system including system components, built-in commands, files, and directories, editors, and UNIX shell and command lines. Installation, configuration, and maintenance of a UNIX operating system. Create scripts and batch files, and maintain system communications. *Prerequisites: None. 3 credits 4 periods*

CIS126DL Linux Operating System
Introduction to the Linux operating system. Develop knowledge and skills required to install, configure and troubleshoot a Linux-based workstation including basic network functions. Learn basic command line and Graphical User Interface (GUI) desktop environment utilities and applications. Fundamental abilities to achieve the entry-level industry certification covered. *Prerequisites: None. 3 credits 4 periods*

CIS130DA 3D Studio Max: Modeling
Introduction to 3D modeling using 3D Studio Max. Emphasis will be placed on Polygonal, Solid, and Surface modeling tools. Students will also understand concepts such as modifiers, sub-object editing, extruding, Booleans, lofting, lathing and compound object modeling. Introduction to basic lighting, texturing and rendering techniques. *Prerequisites: CIS105. 3 credits 4 periods*

CIS130DB 3D Studio Max: Animation
Introduction to three-dimensional animation tools and principles, with an emphasis on character construction and animation. 3D Studio Max will be the primary application for use in this class. *Prerequisites: CIS105. 3 credits, 4 periods*

CIS131AA Doing Business on the Internet
Overview of different ways businesses are taking advantage of and using the Internet. Includes how companies are selling items and services over the Internet; techniques used to expand customer contacts; marketing strategies; availability of government and financial information; future potential and disadvantages; using the Internet for customer service; establishing a World Wide Web site. Some previous computer experience preferred. *Prerequisites: None. 1 credit 1 period*

CIS133AA Internet/World Wide Web: Level I-A
Overview of the Internet and its resources. Hands-on experience with various Internet communication tools. *Prerequisites: None. 1 credit 2 periods*

CIS133BA Internet/World Wide Web: Level I-B
Exploration of additional Internet resources. Hands-on experience with a variety of resource discovery and information retrieval tools as well as enhancement of Web pages. *Prerequisites: BPC/CIS133AA. 1 credit 1 period*

CIS133CA Internet/World Wide Web: Level I-C
Web site development using the enhancement codes. Includes frames, style sheets and javascript as well as design principles and typography. *Prerequisites: BPC/CIS133BA. 1 credit 1 period*

CIS133DA Internet/Web Development Level I
Overview of the Internet/WWW and its resources. Hands-on experience with various Internet/WWW communication, resource discovery and information retrieval tools. Web page development also included. *Prerequisites: None. 3 credits 4 periods*

CIS140 Survey of Multimedia Technology
Introduction to multimedia technology and its uses. Overview of the various hardware and software used in developing and delivering multimedia. Emphasis on how multimedia is used in education and training. Provides a basic understanding of the process used to define and develop multimedia applications. *Prerequisites: CIS105, or permission of instructor. 2 credits 3 periods*

CIS150 Programming Fundamentals
Structured program design and logic tools. Use of computer problems to demonstrate and teach concepts using appropriate programming language. *Prerequisites: CIS105, or permission of instructor. 3 credits 4 periods*

CIS150AB Object-Oriented Programming Fundamentals
Structured and Object-Oriented design and logic tools. Use of computer problems to demonstrate and teach concepts using an appropriate programming language. *Prerequisites: CIS105 or permission of instructor. 3 credits 4 periods*

CIS151 Computer Game Development - Level I

Introduction to object-oriented game development, game design, and game theory. Use of computer software to demonstrate and teach concepts using an appropriate game development platform to model real-time simulations and create computer games using object-oriented tools. Introduction to developing PC games, educational software, and training software using windows-based object-oriented developments tools. *Prerequisite: CIS105 or permission of instructor. 3 credits 4 periods*

CIS159 Visual Basic Programming I

Use of Visual Basic programming language to solve problems using suitable examples from business or other disciplines. *Prerequisites: CIS105 or permission of instructor. 3 credits 4 periods*

CIS162 C Programming I

Beginning C programming. Includes features needed to construct programs, functions, pointers, input and output options, data types, structures, and unions, and disk file operations. *Prerequisites: CIS105, or permission of instructor. 3 credits 4 periods*

CIS162AB C++: Level I

Introduction to C++ programming including general concepts, program design, development, data types, operators, expressions, flow control, functions, classes, input and output operations, debugging, structured programming and object-oriented programming. *Prerequisites: CIS105 or permission of instructor. 3 credits 4 periods*

CIS162AC Visual C++: Level I

Beginning C programming. Includes features needed to construct programs, functions, pointers, input and output options, data types, structures, and unions, and disk file operations. *Prerequisites: CIS105, or permission of instructor. 4 credits 4 periods*

CIS162AD C#: Level I

Introduction to C# programming including general concepts, program design, development, data types, operators, expressions, flow control, functions, classes, input and output operations, debugging, structured programming and object-oriented programming. *Prerequisites: CIS105 or permission of instructor. 3 credits 4 periods*

CIS163AA Java Programming: Level I

Introduction to Java programming. Includes features needed to construct Java applets, Java applications, control structures, methods, arrays, character and string manipulation, graphics and object-oriented programming. *Prerequisites: CIS105 or permission of instructor. 3 credits 4 periods*

CIS164AD Oracle: Developer Forms II

An opportunity to broaden skills using Developer Forms. Complex concepts, such as programming function keys, timers and record groups. Using programmatic controls to manage the behavior and appearance of windows at runtime. Creating advanced multiple-form applications and managing multiple transactions across modules. *Prerequisites: CIS164AC or permission of instructor. 2 credits 3 periods*

CIS166 Web Scripting/Programming

Software development for Web sites, including client-side script and Common Gateway Interface (CGI) scripting. Covers Web-based transaction processing and use of databases in conjunction with the Web. Includes security issues. *Prerequisites: CIS133CA or CIS133DA or permission of instructor. 3 credits 4 periods*

CIS166AA Introduction to JavaScripting

Introduction to basic JavaScript programming concepts including syntax. Covers Hypertext Markup Language (HTML), programming logic and debugging, as well as forms manipulation and animation. *Prerequisites: CIS133CA or CIS133DA or permission of instructor. 3 credits 4 periods*

CIS166AB Web Scripting with Perl/CGI

Introduction to basic server-side programming using the Common Gateway Interface (CGI) with the Perl programming language. Covers basic form development programming logic, Structured Query Language (SQL) and the Perl Database Interface (DBI) and CGI modules. *Prerequisites: CIS133CA or CIS133DA or permission of instructor. 3 credits 4 periods*

CIS166AC Web Scripting with Active Server Pages (ASP).NET

Introduction to web scripting using Microsoft's ASP.Net (Active Server Pages). Web application development using Hypertext Markup Language (HTML), ASP.Net Web Forms, programming logic and Structured Query Language (SQL). *Prerequisites: ([CIS133CA or CIS133DA] and [CIS159 or CIS162AD]) or permission of instructor. 3 credits 4 periods*

CIS166AD Web Scripting with Java Server Pages (JSP)

Introduction to web scripting using JSP (Java Server Pages). Web application development using Hypertext Markup Language (HTML), JSP, programming logic, and Structured Query Language (SQL). *Prerequisites: (BPC/CIS133CA or BPC/CIS133DA) and CIS163AA or permission of instructor. 3 credits 4 periods*

CIS166AE Web Scripting with PHP: Hypertext Preprocessor (PHP)

Introduction to web scripting with PHP (PHP: Hypertext Preprocessor). Web application development using Hypertext Markup Language (HTML), PHP, programming logic and Structured Query Language (SQL). *Prerequisites: CIS133CA or CIS133DA or permission of instructor. 3 credits 4 periods*

CIS167AA C++ Object-Oriented Programming

Key object-oriented programming concepts in C++; hands-on experience developing C++ programs. Includes language constructs and extensions. *Prerequisites: Permission of instructor. 3 credits 4 periods*

CIS169 Introduction to Visual Basic for Applications

Introduction to Visual Basic for Applications (VBA) using Microsoft Office environments. Includes Dynamic Data structures, VBA class modules and error trapping and handling. Creation of customized office applications and network shares as well as multimedia techniques also covered. *Prerequisites: CIS159 or permission of instructor. 3 credits 4 periods*

CIS175CB Designing a Microsoft Windows 2000 Directory Services Infrastructure

Information and skills necessary to design a Microsoft Windows 2000 directory services infrastructure in an enterprise environment. Includes key decision points for naming, delegation of authority, domain design and site topology design. *Prerequisites: Departmental approval. 2 credits 3 periods*

CIS175CC Designing a Microsoft Windows 2000 Networking Services Infrastructure

Information and skills necessary to design a Microsoft Windows 2000 networking services infrastructure design. Includes network foundation design, Internet and private networks connectivity, in addition to functionality security and performance features of networking services. *Prerequisites: Departmental approval. 2 credits 3 periods*

CIS175CE Supporting a Microsoft Windows 2000 Network Infrastructure

Information and skills necessary to design a Microsoft Windows 2000 networking services infrastructure design. Includes network foundation design, Internet and private networks connectivity, in addition to functionality security and performance features of networking services. *Prerequisites: Departmental approval. 3 credits 4 periods*

CIS175CF Implementing and Administering Microsoft Windows 2000 Directory Services

Information and skills necessary to install, configure and administer Active Directory service. Also covers tasks required to implement group policy to centrally manage large numbers of users and computers. *Prerequisites: Departmental approval. 3 credits 4 periods*

CIS175CG Designing a Secure Microsoft Windows 2000 Network

Information and skills necessary to design a security framework for small, medium and enterprise networks using MS Windows 2000 technologies. Covers security risks and requirements, administrative access, user accounts, file resources and backup procedures. Securing access emphasized. *Prerequisites: None. 3 credits 4 periods*

CIS175DB Implementing Microsoft Windows 2000 Professional

Implementation of Microsoft (MS) 2000 Professional including MS 2000 Advanced Server. Covers installation, configuration and management of MS 2000 systems. User accounts, security policies, printing and mobile computing as well as disaster protection and recovery also included. *Prerequisites: CCT121. 3 credits 4 periods*

CIS190 Introduction to Local Area Networks

Overview of local area networks. Emphasis on the elements of a local area network, current issues and products, and use of a local area network. Includes terminology, hardware and software components, connectivity, resource monitoring and sharing, electronic mail and messaging, and security issues. *Prerequisites: CIS105, or permission of instructor. 3 credits 4 periods*

CIS191DL Microsoft Windows NT System Administration

Knowledge and skills required to administer or manage a Microsoft Windows NT local area network operating system. NT network management tasks. *Prerequisites: CIS105 or permission of instructor. 3 credits 4 periods*

CIS217AM Advanced Microsoft Access: Database Management

Advanced database concepts including database design, primary and secondary key selection, and relationships between tables. Queries, sub forms, macros, events, Visual Basic modules and Access Internet features also covered. *Prerequisites: (BPC/CIS117DM or BPC/CIS117CM). 3 credits 4 periods*

CIS220DC Flash: Advanced Animation and ActionScript

Advanced Flash programming, action scripting, tweening, advanced buttons and user input, movie clips, using dynamic sound and text, managing information flow, Object-Oriented Programming concepts in relation to Flash. *Prerequisites: BPC/CIS120DC or permission of instructor. 3 credits 4 periods*

CIS220DF Advanced Photoshop

Goes beyond the basic use of palettes, selections, layers, menus, and tool options, and focuses on using Photoshop software's advanced features to manipulate and correct digital and digitally produced images. *Prerequisites: (BPC/CIS120AF, BPC/CIS120BF and BPC/CIS120CF) or BPC/CIS120DF, or permission of instructor. 3 credits 4 periods*

CIS220DK Advanced Digital Video Production: Premiere

Includes an in-depth study of digital video editing using premiere, including preproduction, production and post production. Advanced techniques into a capstone project. Emphasis placed on enhanced workflow processes, integration of other applications into Premiere, multiple output formats, timesaving quick key setup and advanced production and editing tools. *Prerequisites: BPC/CIS120DK, or permission of instructor. 3 credits 4 periods*

CIS224 Project Management Microsoft Project for Windows

Introduction to project management concepts while working with MS Project to solve complex project management networks, including creating Gantt and PERT charts, tracking project progress, planning for restrictions and integrating MS Project with other software packages such as Excel, Word, PowerPoint, and cc Mail. *Prerequisites: None. 3 credits 4 periods*

CIS225 Business Systems Analysis and Design

Investigation, analysis, design, implementation and evaluation of business computer systems. *Prerequisites: Any programming language or permission of instructor. 3 credits 3 periods*

CIS225AB Object-Oriented Analysis and Design

Methodologies and notations for fundamental object-oriented analysis and design including use cases, objects, classes, stereotypes and relationships. Object-oriented iterative process for system development. A continuous application development exercise for applying the analysis and design concepts. *Prerequisites: Any program language or permission of instructor. 3 credits 3 periods*

CIS226AL Internet/Intranet Server Administration-Linux

Configuration and management of internet/intranet services, including the Apache web server, Simple Mail Transfer Protocol servers (SMTP), Structured Query Language (SQL server), File Transfer Protocol (FTP), Network Time Protocol (NTP), and other network services used in home and small business environments. Covers basic security configuration and testing. *Prerequisites: (CIS126 (any module) and BPC/CIS133DA), or permission of instructor. 3 credits 4 periods*

CIS230DA 3D Studio Max: Materials

Emphasis on creating and applying materials and textures to three-dimensional environments. Techniques for creating skins, surfaces, and shading types for objects, environments and characters will be explored. Original textures, both life-like and imaginary, will be created using 3D Studio Max and a 2D computer graphics software application. *Prerequisites: CIS130DA, or BPC/CIS120DF, or BPC/CIS120DG, or permission of instructor. 3 credits 4 periods*

CIS230DB 3D Studio Max: Lighting and Rendering

Emphasis on lighting and rendering for three-dimensional environments. Techniques for illuminating scenes and characters will be explored. Prepare scenes for rendering to video, film and real-time rendering using 3D Studio Max. *Prerequisites: CIS130DA or permission of instructor. 3 credits 4 periods*

CIS233AA Internet/Web Development Level II-A

Design and creation of pages on the Internet's World Wide Web using Hypertext Markup Language (HTML). Hands-on experience authoring HTML and preparing sophisticated web documents. *Prerequisites: BPC/CIS133BA or permission of instructor. 1 credit 2 periods*

CIS233AB Internet Web Publishing: FrontPage Level I

Introduction to designing and creating pages on the Internet's World Wide Web using FrontPage. Hands-on experience authoring Hypertext Markup Language (HTML) and preparing beginning web documents. *Prerequisites: BPC/CIS133BA or permission of instructor. 1 credit 2 periods*

CIS233AC Internet Web Development: Dreamweaver Level I

Design and development of websites using Dreamweaver. Hands-on experience designing, developing, testing, and publishing web documents that contain client-side web technologies. *Prerequisites: CIS133CA or CIS133DA or permission of instructor. 1 credit 2 periods*

CIS233BA Internet/Web Development Level II-B

Hands-on experience designing Web presentations using advanced markup languages, programming languages, scripts, and multimedia. *Prerequisites: CIS233AA or permission of instructor. 1 credit 1 period*

CIS233DA Internet/Web Development Level II

Design and create pages on the World Wide Web with a variety of markup languages, programming languages, scripts and multimedia. Hands-on experience authoring and preparing sophisticated web documents. Exploration of best practices/issues for web design and publishing and careers in web development and e-commerce. *Prerequisites: BPC/CIS133CA or BPC/CIS133DA or permission of instructor. 3 credits 4 periods*

CIS233DC Internet Web Development: Dreamweaver

Design and development of comprehensive and interactive websites using Dreamweaver. Hands-on experience designing, developing, testing, and publishing web documents that contain various client-side web technologies. *Prerequisites: CIS133CA, or CIS133DA, or permission of instructor. 3 credits 4 periods*

CIS234 XML Application Development

The use of Extensible Markup Language (XML) to make documents smarter, simplify Web automation and to communicate between databases, both within and between corporations. Includes techniques for XML generation, data extraction and sharing, and transformation and managing of XML files. *Prerequisites: CIS133CA or CIS133DA or permission of the instructor. 3 credits 4 periods*

CIS235 e-Commerce

Introduction to Electronic Commerce on the Internet. Designing an electronic storefront including web page content and development, e-commerce site marketing, advertisement, legal and security considerations, credit card and other debit transactions covered. Also includes current issues in e-commerce. *Prerequisites: CIS133CA or CIS133DA or permission of instructor. 3 credits 4 periods*

CIS238 Advanced UNIX System Administration
System administration tasks using one or more versions of UNIX. Topics include: installing the operation system, configuring peripherals, security, monitoring system performance, networking and troubleshooting. *Prerequisites: CIS126DA or permission of instructor. 3 credits 4 periods*

CIS238DL Linux System Administration
Managing Linux operating systems including sophisticated manipulation of file structures, backup systems, printing processes, troubleshooting, user account management, hard disk maintenance and configuration, process monitoring and prioritizing, kernel customization, and system resource control. Preparation for industry certifications such as the SAIR/GNU LCP and LCA certificates, CompTIA's Linux+, RHCT, RHCE, and LPIC. *Prerequisites: CIS126AL, CIS126BL and CIS126CL; or CIS126DL or permission of instructor. 3 credits 4 periods*

CIS238US UNIX Security
UNIX system administration and security management including directory structure, access control and authentication mechanisms, password management, system logs and monitoring, process accounting, configuring public services, restricted environments, the sudo command, SSH (Secure Shell), file system mount options, file integrity management, immutable/append-only files and system security levels, loadable kernel modules, rootkits, non-executable stacks, backups, common vulnerabilities and exposures, and firewall filtering. *Prerequisites: CIS238 or permission of instructor. 3 credits 4 periods*

CIS239DL Linux Shell Scripting
Linux Shell Scripting syntax and methods including the automation of system tasks as well as interpreted user-level programming. Course includes the Linux Borne Again Shell (BASH) as well as a variety of industry competitors. *Prerequisites: CIS238DL or permission of instructor. 3 credits 4 periods*

CIS240DL Linux Network Administration
In depth networking based on Linux servers and the Transmission Control Protocol/Internet Protocol (TCP/IP) protocol suite. Integrating Linux servers and workstations into a network environment with multi-platform network operating systems including a variety of open-standard and proprietary protocols. Preparation for industry certifications such as the SAIR/GNU LCP and LCA certificates, CompTIA's Linux+, RHCT, RHCE, and LPIC. *Prerequisites: CIS126AL, CIS126BL and CIS126CL, or CIS126DL or instructor approval. 3 credits 4 periods*

CIS243 Internet/Web Development Level III
Development of interactive websites with graphics, video, and sound using advanced web design techniques and tools. Design theory for maximizing web readership, interactive and multimedia elements, speed and accessibility optimization and intuitive user interfaces. *Prerequisites: CIS233DA or permission of instructor. 3 credits 4 periods*

CIS245 Novell NetWare Advanced System Administration
NetWare network management and monitoring skills. Topics related to server and client management and network performance. *Prerequisites: CIS191. 3 credits 4 periods*

CIS247DA Cyber Forensics and Incident Handling
Forensic and advanced incident handling techniques in a lab setting with hands-on skills in incident response, forensic preparation, Windows forensics, UNIX and Linux forensics, data recovery and analysis, malicious code analysis, law enforcement interaction and case law, corporate and managerial legal concerns and direction. Prepares students for GIAC Certified Forensic Analyst (GCFA) Certification and IACIS Certified Forensic Computer Examiner (CFCE) certification. *Prerequisites: CIS270. 3 credits 4 periods*

CIS247DB Advanced Cyber Forensics and Incident Handling
Advanced forensic and incident handling techniques in a lab setting with classroom instruction and hands-on skills in incident response, forensic preparation, evidence preservation and acquisition, examination protocol, introduction to automated forensic tools, law enforcement interaction and case law, and corporate and managerial legal concerns and direction. *Prerequisites: CIS247DA. 3 credits 4 periods*

CIS247DL Legal Issues of Information Assurance
Legal implications of organizational computing policies, interaction with legal counsel and law enforcement, evidence collection and preservation, risk management of liability, and loss of property and risk mitigation through insurance. *Prerequisites: CIS270 or permission of instructor. 3 credits 4 periods*

CIS250 Management of Information Systems
The study of business information systems and its management, communication, e-business strategies, emerging technologies, database concepts, and project management. Overview of systems analysis and design. Learn about the competitive and strategic uses of information systems and how they are transforming organizations and their management. *Prerequisites: CIS105. 3 credits 4 periods*

CIS251 Computer Game Development -Level II
Advanced object-oriented game development, advanced game design, and advanced game theory. Use of game development software tools to demonstrate advanced concepts for modeling real-time simulations and creating computer games using object oriented development tools. In-depth coverage of game programming (scripting) techniques, and decision logic using object oriented techniques. *Prerequisites: CIS151 or permission of instructor. 3 credits 4 periods*

CIS253 Computer Game Development: Level III

Advanced object-oriented game development, controlling and programming game and windows resources using the game development language. Modeling real-time simulations and game worlds using advanced programming techniques and artificial intelligence. Creation of network and Internet-based multi-player games using object-oriented techniques and packet-based communication protocols. *Prerequisites: CIS251 or permission of instructor. 3 credits 4 periods*

CIS259 Visual Basic Programming II

Use of the Visual Basic programming language to identify and solve advanced problems using suitable examples from business or other disciplines. *Prerequisites: CIS159 or permission of instructor. 3 credits 4 periods*

CIS262 C Programming II

Advanced level C programming. Programming with emphasis on data management, dynamic allocation, varied memory models, interfacing with the operating system, efficiency, and advanced debugging techniques. *Prerequisites: CIS162, or permission of instructor. 3 credits 4 periods*

CIS262AB C++: Level II

Advanced level C++ programming with emphasis on arrays, data management, dynamic memory allocation, object-oriented programming concepts, input/output operations, libraries and debugging techniques. Includes overview of other advanced applications of C++. *Prerequisites: Permission of instructor. 3 credits 4 periods*

CIS262AC Visual C++: Level II

Advanced-level C programming. Programming with emphasis on data management, dynamic allocation, varied memory models, interfacing with the operating system, efficiency, and advanced debugging techniques. *Prerequisites: CIS162AC, or permission of instructor. 3 credits 4 periods*

CIS262AD C# Level II

Advanced C# programming with emphasis on data structures, dynamic memory allocation, object-oriented programming, user interfaces, and database processing. Overview of web applications, network programming, and reporting tools. *Prerequisites: CIS162AD, or permission of instructor. 3 credits 4 periods*

CIS263AA Java Programming: Level II

Intermediate Java programming. Includes features needed to construct object-oriented programming, multithreading, multimedia, files, streams and data structure. *Prerequisites: CIS163AA or permission of instructor. 3 credits 4 periods*

CIS266 Network Service and Support

Troubleshooting, servicing and supporting computer networks. Hands-on experience in supporting, expanding, servicing, diagnosing and troubleshooting networked computers of multiple architectures and configurations. Use of diagnostic equipment, common troubleshooting procedures and documentation necessary to maintain networks. *Prerequisites: (CIS191 or CIS191DB or CIS191DC or CIS191DD) and CIS242, or permission of instructor. 4 credits 5 periods*

CIS270 Essentials of Network and Information Security

Threats to security of information systems; responsibilities and basic tools for information security, including communication security, infrastructure security, organizational security and basic cryptography. Introduction to the language of network security and hardware, software and firmware components of an information security system for local, metropolitan, enterprise and wide area networks. Helps prepare participants for the CompTIA Security+ exam and the GIAC Security Essentials Certificate (GSEC). *Prerequisites: CNT150, or (MST150 any module), or permission of instructor. 3 credits 4 periods*

CIS271DA Security Certified Professional (SCP)-Hardening the Infrastructure

Network security-related fundamentals, issues, and skills for systems administrators to implement network security. Includes network security basics, advanced Transmission Control Protocol/Internet Protocol (TCP/IP), IP packet structure and analysis, routing and access control lists, securing Windows computers, securing Linux computers, Internet security, and hacker attack techniques. *Prerequisites: (CNT150 and) or permission of instructor. 3 credits 4 periods*

CIS271DL Linux Security

Implementing in-depth security methods and techniques in a Linux-based network environment. Utilize programs, utilities and configuration techniques to provide user-level, file system, and network security. Gain knowledge in a variety of security cracking techniques and how to guard against them. In all aspects of security, the standard of practicing professional ethics seriously emphasized. Preparation for industry certifications such as the SAIR/GNU LCP and LCA certificates, CompTIA's Linux+, RHCT, RHCE, and LPIC. *Prerequisites: CIS240DL or permission of instructor. 3 credits 4 periods*

CIS272DA Security Certified Professional (SCP)-Network Defense and Countermeasures

Architecture of network defense and skills for system administrators to implement network defense. Includes network defense fundamentals, designing and configuring firewalls, configuring Virtual Private Networks (VPNs), designing and configuring an Intrusion Detection System (IDS), analyzing intrusion signatures, performing risk analysis, and creating a security policy. *Prerequisites: CIS271DA or permission of instructor. 3 credits 4 periods*

CIS273DA Information Audit and Risk Analysis

Knowledge, skills and abilities in basic risk analysis techniques to secure information and to conduct a technical audit of essential information systems. Prepares students for the GIAC Systems and Network Auditor certification. *Prerequisites: CIS272DA or permission of instructor. 3 credits 4 periods*

CIS273DB Digital Authentication and Public Key Infrastructure (PKI)

Knowledge and skills necessary to plan and implement PKI (Public Key Infrastructure) and Digital Authentication security methods and biometrics. Preparation for Security Certified.net certification examination Security Certified Network Architect (SCNA). *Prerequisites: CIS272DA or permission of instructor. 3 credits 4 periods*

CIS273DC Data Assurance and Disaster Recovery

Security and protection of data with emphasis on physical security of data servers and storage, disaster recovery plan and procedures, backup management and procedures, business continuity planning for unusual conditions, data confidentiality, integrity and assurance, data retention policy and procedures, data warehouse, data use authorization and authentication, securing data in the mobile environment, handling data in response to cyber crime, data risk identification and assessment, and user education in and awareness of data assurance. *Prerequisites: CIS270 or CNT185 or CIS271DA or permission of instructor. 3 credits 4 periods*

CIS276 Database Management Systems

Database design, implementation, evaluation, maintenance and management. *Prerequisites: CIS150 or permission of instructor. 3 credits 4 periods*

CIS276DA MySQL Database

A broad overview of the MySQL database. Includes Structured Query Language (SQL) instruction for data definition, data manipulation, and data retrieval. Develops knowledge and skills required to install MySQL, model and create new databases, manage users, authentication, and stored procedures, and develop backup/restore strategies. *Prerequisites: CIS105 or permission of instructor. 3 credits 4 periods*

CIS279DA Practical Applications in Information Assurance

Practical experience in applying core skills and knowledge in information assurance to real-world scenarios or simulations of information security vulnerabilities comparable to the Global Information Assurance Certifications (GIAC) simulation exercises. *Prerequisites: (CIS272DA, CIS247DA, CIS273DA and CIS273DC), or permission of instructor. 4 credits 5 periods*

CIS279DC Moot Court and Practical Applications in Cyber Forensics

Practical experience in applying cyber-forensic tools and techniques through simulated initial response, victim/witness interviews, search and seizure execution, evidence handling and logging, secure data duplication and analyses, report writing, final case preparation and presentation. Includes standard operating procedures, handling of at-risk media, and cyber-crime terminology. *Prerequisites: CIS247DA and CIS247DB. 4 credits 5 periods*

CIS280 Current Topics in Computing

Critical inquiry of current topics in computing. Application of industry trends to solve problems and/or investigate issues. *Prerequisites: None. 3 credits 4 periods*

CIS282AA-AC Volunteerism for Computer Information Systems: A Service-Learning Experience

Service-learning field experience within private/public agencies, educational institutions and citizen volunteer groups. May be repeated for a total of six (6) CIS282 credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

CIS290AA Computer Information Systems Internship

Work experience in business or industry. *Prerequisites: Permission of instructor. 1 credit 6 periods*

CIS290AC Computer Information Systems Internship

Work experience in business or industry. *Prerequisites: Permission of instructor. 3 credits 18 periods*

CIS291 Business Video Projects

Creation of digital videos to meet the needs of businesses including marketing videos, training videos and/or product demonstration videos. Cross platform technical tools will be utilized. Business concepts such as the analysis of the audience and purpose will be included. Other business concepts include planning and budgeting, output considerations, project documentation, meeting deadlines, production efficiencies and producing to client's specifications. Include is collaborative work/college experience that involves the combined efforts of educators and employers to accomplish an outcome related to the career objectives of the students. *Prerequisites: BPC/CIS120DK or permission of instructor. 3 credits 4 periods*

CIS298AC Special Projects

Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. *Prerequisites: Permission of Program Director or instructor. 3 credits 3 periods*

CNS-Construction

CNS101 Construction and Culture

The cultural context of construction, emphasizing the evolution and expansion of constructed environments as expressions of ethical and historical value systems. *Prerequisites: None. 3 credits 3 periods*

CNS130 Computer Aided Design & Drafting

Fundamental drafting and documentation topics and techniques related to construction, using both board and computer as tools. Concentration on various methods of two-dimensional and three-dimensional drawing, sketching, scaling and dimensioning with computer and board. *Prerequisites: None. 3 credits 6 periods*

CNS175 Working Drawing Analysis: Blueprint Reading

Detailed analysis and interpretation of construction drawings (blueprint reading); interpretation of symbols, annotations, conventions, terms of trade; understanding of drawing, dimensioning, plan organization and specifications. *Prerequisites: None. 3 credits 3 periods*

CNS180 Building Construction Methods, Materials and Equipment

Comprehensive study of construction methods, materials, codes and equipment used in building construction. *Prerequisites: None. 3 credits 3 periods*

CNS181 Cost Estimating I

Determining quantities of material, equipment and labor for a construction project. Includes procedures used to apply unit costs to these items in a minimum of time. Occupational Safety and Health Administration Safety Standards and their impact on construction cost. *Prerequisites: None. 3 credits 3 periods*

CNS182 Construction Estimating and Print Reading

Analysis and interpretation of construction drawings (blueprint reading); interpretation of symbols, annotations, conventions, and terms of trade. Emphasizes learning quantities of material, equipment, and labor for a construction project. Includes a focus on procedures used to apply timely unit costs. Covers Occupational Safety and Health Administration Safety Standards (OSHA) and their impact on construction cost. *Prerequisites: None. 4 credits 4 periods*

CNS200 Construction Management: Field Operation

Procedures and methods used by construction contractors to manage field operation during various phases of a project. Includes project team, job scheduling, personnel relations, use of the construction documentation on site, inspection techniques, safety issues, scope and supervision of the overall construction process. *Prerequisites: CNS175 and CNS181, or permission of department. 3 credits 3 periods*

CNS201 Construction Management: Office Operation

Skills and techniques required to manage construction office operations. Includes establishing and financing the business, marketing, office operations and maintaining relationships with other construction industry entities through a systematic planning approach. *Prerequisites: (CNS130 and CNS175 and CNS181), or permission of department. 3 credits 3 periods*

CNS221 Applied Engineering Mechanics - Statics

Emphasizes applied treatment of the basic physical principles of statics. Focuses on application of vectors, forces and moments, force systems, and equilibrium. Analysis of basic structures and structural components, moment of inertia, friction, and centroids. *Prerequisites: MAT221. 3 credits 3 periods*

CNS230 Computer Aided Design & Drafting (CADD) 3D for Construction & Architecture (CADD II)

Design, construction and annotation of three-dimensional objects for construction and architecture industries using AutoCAD software. *Prerequisites: CNS130 or permission of department. 3 credits 6 periods*

CNS240 Advanced Computer Aided Design & Drafting (CADD) for Construction & Architecture (CADD III)

Use of advanced AutoCAD two- and three-dimensional commands along with various customization codes and techniques specific to architecture and construction industries. *Prerequisites: CNS230 or permission of department. 3 credits 6 periods*

CNS243 Heavy Construction Equipment, Methods, and Materials

Fundamentals of machine selection and production estimating, using computer-generated data to develop programs that speed the decision process or allow easy analysis of multiple options used in the heavy construction industry. Applications of engineering principles in analyzing economical approaches for heavy construction. Covers fleet operation, methods, maintenance, and programs for construction of dams, tunnels, roads, and excavations of buildings. *Prerequisites: None. 3 credits 3 periods*

CNS250 Civil Drafting I: Land Development

Application of civil drafting software (Land Development) for civil drafting and surveying. Use of coordinating geometry and survey point databases to create topographical maps. Interpreting and delineating topographical data and maps for site and route work. Applying the basics of coordinate geometry (COGO) to surveying language. *Prerequisites: CNS130 or permission of department. 3 credits 6 periods*

CNS251 Civil Drafting II: Land Development

Advanced knowledge and skill in using civil drafting software (Land Development) in right-of-way improvement. Use of base maps in utility and street improvement; use of street improvements in creation of maps and profiles; use of map and profiles in utility improvements. *Prerequisites: CNS250 or permission of department. 3 credits 6 periods*

CNS252 Civil Drafting III: Land Development

Use of civil drafting software (Land Development) for site development. Includes use of engineering and surveying software in analysis and computation of earthwork and creation of site drawings. *Prerequisites: CNS251 or permission of department. 3 credits 6 periods*

CNS260 Strength of Materials
Strength and application of materials of construction, including mechanics of beams, shafts, and bolted and welded connections under various loading conditions. Construction behavior of various materials externally and internally. *Prerequisites: (MAT151 and MAT182) or MAT187, or equivalent or departmental approval. 3 credits 3 periods*

CNS261 Microcomputers for Constructors
Effective application of computers in support of construction management, administration, and technical aspects of the construction industry. Uses of the computer as a problem-solving tool, including multimedia software, information management, and spreadsheet applications in construction. *Prerequisites: None. 3 credits 3 periods*

CNS263 Electrical Construction Fundamentals
General knowledge of electrical work related to construction management, administration, and technical aspects of the construction industry. Covers circuits and machinery, power transmission, and electrical distribution with emphasis on secondary distribution systems as well as measurement and instrumentation, Ohm's Law, low voltage, high voltage, temporary power, generators, service, systems, circuits, motors, transformers, electrical installations, codes, cogeneration, energy conservation, estimating, safety and related blueprint readings. *Prerequisites: None. 3 credits 3 periods*

CNS271 Home Inspection: Structure
Home inspection practices for foundation, footings, roof and framework, including floor, wall and ceiling. Covers structural considerations and reporting practices. *Prerequisites: (BLT262 and CNS175), or permission of department. 3 credits 3 periods*

CNS272 Home Inspection: Plumbing, Electrical & HVAC
Home inspection practices for plumbing, electrical, heating, cooling and air conditioning, and defects of exposed parts of these systems in a house structure. Includes components of systems and reporting practices. *Prerequisites: (BLT262 and CNS175), or permission of department. 3 credits 3 periods*

CNS273 Home Inspection: Insulation and Interiors
Home inspection practices for insulation and interiors, including walls, ceilings, floors, windows and doors, and their possible defects. Covers reporting practices. *Prerequisites: (BLT262 and CNS175), or permission of department. 3 credits 3 periods*

CNS274 Home Inspection: Roofing and Exteriors
Home inspection practices for roofing and exteriors of a house and their defects. Covers reporting practices. *Prerequisites: (BLT262 and CNS175), or permission of department. 3 credits 3 periods*

CNS282AA-AC Volunteerism for Construction: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. *Prerequisites: Permission of department. Course Notes: May not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in college catalog. 1-3 credits 1-3 periods*

CNS285 Introduction to Residential Plan Review
Application of international model code (building, mechanical, plumbing and electrical) to contract documents for one- and two-family dwelling residential construction. *Prerequisites: (BLT262 and CNS175) or permission of department. 3 credits 3 periods*

CNS286 Introduction to Commercial Plan Review
Application of international model codes (building, mechanical, plumbing and electrical) to contract documents for commercial construction. *Prerequisites: (BLT263 and CNS175) or permission of department. 3 credits 3 periods*

CNS290AA-AC Construction Internship
Construction internship office/field experience with private/public agencies or citizen volunteer groups. *Prerequisites: CNS282 or permission of department. Course Notes: May not repeat specific assignment for more than (3) credit hours. Standard grading available according to procedures outlined in college catalog. 1-3 credits 5-15 periods*

CNS296WA-WD Cooperative Education
Work-college experiences that involve the combined efforts of educators and employers to accomplish an outcome related to the career objectives of the students. *Prerequisites: Completion of at least twelve (12) college credits, minimum 2.6 grade point average, and ability to obtain a position related to student's academic or career goals (student's present job may qualify); or permission of instructor. Corequisites: Must be concurrently enrolled in at least one class which is related to student's major or career interest or with permission of instructor. 1-4 credits 5-20 periods*

CNS298AA-AC Special Project
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. *Prerequisites: Permission of Program Director or instructor. 1-3 credits 1-3 periods*

CNT-Cisco Network Technology

CNT120 Adobe Web Design

Development of knowledge and skills required to design web pages and their elements using a variety of Adobe applications including GoLive, Premiere, Photoshop, Illustrator and Live Motion. Design theory relevant to maximizing web readership including interactive and multimedia elements, speed and accessibility optimization, and intuitive user interfaces. *Prerequisites: CIS105 or permission of instructor. CIS150 recommended. 3 credits 4 periods*

CNT140 Cisco Networking Basics

Introduction to the computer networking field. Covers network terminology and protocols, local area networks (LAN), and wide area networks (WAN). Includes Open Systems Interconnection (OSI) models, cabling and cabling tools, routers, router programming, Ethernet, Internet Protocol (IP) addressing, and network standards. Preparation for the Cisco Certified Network Associate examination. *Prerequisites: None. 4 credits 6 periods*

CNT140AA Cisco Networking Fundamentals

Introduction to the computer networking field. Covers network terminology and protocols, communication fundamentals in Data networks and the Internet. Includes study of the Open Systems Interconnection (OSI) models, using a top down approach, cabling and cabling tools, basic Cisco routers, configuration, Ethernet technologies, Internet Protocol (IP) addressing, and overview of Internet Protocol version 6 (IPv6), basic configuring and testing of the network, and network standards. Preparation for the Cisco Certified Network Associate (CCNA) examination. *Prerequisites: None. 4 credits 6 periods*

CNT145 Voice and Data Cabling

Development of knowledge and skills related to the physical aspects of voice and data network cabling and installation. Emphasis of the cabling industry and its worldwide standards, types of media and cabling, physical and logical networks, and signal transmission. Hands-on experience and skills to read network design documentation, part list set up and purchase, pulling and mounting cable, cable management, choosing wiring closets and patch panel installation and termination as well as installing jacks and cable testing. Use of diagnostic equipment, troubleshooting procedures, and documentation processes. Preparation for Building Industry Consulting Services International (BICSI) Registered Certified Installer, Level 1 exam. *Prerequisites: CNT140 or permission of instructor. 4 credits 5 periods*

CNT150 Cisco Networking Router Technologies

Knowledge of skills to install, configure, customize, maintain and troubleshoot Cisco routers and components. Preparation for Cisco certification examination. *Prerequisites: CNT140 or permission of instructor. 4 credits 6 periods*

CNT150AA Cisco Routing Protocols and Concepts

Knowledge of skills to install, configure, customize, maintain and troubleshoot Cisco routers utilizing Advanced Internet Protocol (IP) addressing techniques, Variable Length Subnet Masking (VLSM), distance vectored and Link State dynamic routing protocols, Routing Internet Protocol version 1 (RIPv1) and version 2 (RIPv2), Enhanced Interior Gateway Routing Protocol (EIGRP), Single-area Open Shortest Path First (OSPF), and understanding the structure and behavior of routing tables. Preparation for Cisco certification examination. *Prerequisites: CNT140 or permission of instructor. 4 credits 6 periods*

CNT160 Cisco Switching Basics and Intermediate Routing

Advanced Internet Protocol (IP) addressing techniques, Variable Length Subnet Masking (VLSM), Intermediate routing protocols, Routing Internet Protocol version 2 (RIPv2), Single-area Open Shortest Path First (OSPF), and Enhanced Interior Gateway Routing Protocol (EIGRP), Command Line Interface configuration of switches, Ethernet switching, Virtual Local Area Networks (VLANS), Spanning Tree Protocol (STP) and Virtual local-area Network Trunking Protocol (VTP). Preparation for Cisco Certified Network Associate certification examination. *Prerequisites: CNT150 or permission of instructor. 3 credits 4 periods*

CNT160AA Cisco Local Area Networking (LAN) Switching and Wireless

Comprehensive, theoretical, and practical approach to learning the technologies and protocols needed to design and implement a converged switched network. Learn about the hierarchical network design model and how to select devices for each layer. Configure a switch for basic functionality and implement Virtual Local Area Networks (VLAN), VLAN Trunking Protocol (VTP), and Inter-VLAN routing in a converged network. Implementation of Spanning Tree Protocol (STP) in a converged network and a Wireless LAN (WLAN) in a small to medium network. Comprehensive hands-on labs. Preparation for Cisco certification examination. *Prerequisites: CNT140AA or permission of instructor. 4 credits 6 periods*

CNT170 Cisco Wide Area Networks (WAN) Technologies

Advanced Internet Protocol (IP) addressing techniques including Network Address Translation (NAT), Port Address Translation (PAT) and Dynamic Host Control Protocol (DHCP). Also covers Wide Area Network (WAN) technology and terminology, Point-to-Point Protocol (PPP), Integrated Services Digital Network (ISDN), Dial on Demand Routing (DDR), Frame Relay, and network management. Preparation for Cisco Certified Network Associate certification examination. *Prerequisites: CNT160 or permission of instructor. 3 credits 4 periods*

CNT170AA Cisco Accessing the Wide-Area Network (WAN)

Wide-Area Network (WAN) technologies and network services required by converged applications in Enterprise Networks. Cisco Enterprise Composite model (ECM) to introduce integrated network services and selection of appropriate devices and technologies to meet ECM requirements. Implement and configure common data link protocols and apply WAN security concepts, principles of traffic management, access control and addressing services. Detect, troubleshoot, and correct common enterprise network implementation issues. Includes comprehensive hands-on labs. Preparation for Cisco certification examination. *Prerequisites: (CNT140AA, CNT150AA, and CNT160AA), or permission of instructor. 4 credits 6 periods*

CNT181 Cisco Securing IOS Networks

Applications of Cisco Networking technologies in designing and implementing security solutions to reduce risk of revenue loss and vulnerability. Hands-on experience and skills in security policy design and management, security technologies, products and solutions, secure router installation, configuration, and maintenance, AAA (Authentication, Authorization, and Accounting), and VPN (Virtual Private Network) implementation using routers. Preparation for the Securing Cisco IOS Networks (SECUR) exam, which applies toward the Cisco Certified Security Professional (CCSP), Virtual Private Network (VPN) Specialist, Intrusion Detection System (IDS) Specialist and the Firewall Specialist certifications. *Prerequisites: CNT170 or permission of instructor. 4 credits 5 periods*

CNT182 Cisco Secure PIX Firewall Configuration

Applications of Cisco Networking technologies in designing and implementing security solutions to reduce risk of revenue loss and vulnerability. Hands-on experience and skills in security policy design and management, security technologies, products and solutions, secure firewall design, installation, configuration and maintenance, AAA (Authentication, Authorization, and Accounting) and VPN (Virtual Private Network) implementation using firewalls. Preparation for the CSPFA (Cisco Secure PIX Firewall Advanced) exam, which applies toward the CCSP (Cisco Certified Security Professional) and the Cisco Firewall Specialist certifications. *Prerequisites: CNT170 or permission of instructor. 3 credits 4 periods*

CNT185 Cisco Network Security

Applications of Cisco Networking technologies in designing and implementing security solutions to reduce risk of revenue loss and vulnerability. Hands-on experience and skills in security policy design and management, security technologies, products and solutions, firewall and secure router design, installation, configuration and maintenance, AAA (Authentication, Authorization, and Accounting) and VPN (Virtual Private Network) implementation using firewalls and routers. Preparation for the MCNS (Managing Cisco Network Security) and CSPFA (Cisco Secure PIX Firewall Advanced) exams toward certification as a Cisco Firewall Specialist. Exams also apply to CCSP (Cisco Certified Security Professional) certification. *Prerequisites: CNT170, or permission of instructor. 4 credits 5 periods*

CNT186 Fundamentals of Wireless LANs

Design, planning, implementation, operation, and troubleshooting of wireless networks. Overview of technologies, security, and design best practices with emphasis on hands-on skills in wireless LAN (Local Area Network) setup and troubleshooting, 802.11a & 802.11b technologies, products and solutions, site surveys, resilient WLAN design, installation and configuration, WLAN Security - 802.1x, EAP (Extensible Authentication Protocol), LEAP (Light Extensible Authentication Protocol), WEP (Wired Equivalent Privacy), SSID (Service Set Identifier), and vendor interoperability strategies. Prepare students to earn Cisco Wireless LAN Support Specialist designation and to take the Certified Wireless Network Administrator (CWNA) exam. *Prerequisites: CNT170, or permission of instructor. 4 credits 5 periods*

CNT200 CCNP: Building Scalable Cisco Internetworks (BSCI)

Development of knowledge and skills needed to manage Internet Protocol (IP) traffic and access, understand scalable internetworks and Quality of Service (QoS), configure advanced routing protocols (Border Gateway Protocol [BGP], Intermediate System to Intermediate System [IS-IS], Enhanced Interior Gateway Routing Protocol [EIGRP], Open Shortest Path First [OSPF]), as well as multicast routing. Internet Protocol (IPv6), and perform advanced IP addressing Dynamic Host configuration Protocol (SHCP). Preparation for Cisco Certified Network Professional (CCNP) exam. *Prerequisites: CNT170 or CCNA industry certification, or permission of instructor. Corequisites: CNT210 and CNT220. 4 credits 6 periods*

CNT210 Cisco CCNP II: Implementing Secure Converged Wide Area Networks

Development of knowledge and skills in implementing secure enterprise-class network service for teleworkers and branch sites. Secure and expand the reach of an enterprise network with focus on VPN configuration and securing network access. Preparation for Cisco Certified Network Professional (CCNP) exam. *Prerequisites: CNT170, or CCNA industry certification, or permission of instructor. Corequisites: CNT200 and CNT220. 4 credits 6 periods*

CNT220 Cisco CCNP: Building Mulitlayer Switched Networks

Development of knowledge and skills in building campus networks using advanced and multi-layer switching technologies. Preparation for Cisco Certified Network Professional (CCNP) exam. *Prerequisites: CNT170 or CCNA industry certification, or permission of instructor. Corequisites: CNT200 and CNT210. 4 credits 6 periods*

CNT230 Cisco CCNP IV: Optimizing Converged Networks

Introduction to optimizing and providing effective Quality of Service (QoS) techniques in converged networks operating voice, wireless and security applications. Topics include implementing a Voice over Internet Protocol (VoIP) network, implementing QoS on converged networks, specific Internet Protocol (IP) QoS mechanisms for implementing the DiffServ QoS model, AutoQ0S, wireless security and basic wireless management. Preparation for Cisco Certified Network Professional (CCNP) exam. *Prerequisites: CNT170 or CNT170AA or CCNA industry certification or permission of instructor. CNT200, CNT210 and CNT220 suggested but not required. 4 credits 6 periods*

CNT240 Cisco Voice over IP

Introduction to packet telephony for both Enterprise and Service Provider networks. Covers Packet Voice Technologies, Configuring Voice Interfaces, Voice Dial Peers, VoIP Signaling and Call Control. Includes data and voice integration solutions at the network-access level. *Prerequisites: CNT170 or permission of instructor. 4 credits 5 periods*

COM-Communication

COM100 Introduction to Human Communication

Theory and practice of communication in public, small group and interpersonal settings. Includes study of the speech communication process. *Prerequisites: None. 3 credits 3 periods*

COM110 Interpersonal Communication

Theory and practice of communication skills which affect day-to-day interactions with other persons. Topics may include using verbal and nonverbal symbols, interactive listening, resolving interpersonal conflict, and developing and maintaining personal and professional relationships. *Prerequisites: None. 3 credits 3 periods*

COM120 Pronunciation of American Speech

Analysis of American speech production problems due to accents produced by another language, correction of misarticulated American speech sounds, critical listening to sound production, understanding American English speech patterns, practicing American idioms and expressions, and preparing and delivering group and individual speech presentations. *Prerequisites: None. 3 credits 3 periods*

COM207 Introduction to Communication Inquiry

Overview of theory and methodological practice in communication with particular attention to scholarly writing skills. Emphasis on development of critical thinking skills through active participation in the research process. *Prerequisites: ENG101, or ENG107, or equivalent, and COM100 or equivalent, or permission of instructor. 3 credits 3 periods*

COM225 Public Speaking

Designed to enhance the student's ability to present public speeches confidently and competently. Also designed to improve information literacy and critical thinking skills. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

COM230 Small Group Communication

Principles and processes of small groups and development of skills for participation and leadership in small group settings. Practice in problem solving, decision making and information sharing. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

COM250 Introduction to Organizational Communication

Introduction to the study of communication in organizations including identification of variables, roles and patterns influencing communication in organizations. *Prerequisites: None. 3 credits 3 periods*

COM259 Communication in Business and Professions

Interpersonal, group and public communication in business and professional organizations. Emphasis on oral communication. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

COM263 Elements of Intercultural Communication

Basic concepts, principles and skills for improving oral communication between persons from different minority, racial, ethnic and cultural backgrounds. *Prerequisites: None. 3 credits 3 periods*

COM271 Voice and Diction

Exercises and techniques to free the voice and improve projection, resonance and articulation. Covers international phonetic alphabet and standard stage speech. *Prerequisites: None. 3 credits 3 periods*

COM281 Communication Activities

Designed to provide students with competence and confidence in a variety of speech situations beyond the classroom setting. May include presentations to service organizations and/or competition at other colleges and universities. *Prerequisites: None. 1 credit 3 periods*

COM282AA-AC Volunteerism for Speech Communication: A Service-Learning Experience

Service-learning field experience within private/public agencies, educational institutions and citizen volunteer groups. May be repeated for a total of four (4) COM282 credit hours; may not repeat specific agency assignment for more than two (2) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

CPD-Counseling and Personal Development

CPD102AB Career Exploration

Designed to assist students in making career choices. Focus on self-assessment in terms of educational and career opportunities and reasonable possibilities in the world of work. Includes assessment for personal/career interests, values, needs, attitudes, skills and other potential, and exploration of occupational information to establish career and educational goals. *Prerequisites: None. 2 credits 2 periods*

CPD102AD Eliminating Self-Defeating Behavior

Designed to help students change behaviors that work against their potential, e.g., inferior feelings, shyness, nervousness, stage fright, underachievement, etc. Focus on identifying undesirable thoughts, emotions and behavior for the purpose of developing alternative and more desirable thoughts, emotions and behaviors. *Prerequisites: None. 2 credits 2 periods*

CPD102AH Stress Management

Reviews the sources of stress, the physiological effects and the psychological impact of stress on the individual. Provides strategies to reduce stress. *Prerequisites: None. 2 credits 2 periods*

CPD103BA Women in Transition

Designed to assist and support women who are experiencing life transitions. Emphasis on assessing self-potential, increasing self-confidence, managing life change and exploring education/career/life options in terms of the realities of roles for women today. *Prerequisites: None. 2 credits 2 periods*

CPD103BB Men in Transition

Designed to assist men who are experiencing life transitions. Emphasis on assessing potential, increasing self-confidence, managing change, exploring educational/career options and exploring men's roles in a changing society. *Prerequisites: None. 2 credits 2 periods*

CPD103BL Dynamics of Leadership

Designed to provide strategies that may be used when assuming leadership roles. Focus on improving supervisory confidence through the development of appropriate competitive behaviors, problem-solving skills and techniques of leadership. *Prerequisites: None. 2 credits 2 periods*

CPD150 Strategies for College Success

Focus on increasing student success through college orientation and personal growth, study skills development, and educational and career planning. *Prerequisites: None. 3 credits 3 periods*

CPD160 Introduction to Multiculturalism

Examination of the multiple cultures and subcultures within the contemporary United States. Personal exploration of awareness and appreciation of multiculturalism. Activities for experiencing diverse cultural perspectives. Skills for recognizing, analyzing and mediating cultural and psychological factors impacting conflict and accord between diverse cultures. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog. *Prerequisites: None. 3 credits 3 periods*

CPD282AA-AC Volunteerism for Counseling and Personal Development: A Service-Learning Experience

Service-learning field experience within private/public agencies and citizen volunteer groups. May be repeated for a total of six (6) CPD282 credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

CRE-Critical Reading

CRE101 Critical and Evaluative Reading I

Emphasis on applying critical inquiry skills to varied and challenging reading materials. Includes analysis, synthesis and evaluation through written discourse. *Prerequisites: ENG101 and (reading placement test score of 41 or higher (ASSET), or grade of "C" or better in RDG091, or permission of instructor). 3 credits 3 periods*

CRE111 Critical Reading for Business and Industry

Emphasis on reading skills required for success in business and technology. Includes interpretation of technical and professional materials with an emphasis on critical analysis and reading. *Prerequisites: Reading ASSET test score, or grade of "C" or better in RDG091, or permission of instructor. 3 credits 3 periods*

CRW-Creative Writing

CRW160 Introduction to Writing Poetry

Prewriting (invention and discovery); writing; analyzing and evaluating (in workshop); revising to practice manipulating various elements of poetry, critique one's own and the poetry of others and produce a portfolio of finished, marketable poems. *Prerequisites: None. CRW150 recommended but not required. 3 credits 3 periods*

CRW170 Introduction to Writing Fiction
Practice in writing fiction through a process of prewriting (invention and discovery), writing, analysis and evaluation (in workshop), and revision; practice in manipulating various elements and forms of fiction; production of marketable quality short fiction. *Prerequisites: None. CRW150 recommended but not required. 3 credits 3 periods*

CSC-Computer Science

CSC100 Introduction to Computer Science for Non-Computer Majors
Concepts of problem solving, structured programming in C++, fundamental algorithms and techniques, and computer system concepts. Social and ethical responsibilities. Intended for majors other than computer science. *Prerequisites: MAT120, or MAT121, or MAT122. 3 credits 3 periods*

CSC100AB Introduction to Computer Science (C++)
Concepts of problem solving, structured programming in C++, fundamental algorithms and techniques, and computer system concepts. Social and ethical responsibilities. Intended for majors other than computer science. *Prerequisites: MAT120, or MAT121, or MAT122. 4 credits 4 periods*

CSC110 Introduction to Computer Science for Majors
Concepts of problem solving, structured and object-oriented programming in Java, fundamental algorithms and techniques, and computer system concepts. Social and ethical responsibilities. Intended for computer science and computer systems engineering majors. *Prerequisites: MAT120, or MAT121, or MAT122. 3 credits 3 periods*

CSC110AB Introduction to Computer Science (Java)
Concepts of problem solving, structured and object-oriented programming in Java, fundamental algorithms and techniques, and computer system concepts. Social and ethical responsibilities. Intended for computer science and computer systems engineering majors. *Prerequisites: MAT120, or MAT121, or MAT122. 4 credits 4 periods*

CSC120 Digital Design Fundamentals
Number systems, conversion methods, binary and complement arithmetic, Boolean switching algebra and circuit minimization techniques. Analysis and design of combinational logic, flip-flops, simple counters, registers, ROMs, PLDs, synchronous and asynchronous sequential circuits, and state reduction techniques. Building physical circuits. *Prerequisites: CSC100, or CSC110, or ECE181, or ELT181, or NET181, or equivalent, or permission of instructor. 4 credits 6 periods*

CSC181 Applied Problem Solving with Visual BASIC
Introduction to systematic definition of problems, solution formulation and testing. Visual BASIC programming language applied to problems in mathematics, science and business. *Prerequisites: MAT120, or MAT122, or permission of instructor. 3 credits 3 periods*

CSC200 Principles of Computer Science (Java)
Introduction to computer science. Issues and concepts throughout the field including software development, data organization, machine architecture, algorithmic machines and ethics in computing. Programming in Java. *Prerequisites: CSC110, or (CSC100 or equivalent) and permission of instructor. 3 credits 3 periods*

CSC281 Advanced Programming in Visual Basic
Graphical user interfaces are generated for advanced programming applications using Visual Basic. Event-driven programs, programming mouse interactions, interactive computer graphics, file processing and how to distribute application programs. *Prerequisites: CSC100, or CSC102, or CSC181, or equivalent programming knowledge, or permission of instructor. 3 credits 4 periods*

CTT-Caterpillar Technician Training

CTT110 Introduction to Caterpillar Service Industry
Introduction to the Caterpillar organization and product line, basic shop safety and shop operation. Includes computer operations and service information systems. *Prerequisites: None. 3 credits 5 periods*

CTT111 Caterpillar Engine Fundamentals
Introduction to diesel engine theory and service procedures. Focuses on Caterpillar engine systems and applications. *Prerequisites: None. 4 credits 8 periods*

CTT112 Hydraulic Fundamentals
Hydraulic fundamentals, including functions of valves used in Caterpillar hydraulic systems, functions of vane pumps, gear pumps and piston pumps, and assembly and disassembly of hydraulic components. Includes ISO hydraulic symbols. *Prerequisites: None. 3 credits 5 periods*

CTT113 Fuel Systems
Introduction to fuel systems used in Caterpillar engines. Covers fuel selection, calibrations and nozzle testing procedures, governor operation and hydraulic fuel ratio controls. Includes 1.1 and 1.2 MUI and HEUI, EUI, Nippondenso and Zexel fuel systems. *Prerequisites: None. 3 credits 5 periods*

CTT114 Basic Electrical Fundamentals
Basic electrical and electronic principles used by the technician to diagnose and repair electrical systems in Caterpillar machines. *Prerequisites: None. 3 credits 5 periods*

CTT115 Air Conditioning Fundamentals
Introduction to principles, systems, components and servicing of air conditioning systems used in Caterpillar products. *Prerequisites: None. 3 credits 5 periods*

CTT116 Power Train I
Basic components and operations of power train systems used in Caterpillar machines. Covers basic components, clutches, manual shift transmissions and power shift transmissions. *Prerequisites: None. 3 credits 5 periods*

CTT117 Machine Hydraulic Systems
Operation, testing, and adjustment procedures for pilot operated hydraulic systems, load sensing pressure compensated (LSPC) hydraulic systems, electro-hydraulic systems, and hydrostatic systems. Components of hydraulic systems and oil flow through the system. *Prerequisites: CTT112. 3 credits 5 periods*

CTT118 Caterpillar Dealer Internship I
Application of skills and knowledge gained in CTT coursework in an internship in a dealership environment. Develops professional skills required of a Caterpillar service technician. Provides experience in tool usage, shop safety, connective devices, computers and service information systems, air intake and exhaust systems, lubrication systems, cooling systems, fuel systems, engines and electrical systems. Requires intern to complete a list of learning objectives, keep a logbook, and be evaluated by dealership supervisor and internship coordinator. *Prerequisites: Departmental approval. 3 credits 3 periods*

CTT119 Caterpillar Dealer Internship II
Application of skills and knowledge gained in CTT coursework in an internship in a dealership environment. Develops professional skills required of a Caterpillar service technician. Provides experience in hydraulics, pumps, valves, cylinders, and pilot-operated implement system. Requires intern to complete a list of learning objectives, keep a logbook, and be evaluated by dealership supervisor and internship coordinator. *Prerequisites: CTT118. 3 credits 3 periods*

CTT200 Power Train II
Methods of transferring power. Hydraulic-driven machines and mechanical power train components, including differentials, brakes, final drives and undercarriage. *Prerequisites: CTT112 and CTT116. 3 credits 5 periods*

CTT201 Machine Electronics
Introduction to machine electronic systems and diagnostic tooling used to diagnose and repair the complex electrical/electronic systems installed in Caterpillar machines. *Prerequisites: None. 3 credits 5 periods*

CTT202 Engine Diagnostics and Repair
In-depth study of engine diagnostics and repair techniques used to troubleshoot and repair engine problems in Caterpillar machines. Selection and use of Caterpillar diagnostic tools. Covers oil, air, cooling and fuel systems. *Prerequisites: CTT113. 3 credits 5 periods*

CTT203 Machine Diagnostics
Failure analysis, troubleshooting logic, and diagnostic tooling and processes used to diagnose and repair the complex systems installed in Caterpillar machines. Use of Caterpillar's Applied Failure Analysis. Introduction to Service Technician Workbench (STW) applications. *Prerequisites: None. 3 credits 5 periods*

CTT204 Machine Specific Systems
Introduction to machine-specific systems. Machines covered include compact construction equipment, agricultural combines and challengers, 325B Excavator, off-highway trucks, wheel tractor scrapers and motor graders. *Prerequisites: None. 3 credits 5 periods*

CTT205 Caterpillar Dealer Internship III
Application of skills and knowledge gained in CTT coursework in an internship in a dealership environment. Develops professional skills required of a Caterpillar service technician. Provides experience in air conditioning systems, power trains, couplings, transmissions and hydraulic systems. Requires intern to complete a list of learning objectives, keep a logbook, and be evaluated by dealership supervisor and internship coordinator. *Prerequisites: CTT119. 3 credits 3 periods*

CTT206 Caterpillar Dealer Internship IV
Application of skills and knowledge gained in CTT coursework in an internship in a dealership environment. Develops professional skills required of a Caterpillar service technician. Provides experience in lubrication systems, engine air induction systems, cooling systems, fuel systems, timing systems, failure analysis, diagnosis and troubleshooting of specific types of Caterpillar equipment. Requires intern to complete a list of learning objectives, keep a logbook, and be evaluated by dealership supervisor and internship coordinator. *Prerequisites: CTT205. 3 credits 3 periods*

CWE-Career Work Experience

CWE198AA Career/Work Experience
Participation in a work experience, gaining on-the-job training, and/or exploring a career or field of choice. Helps students relate their education to the real work world. Resume writing and interviewing skills. Development of employability skills. *Prerequisites: None. 1 credit 1 period*

CWE198AB Career/Work Experience
Participation in a work experience, gaining on-the-job training, and/or exploring a career or field of choice. Helps students relate their education to the real work world. Resume writing and interviewing skills. Development of employability skills. *Prerequisites: None. 2 credits 2 periods*

CWE198AC Career/Work Experience
Participation in a work experience, gaining on-the-job training, and/or exploring a career or field of choice. Helps students relate their education to the real work world. Resume writing and interviewing skills. Development of employability skills. *Prerequisites: None. 3 credits 3 periods*

DAE-Dental Assisting Education

DAE122 Dental Anatomy, Embryology and Histology
Includes the histology and embryology of oral tissues; developmental disturbances of the face, oral cavity, and related structures; tooth composition and morphology; eruption patterns and occlusal evaluation. Use of skulls, models and multi-media resources also covered. *Prerequisites: Admission to the Dental Assisting or Dental Hygiene Programs. 2 credits 3 periods*

DAE124 Dental Radiography
Physics of radiography, theory of radiation production, exposure techniques, radiation protection, film processing, mounting, and interpretation of radiographs. Course activities include multi-media resources. *Prerequisites: (Admission to the Dental Assisting or Dental Hygiene Programs) or permission of instructor. 2 credits 2 periods*

DAE203 Dental Materials
Composition, properties and criteria for use of dental materials. Principles of mixing techniques of restorative, preventive, and laboratory dental materials. *Prerequisites: (Admission to the Dental Assisting or Dental Hygiene Programs), or permission of instructor. 2 credits 2 periods*

DAE204 Dental Materials Laboratory
Manipulate permanent and temporary restorative materials, impression material, dental waxes, cements, periodontal dressings, bases and liners. Fabricate mouth protectors, study models, and custom impression trays. Laboratory proficiency in margination of permanent restorative materials. *Prerequisites: (DAE/DHE203 and admission to the Dental Assisting or Dental Hygiene Programs) or permission of instructor. 1 credit 3 periods*

DAH-Dance Humanities

DAH100 Introduction to Dance
Overview of the field of dance focusing on origins, historical development and cultural characteristics of the various styles of dance. *Prerequisites: None. 3 credits 3 periods*

DAH201 World Dance Perspectives
Exploration, analysis, synthesis and evaluation of the role of dance in various cultures around the world. *Prerequisites: ENG101, or ENG107, or equivalent. DAH100 strongly suggested but not required. 3 credits 3 periods*

DAN-Dance

DAN115AA Contemporary Dance Trends: Hip Hop
Theory and practice of Hip Hop dance. Development of movement quality and performance skills. *Prerequisites: None. 1 credit 3 periods*

DAN120AB World Dance: Flamenco
Theory and practice of Flamenco. Development of movement quality and performance skills, individually, with a partner or in a group setting. *Course Note: May be repeated for a total of two (2) credits. Prerequisites: None. 1 credit 3 periods*

DAN120AE World Dance: Middle Eastern Dance
Theory and practice of Middle Eastern dance. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) credits. Prerequisites: None. 1 credit 3 periods*

DAN120AK World Dance: Capoeira
Theory and practice of Capoeira. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) credits. Prerequisites: None. 1 credit 3 periods*

DAN125AA Social Dance: Ballroom
Theory and practice of ballroom dance. Development of movement quality and performance skills individually, with a partner or in a group setting. May include Salsa, Mambo, Cha Cha Cha, Merengue, Rumba, East Coast Swing, Lindy Hop, West Coast Swing, Foxtrot, Waltz, American Tango, International Ballroom, or Ballroom Performance. *Course Note: May be repeated for a total of four (4) credits. Prerequisites: None. 1 credit 2 periods*

DAN125AC Social Dance: Latin
Theory and practice of Latin dance. Development of movement quality and performance skills individually, with a partner or in a group setting. May include Salsa, Mambo, Cha Cha Cha, Merengue, Rumba, Bachata, International Latin Ballroom, or Latin Ballroom Performance. *Course Note: May be repeated for a total of four (4) credits. Prerequisites: None. 1 credit 2 periods*

DAN129 Musical Theatre Dance I
Introduction to the theory and practice of musical theatre dance at the beginning level. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) semester credit hours. Prerequisites: None. 1 credit 3 periods*

DAN130 Musical Theatre Dance II
Theory and practice of musical theatre dance at the advanced beginning level. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) semester credit hours. Prerequisities: DAN129 or permission of instructor. 1 credit 3 periods*

DAN131 Ballet I
Introduction to the theory and practice of ballet at the beginning level. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) credit hours. Prerequisites: None. 1 credit 3 periods*

DAN132 Modern Dance I
Introduction to the theory and practice of modern dance at the beginning level. Development of movement quality and performance skills. C*ourse Note: May be repeated for a total of two (2) credit hours. Prerequisites: None. 1 credit 3 periods*

DAN133 Modern Jazz Dance I
Introduction to the theory and practice of modern jazz dance at the beginning level. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) credit hours. Prerequisites: None. 1 credit 3 periods*

DAN134 Ballet II
Theory and practice of ballet at the advanced beginning level. Development of movement quality and performance skills. *Prerequisites: DAN131 or permission of instructor. Course Note: May be repeated for a total of two (2) credit hours. 1 credit 3 periods*

DAN135 Modern Dance II
Theory and practice of modern dance at the advanced beginning level. Development of movement quality and performance skills. *Prerequisites: DAN132 or permission of instructor. Course Note: May be repeated for a total of two (2) credit hours. 1 credit 3 periods*

DAN136 Modern Jazz Dance II
Theory and practice of modern jazz dance at the advanced beginning level. Development of movement quality and performance skills. *Prerequisites: DAN133, or permission of instructor. Course Note: May be repeated for a total of two (2) credit hours. 1 credit 3 periods*

DAN140 Tap Dance I
An introduction to the theory and practice of tap dance. May be repeated for a total of two (2) semester credit hours. *Prerequisites: None. 1 credit 3 periods*

DAN141 Dance Workshop
An intensive experience in the process of choreography, performance, and production elements. May be repeated for a total of two (2) semester credit hours. *Prerequisites: None. 1 credit 3 periods*

DAN145 Tap Dance II
Theory and practice of tap dance at an advanced beginning level. *Prerequisites: DAN140 or permission of instructor. 1 credit 3 periods*

DAN146 Tap Dance Ensemble
Introduction to the process and practice of dance performance, specific to the genre of tap dance. *Prerequisites: DAN140 or permission of instructor. 1 credit 3 periods*

DAN150 Dance Performance I
An introduction to the process and practice of dance performance. May be repeated for a total of two (2) semester credit hours. *Prerequisites: None. 1 credit 3 periods*

DAN155 Dance Performance II
Continued study of the process and practice of dance performance at a level II. *Course Note: DAN155 may be repeated for a total of two (2) semester credit hours. Prerequisites: DAN150 or permission of instructor. 1 credit 3 periods*

DAN210 Dance Production I
Introduction to the elements of light, sound, and scenery as they relate to the art of dance. *Prerequisites: None. 3 credits 3 periods*

DAN221 Rhythmic Theory for Dance I
Exploration of the ways in which music, time, pitch, and energy work with the art of dance. Emphasis on reading and writing music notation and performing movement that correlates to the notation and vice versa. *Prerequisites: None. 2 credits 3 periods*

DAN222 Rhythmic Theory for Dance II
Study at the intermediate level of the ways in which music, time, pitch, and energy work with the art of dance with an emphasis on small group movement projects and their relationship to musical time and structure. *Prerequisites: DAN221 or permission of instructor. 2 credits 3 periods*

DAN231 Ballet III
Theory and practice of ballet at the beginning intermediate level. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) credit hours. Prerequisites: DAN134 or permission of instructor. 1 credit 3 periods*

DAN232 Modern Dance III
Theory and practice of modern dance at the beginning intermediate level. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) credit hours. Prerequisites: DAN135, or permission of instructor. 1 credit 3 periods*

DAN233 Modern Jazz Dance III
Theory and practice of modern jazz dance at the beginning intermediate level. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) credit hours. Prerequisites: DAN136, or permission of instructor. 1 credit 3 periods*

DAN234 Ballet IV
Theory and practice of ballet at the intermediate level. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) credit hours. Prerequisites: DAN231 or permission of instructor. 1 credit 3 periods*

DAN235 Modern Dance IV
Theory and practice of modern dance at the intermediate level. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) credit hours. Prerequisites: DAN232 or permission of instructor. 1 credit 3 periods*

DAN236 Modern Jazz Dance IV
Theory and practice of modern jazz dance at the intermediate level. Development of movement quality and performance skills. *Course Note: May be repeated for a total of two (2) credit hours. Prerequisites: DAN233 or permission of instructor. 1 credit 3 periods*

DAN250 Dance Performance III
Continued study of the process and practice of dance performance at a level III. *Course Note: DAN250 may be repeated for a total of two (2) semester credit hours. Prerequisites: DAN155 or permission of instructor. 1 credit 3 periods*

DAN255 Dance Performance IV
Culmination of the process and practice of dance performance at a level IV. *Course Note: DAN255 may be repeated for a total of two (2) semester credit hours. Prerequisites: DAN250 or permission of instructor. 1 credit 3 periods*

DAN264 Choreography I
Study of basic dance choreography to include construction of a phrase, structure, and form in a composition, and the basic elements of time, space, and energy. *Prerequisites: None. 3 credits 3 periods*

DAN265 Choreography II
Exploration of the craft of choreography at the intermediate level. Experimentation with the various approaches to contemporary choreography as established by 20th century artists. *Prerequisites: DAN264. 3 credits 3 periods*

DAN280 Dance Practicum
A culmination of coursework for the dance major requiring completion of an extended choreographic work from conception to performance. Also requires a final evaluative paper on the successes and challenges encountered throughout the project. *Prerequisites: Permission of instructor. 2 credits 6 periods*

DFT-Drafting

DFT100 Introduction to Drafting
Provides experience and explores career opportunities in three major areas of drafting: mechanical, electronics and construction. Provides basic skills including multiview and pictorial drawing and freehand sketching. *Prerequisites: None. 3 credits 6 periods*

DFT105 Computer Aided Drafting I
Industrial use of Computer Aided Drafting (CAD) equipment (hardware and software) in the areas of mechanical, electronic and construction drawings. *Prerequisites: None. 3 credits 6 periods*

DFT110 Technical Drafting I
Fundamentals of drafting including lettering, basic drawing concepts, geometric construction and multiview projection. *Prerequisites: None. 3 credits 6 periods*

DFT111 Technical Drafting II
A continuation of DFT110 which includes dimensioning and tolerancing, sectional views, and auxiliary views. *Prerequisites: DFT110 and DFT252AA, or equivalent. 3 credits 6 periods*

DFT112 Technical Drafting III
Detail and assembly drawings, dimensioning and tolerancing per current manufacturing standards. *Prerequisites: (DFT111 and DFT254AA) or equivalent. 3 credits 6 periods*

DFT113 Technical Drafting IV
Advanced uses of computer aided drafting (two-dimensional and three-dimensional) as a tool for producing working drawings and assembly drawings in weldment design and jig and fixture design. *Prerequisites: DFT112 or equivalent. 3 credits 6 periods*

DFT114 Machine Trades Blueprint Reading
Analysis and interpretation of technical drawings common to manufacturing and the machine trades. *Prerequisites: None. 3 credits 3 periods*

DFT115 Geometric Dimensioning and Tolerancing
Principles and application of the latest techniques in geometric dimensioning and tolerancing in accordance with current American Society of Mechanical Engineers (ASME) Y14.5M. Recommended for all manufacturing personnel who read or produce engineering drawings related to contracts with the U.S. government. *Prerequisites or Corequisites: (DFT110 or DFT/MET109) or permission of department. 3 credits 3 periods*

DFT121 Introduction To Architectural Drafting
Emphasis on basic drafting techniques and principles of architectural drafting. Use of basic drafting instruments. Includes lettering, line weights, dimensioning, multiview projection, floor plans, elevations, construction details, and portfolio development. *Prerequisites: None. 3 credits 6 periods*

DFT126 Building Trades Blueprint Reading
Analysis and interpretation of technical drawings common to the construction industry and building trades. *Prerequisites: None. 3 credits 3 periods*

DFT245AA Integrated Circuit Design: CMOS IA
Entry-level integrated circuit layout design in CMOS (Complimentary Metal Oxide Silicon) technology. Use of drafting techniques for layout and drafting of logic diagrams, schematic diagrams, circuit planning and integrated circuit drawings. *Prerequisites: (DFT105AA, DFT110, ELE113 and ELE131) or equivalent or permission of instructor. 3 credits 6 periods*

DFT245AB Integrated Circuit Design: CMOS IB
Layout drawings of a complex nature, cell concepts, and putting together major sub-assemblies of an integrated circuit. Other integrated circuit components such as resistors, capacitors and bonding pads. *Prerequisites: DFT245AA. 3 credits 6 periods*

DFT252AA Computer Aided Drafting I: AutoCAD
Industrial use of AutoCAD equipment (hardware and software) in the areas of mechanical, electronic and construction drawings. *Prerequisites: DFT110, or DFT121, or departmental permission. 3 credits 6 periods*

DFT254AA Computer Aided Drafting II: AutoCAD
Advanced AutoCAD techniques in constructing three-dimensional objects and symbols, dimensioning and text; advanced techniques for projection, rotation and translation of objects; advanced plotter use. *Prerequisites: DFT105AA, or DFT252AA, or equivalent, or departmental approval. 3 credits 6 periods*

DFT256AA Computer Aided Drafting III: AutoCAD
Use of industrial AutoCAD (computer-aided drafting) equipment and programs; advanced concepts; customized CAD usage. Creation and use of three-dimensional components and symbols to design complex objects. File management techniques; file archival; custom command creation; use of macro programs to solve design problems. *Prerequisites: CAD204, or DFT254AA, or equivalent. 3 credits 6 periods*

DHE-Dental Hygiene Education

DHE110 Pharmacology
Study of the principles of pharmacology and drugs affecting dental treatment. Topics include drug interactions, oral manifestations, drugs used in dentistry and complementary medicine. *Prerequisites: Admission to the Dental Hygiene Program or permission of instructor. 3 credits 3 periods*

DHE112 Oral Pathology
Identification, classification, etiology and treatment of lesions of the oral mucosa and atypical conditions of the oral cavity and supporting structures. Understanding of abnormal conditions to recognize the parameters of comprehensive dental hygiene care. Multi-media resources are used extensively for identification of oral lesions. *Prerequisites: Admission to the Dental Hygiene Program or permission of instructor. 3 credits 3 periods*

DHE114 Emergency Medicine
Introduction to recording and interpreting medical history. Additional topics include: recognition of signs and symptoms of medical emergencies, procedures and techniques introduced to prevent emergencies and management of emergency situations in the dental environment. *Prerequisites: Admission to the Dental Hygiene or Dental Assisting Programs. 2 credits 2 periods*

DHE119 Head and Neck Anatomy
Study of the structures of the head and neck relevant to dental hygiene. Topics include: osteology, musculature, blood supply, glandular tissue, cranial nerves and routes of infection. Course activities include use of skulls, models and multi-media resources. *Prerequisites: Admission to the Dental Hygiene Program or permission of instructor. 3 credits 3 periods*

DHE120 Pre-Clinical Dental Hygiene
Introduction to the dental hygiene profession and the process of care. Infection control, patient assessment, preventive treatment and dental hygiene instrumentation are practiced. Students are introduced to self assessment skills and quality improvement. *Prerequisites: Admission to the Dental Hygiene Program or permission of instructor. 6 credits 12 periods*

DHE122 Dental Anatomy, Embryology and Histology
Includes the histology and embryology of oral tissues; developmental disturbances of the face, oral cavity, and related structures; tooth composition and morphology; eruption patterns and occlusal evaluation. Use of skulls, models and multi-media resources also covered. *Prerequisites: Admission to the Dental Assisting or Dental Hygiene Programs. 2 credits 3 periods*

DHE124 Dental Radiography
Physics of radiography, theory of radiation production, techniques, radiation protection, film processing, mounting, and interpretation of radiographs. Course activities include multi-media resources. *Prerequisites: Admission to the Dental Assisting or Dental Hygiene Programs or permission of instructor. 2 credits 2 periods*

DHE125 Dental Radiography Laboratory
Radiation safety and infection control procedures for operator and patient. Film placement, exposure, development, mounting and evaluation of dental radiographs. Operation and maintenance of X-ray and processing equipment. Interpretation of radiographic findings. *Prerequisites or Corequisites: DAE/DHE124 and admission to the Dental Hygiene Program or permission of instructor. 1 credit 3 periods*

DHE127 Prevention of Dental Disease
Introduction of preventive concepts to help clients achieve control of oral diseases and injury. Topics include etiologic agents, caries process, nutrition, fluorides, sealants and patient/client motivation techniques. Multi-media resources used extensively. *Prerequisites: Admission to the Dental Hygiene Program or permission of instructor. 3 credits 3 periods*

DHE132 Dental Hygiene Theory I

Study of the dental hygiene process of care with emphasis on assessment, planning and implementation. Topics include instrumentation, adjunct dental hygiene services, instrument sharpening, computer technology, dental specialties and professional accountability. *Prerequisites: (DHE120 and admission to the Dental Hygiene Program) or permission of instructor. Corequisites: DHE133. 3 credits 5 periods*

DHE133 Dental Hygiene Clinic I

Application of the dental hygiene process of care with emphasis on assessment, planning, and implementation. Introduction to evaluation of dental hygiene therapy. *Prerequisites: DHE120 and admission to the Dental Hygiene Program. Corequisites: DHE132 and current CPR card. 3 credits 9 periods*

DHE203 Dental Materials

Composition, properties and criteria for use of dental materials. Principles of mixing techniques of restorative, preventive, and laboratory dental materials. *Prerequisites: (Admission to the Dental Assisting or Dental Hygiene Programs), or permission of instructor. 2 credits 2 periods*

DHE204 Dental Materials Laboratory

Manipulate permanent and temporary restorative materials, impression material, dental waxes, cements, periodontal dressings, bases and liners. Fabricate mouth protectors, study models, and custom impression trays. Laboratory proficiency in margination of permanent restorative materials. *Prerequisites: DAE/DHE203 and admission to the Dental Assisting or Dental Hygiene Programs or permission of instructor. 1 credit 3 periods*

DHE212 Dental Hygiene Theory II

Study of the dental hygiene process of care with emphasis on comprehensive care planning, case presentation, and clinical decision making. Introduction to advanced periodontal instrumentation. *Prerequisites: DHE132 and DHE133 and admission to the Dental Hygiene Program. Corequisites: DHE213. 2 credits 2 periods*

DHE213 Dental Hygiene Clinic II

Application of the dental hygiene process of care with emphasis on comprehensive care planning, case presentation, clinical decision making, advanced instrumentation and improved time utilization. *Prerequisites: DHE132 and DHE133 and admission to the Dental Hygiene Program. Corequisites: DHE212. 5 credits 15 periods*

DHE219 Practice Management

Integration of practice management concepts and comprehensive quality patient care in preparation for future collaborative practice between dental hygienists and dentists. Students are challenged with practice situations including productivity, conflict management, ethical and legal issues. *Prerequisites: Admission to the Dental Hygiene Program or permission of instructor. 2 credits 2 periods*

DHE225 Periodontics

Principles of periodontology; etiology, microbiology, pathogenesis, classification and characteristics of healthy and diseased periodontal tissues. Surgical treatment of periodontal disease and the effects of dental hygiene therapy, surgical techniques and maintenance therapy. Evaluation of the scientific literature and multi-media resources are used extensively. *Prerequisites: Admission to the Dental Hygiene Program or permission of instructor. 3 credits 3 periods*

DHE227 Dental Anesthesia

A comprehensive lecture and laboratory course providing concepts and techniques for the administration of local anesthetic agents and nitrous oxide. Experience gained in medical history review, record keeping, patient management and hands-on experience administering local anesthetics and nitrous oxide in a clinical setting. *Prerequisites: DHE119 and current CPR certification. 2 credits 4 periods*

DHE229 Community Oral Health

An examination of methods used to assess the oral health status of the community and to plan, implement, finance and evaluate dental public health programs. Focus on community-based health promotion and disease prevention measures to improve the oral health of the population, as well as the characteristics of dental care delivery systems and the social, political, psychological and economic factors affecting utilization within the system. *Prerequisites: Admission to the Dental Hygiene Program or permission of instructor. 3 credits 3 periods*

DHE232 Dental Hygiene Theory II

Study of the dental hygiene process of care with emphasis on the patient with special needs and advanced instrumentation. Students participate in field observations and present case documentations. *Prerequisites: (DHE212 and DHE213), and admission to the Dental Hygiene Program. Corequisites: DHE233. 2 credits 3 periods*

DHE233 Dental Hygiene Clinic III

Application of the dental hygiene process of care with emphasis on diverse populations. Students prepare for clinical practice using self assessment, evaluation and critical thinking skills. *Prerequisites: (DHE212 and DHE213), and admission to the Dental Hygiene Program. Corequisites: DHE232. 5 credits 15 periods*

ECE-Engineering Science

ECE102 Engineering Analysis Tools and Techniques

Learning culture of engineering, engineering use of computer tools, and computer modeling as applied to engineering analysis and design. *Prerequisites: Two years of high school algebra, or MAT122, or department approval. Corequisites: MAT151, or MAT182, or MAT187. 2 credits 4 periods*

ECE103 Engineering Problem Solving and Design

Fundamentals of the design process: engineering modeling, communication and problem solving skills in a team environment. Emphasis on process-based improvements to the design process. Introduction to engineering as a profession. *Prerequisites: ECE102 and (high school physics or PHY111). 2 credits 4 periods*

ECE214 Engineering Mechanics

Foundations of engineering mechanics, including force systems, resultants equilibrium of particles and rigid bodies, centroids and centers of mass, area and mass moments of inertia, friction, internal forces in structures, kinematics and kinetics of particles, kinematics and kinetics of rigid bodies, energy and momentum principles. *Prerequisites: (ECE103 or ECE103AB), (MAT230 or MAT231), and (PHY115 or PHY121). Corequisites: MAT240 or MAT241. 4 credits 4 periods*

ECH-Early Childhood Education

ECH126AB Play Lab-Toddlers

Participant observation within a laboratory play environment with children 13-35 months of age. Focus on preparation, management and evaluation of developmentally appropriate activities. *Prerequisites: None. 1 credit 2 periods*

ECH273 Math for the Young Child

Methods and techniques for encouraging the beginnings of mathematical/logical thought with young children. Focus upon the theory of Jean Piaget. *Prerequisites: None. 1 credit 1 period*

ECH275 Literacy Development and the Young Child

Literacy from birth through the early childhood years. Focus on developmentally appropriate ways to encourage speaking, listening, writing and reading in the home and classroom. *Prerequisites: None. 1 credit 1 period*

ECN-Economics

ECN160 Economic History of the United States

A description of the trends of American population, industry and wealth through examination of major American institutions, historical events and economic thought. Emphasis on the roles of technology and natural resources in agriculture and industry, the labor force, the monetary system, market structures and the economic impact of government. *Prerequisites: None. 3 credits 3 periods*

ECN110 Economics of Sports

Basic microeconomics principles applied to traditional product and factor market theory and analysis of contemporary economic issues in sports. Topics include market structures and outcomes, the market for franchises, barriers to entry, rival leagues, player productivity, and competitive and collusive behavior among participants. *Prerequisites: None. 3 credits 3 periods*

ECN204 Macroeconomics Issues

Macroeconomic principles applied to current problems of economic policy, e.g., inflation, unemployment, gross national product (GDP), forecasting, ramifications for the international system. *Prerequisites: None. 3 credits 3 periods*

ECN208 Microeconomics Issues

Microeconomic principles applied to current problems of market structure, consumer preference, supply and demand, and the theory of the firm. Topics will include contemporary events that are suitable for application of the economic way of thinking. *Prerequisites: None. 3 credits 3 periods*

ECN211 Macroeconomic Principles

A descriptive analysis of the structure and functioning of the American economy. Emphasis on basic economic institutions and factors that determine national income and employment levels. Consideration given to the macroeconomic topics of national income, unemployment, inflation, and monetary and fiscal policies. *Prerequisites: None. 3 credits 3 periods*

ECN212 Microeconomic Principles

Microeconomic analysis including the theory of consumer choice, price determination, resource allocation and income distribution. Includes non-competitive market structures such as monopoly and oligopoly; and the effects of government regulation. Selected issues examined. *Prerequisites: None. 3 credits 3 periods*

ECN213 The World Economy

An analysis of the economic interdependence among nations, with emphasis on international trade and finance. Consideration given to the role and function of the multinational enterprise. *Prerequisites: None. 3 credits 3 periods*

ECN263 The Economics of Natural Resources, Population and the Environment

Applies economic analysis to both the causes and possible remedies of the problems of environmental deterioration and natural resource depletion. Includes discussion of the economic problems of urban communities and the relationship between population and economic growth and the depletion of natural resources and environmental pollution. *Prerequisites: ECN100, or ECN211, or ECN212. 3 credits 3 periods*

EDU-Education

EDU101AC Tutor Training and Practicum III

This course combines tutor training with an opportunity to gain insights into instructional support services through a minimum of 90 hours of supervised on-site experience within an educational setting. Training includes overview of the role and responsibilities of instructional tutors as well as tutoring techniques, with particular focus on reading and writing strategies. *Prerequisites: Permission of instructor. 3 credits 3 periods*

EDU220 Introduction to Serving English Language Learners (ELL)

Rationale for and current educational and legal issues for English Language Learners (ELL). Comparison and evaluation of various types of language educational models including Structured English Immersion (SEI), English as a Second Language (ESL) and bilingual. *Course Notes: Approved school-based practicum is required. EDU/ EPD220 incorporates the 45-clock-hour curricular framework for provisional SEI endorsement through the Arizona Department of Education. Prerequisites: Provisional or standard elementary, secondary, or special education teaching certificate, or permission of department. 3 credits 3 periods*

EDU221 Introduction to Education

Overview of the historical, political, economic, social, and philosophical factors that influence education and make it so complex. Opportunity for students to assess their interest and suitability for teaching. *Course Notes: Requires minimum of 30 hours of field experience in elementary or secondary classroom environment. Prerequisites: None. 3 credits 3 periods*

EDU222 Introduction to Exceptional Learner

Overview of the exceptional learner, one who differs from the average or normal, with emphasis on factors relating to current practices, identification, characteristics and educational adaptations. Issues related to mildly disabled, severely disabled, emotionally and behaviorally disordered, mentally retarded and gifted students. *Course Notes: May include approved school-based practicum. Prerequisites: None. 3 credits 3 periods*

EDU230 Cultural Diversity in Education

Examination of the relationship of cultural values to the formation of self-concept and learning styles. Examination of the role of prejudice, stereotyping and cultural incompatibilities in education. Emphasis on teacher preparation (preservice and/or inservice) to offer an equal educational opportunity to students of all cultural groups. *Prerequisites: None. 3 credits 3 periods*

EDU233 Structured English Immersion (SEI) and English as a Second Language (ESL) Teaching Methods

Methods of planning, developing, and analyzing lesson plans in all content areas using English Language Learners (ELL) Standards. Emphasis on components of curriculum content, teaching strategies, development/evaluation/ adaptation of teaching materials, and the role of culture in learning. Examines the alignment of ELL Proficiency Standards to the Arizona Language Arts Academic Standards. Covers multiple assessment techniques, tracking of student progress using the Stanford English Language Proficiency (SELP) assessment, and use of assessment results for placement and accommodation. *Course Notes: Approved school-based practicum required. This course incorporates curricular framework for the 45-clock-hour requirement for SEI endorsement through the Arizona Department of Education. Prerequisites: Provisional or standard elementary, secondary, or special education teaching certificate and (EDU220 or EDU225, or permission of department). 3 credits 3 periods*

EDU236 Introduction to Relationships in a Classroom Setting

Analysis of K-12 classroom interactions, classroom environment, and classroom management skills from a teacher's point of view. Focus on classroom as a multidimensional environment in which principles of classroom design, communication, management, and resources determine effectiveness. *Course Notes: Requires a 20-hour field experience in a K-12 classroom. Prerequisites: None. EDU221 suggested but not required. 3 credits 3 periods*

EDU250 Overview of the Community Colleges

The history, functions, organization and current issues in the community/junior college with emphasis on the Arizona community colleges. *Prerequisites: None. 3 credits 3 periods*

EDU270AB Secondary Reading and Decoding

Focus on the theories, methods and models of teaching literacy and decoding in the content areas of secondary grades. *Prerequisites: Must be a certified K-12 teacher or have permission of department chair or program director. 3 credits 3 periods*

EDU271 Phonics Based Reading and Decoding

Overview of research, curricular content, and instructional practices associated with Research Based Systematic Phonics Instruction (RBSPI) and other methods for teaching reading. Emphasis on methods mandated by Arizona legislation. Covers the history of written language, alphabetic reading and writing systems, and implementation of effective methods for reading instruction. Approved school-based practicum required. *Prerequisites: None. 3 credits 3 periods*

EDU282AA-AC Volunteerism for Education: A Service-Learning Experience

Service-learning field experience within educational systems, citizen advocacy groups and human service organizations/agency. May be repeated for a total of six (6) EDU282 credit hours; may not repeat specific agency assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

EDU291 Children's Literature

Review of folk and modern literature from a variety of world cultures, including application of literary criteria to folk and modern literature for children. *Prerequisites: None. 3 credits 3 periods*

EDU292 The Art of Storytelling

Explores the art and origin of storytelling. Provides a variety of storytelling techniques, styles and exercises to enhance the delivery of telling stories. Assists in the integration and application of storytelling to the learning environment in the classroom. *Prerequisites: None. 3 credits 3 periods*

EED-Early Education

EED200 Foundations of Early Childhood Education

Overview of early childhood education in American society, including current issues and responsibilities. Emphasis on issues of professionalism, ethics and program types. Opportunities for students to explore potential career paths. Includes field experience. *Prerequisites: None. 3 credits 3 periods*

EED212 Guidance, Management and the Environment

Principles for guiding young children in early care and education environments. Exploration of guidance, management, and how the environment impacts the lives of young children. Includes observation of classrooms of children ages birth to age five. *Prerequisites: None. 3 credits 3 periods*

EED215 Early Learning: Health, Safety, Nutrition and Fitness

Consideration of public health issues and safety procedures within early childhood settings. Overview of nutritional needs and issues of physical fitness and well-being in young children. Includes field experiences. *Prerequisites: None. 3 credits 3 periods*

EED220 Child, Family, Community and Culture

Examines family, community and cultural influences on development of the young child. Considers trends and threats to attachment, relationships and cultural identity. Includes social and emotional experiences and their impact on the developing brain. *Prerequisites: None. 3 credits 3 periods*

EED222 Introduction to the Exceptional Young Child

Overview of the exceptional learner (birth - age 5), one who differs from the average or the norm, with emphasis on observation, techniques, characteristics, identification, types of programs, and work with families. Issues related to learning exceptionalities, sensory and communication disorders, social and emotional problems, physical and health related disorders, and giftedness. Includes field experience. *Prerequisites: None. 3 credits 3 periods*

EED255 Portfolio Development and Writing for the Profession

Portfolio development, completion, and presentation. Self- assessment and educational short-term and long-term planning, professional development, writing and critical learning included. *Prerequisites: Completion of twelve (12) credit hours of EED coursework and permission of Program Coordinator. 3 credits 3 periods*

EED260 Early Childhood Infant/Toddler Internship

Work experience with infants and toddlers in early care and education settings. 80 hours of designated work per credit. *Course Notes: May be repeated for a total of six (6) credit hours. Prerequisites: Permission of department. 1 credit 1 period*

EED261 Early Childhood Preschool Internship

Work experience with preschoolers in early care and education settings. 80 hours of designated work per credit. *Course Notes: May be repeated for a total of six (6) credit hours. Prerequisites: Permission of department. 1 credit 1 period*

EED270 Early Learning Development

Teaching and early learning issues within a cognitive processes context. Covers emotion, memory, and recall as well as early brain development and its relationship to early learning. *Prerequisites: CFS/ECH176 or CFS205 or permission of instructor. 3 credits 3 periods*

EED278 Early Learning: Curriculum and Instruction - Birth/Preschool

Considerations and evaluations of curriculum appropriate to the developmental characteristics of learners, birth through five years. Includes how early childhood standards, philosophies, and program settings relate to the teaching, learning, and assessment process. Includes field experience. *Prerequisites: EED200. 3 credits 3 periods*

EED280 Observation and Assessment of Typical and Atypical Behaviors

Observation and assessment of typical and atypical behaviors, overview of standards, observation and assessment methodologies for typical and atypical young children. Including ethics, referral and reporting procedures, and collaboration with families and other professionals. *Prerequisites: CFS/ECH176 or CFS205 or permission of instructor. 3 credits 3 periods*

ELE-Electronics

ELE100 Concepts of Electricity and Electronics

Principles of electric circuits, magnetism and electromagnetism including basic motors and generators. Use of basic measuring instruments. Includes an overview of electronics in the modern world. *Prerequisites: None. 3 credits 4 periods*

ELE101 Beginning Algebra for Technology

Basic axioms of algebra, linear equations in one or two variables, operations on polynomials, rational expressions, simultaneous solutions of linear equations, laws of exponents. *Prerequisites: Score of 19 on Technical Mathematics placement test, or grade of "C" or better in GTC107, or MAT082, or equivalent. 3 credits 3 periods*

ELE105 Algebra-Trigonometry for Technology

Topics from college algebra and trigonometry essential to the study of electronics; polynomials, exponential, and logarithmic functions, complex numbers, and trigonometric functions and identities. *Prerequisites: A grade of "C" or better in either ELE101 or MAT090, or MAT091, or MAT092, or equivalent, or score of 16 on Technical Algebra placement test. 5 credits 5 periods*

ELE111 Circuit Analysis I

Direct current (DC) and alternating current (AC) electric circuits. Ohm's law, Kirchoff's law, series, parallel and series-parallel circuits, fundamentals of inductance and capacitance, and the transient behavior of circuits containing resistance and capacitance or resistance and inductance. *Prerequisites: None. Corequisites: ELE105 or MAT120 or MAT121 or MAT122, or equivalent. 4 credits 6 periods*

ELE112 Circuit Analysis II

Alternating current (AC) and direct current (DC) circuits containing resistance and reactance. Detailed coverage of AC/DC circuit parameters, including theorems, impedance matching and resonance. *Prerequisites: ELE111. 4 credits 6 periods*

ELE113 DC Circuit Analysis

Direct current (DC) electric circuits. Ohm's law, Kirchoff's law, series, parallel and series-parallel circuits, network theorems, fundamentals of inductance and capacitance, and the transient behavior of circuits containing resistance and capacitance or resistance and inductance. *Prerequisites: None. Corequisites: ELE105, or MAT122, or equivalent. 4 credits 3 periods*

ELE114 AC Circuit Analysis

Alternating current (AC) circuits containing resistance and reactance. Detailed coverage of AC circuit parameters, including theorems, impedance matching, and resonance. *Prerequisites: ELE113. 4 credits 3 periods*

ELE121 Solid-State Devices and Circuits I

Theory of operation of semiconductor diodes and transistors. Bipolar junction transistor biasing and load-line analysis. Alternating current (AC) equivalent circuits applied to small signal amplifiers. Characteristics of large signal and power amplifiers. *Prerequisites: ELE111. 4 credits 6 periods*

ELE131 Digital Logic and Circuits

Number systems, binary arithmetic, and Boolean algebra, combinational and sequential logic circuits, and memory elements. P*rerequisites: Score of 19 on Technical Mathematics placement test, or grade of "C" or better in GTC107 or MAT082, or equivalent. 3 credits 6 periods*

ELE181 Computer Programming for Technology

Elementary computer programming techniques. Hands-on computer usage. *Prerequisites: None. 3 credits 5 periods*

ELE222 Solid-State Devices and Circuits II

Theory and application of differential and operational amplifiers. Power supplies and regulators; special devices and circuits. *Prerequisites: ELE121. 4 credits 6 periods*

ELE223 Industrial Electronics Circuits and Systems

Concepts, principles, maintenance, and troubleshooting of industrial electronic circuits and systems that incorporate thyristors, photo-electric devices, relays, servomechanisms, solenoids, servo motors, stepping motors, transducers, power supplies, and motor speed controls. *Prerequisites: ELE121 and GTC185. 4 credits 6 periods*

ELE241 Microprocessor Concepts

Architectures of selected microprocessors. Presentation of machine and assembly language programming. *Prerequisites: ELE131. 4 credits 6 periods*

ELE243 Microprocessor Applications

Presents the microprocessor in computing and control applications. System hardware and software used to control the microprocessor system to perform input/output operations. *Prerequisites: ELE241 or ELT241. 3 credits 5 periods*

ELE251 Electronic Measurements

Application and operation of common electronic and electrical test instruments including: oscilloscopes, analog and digital multimeters, digital counters and signal sources. Transducers, amplifiers, and filters, as they apply to instrumentation systems. Laboratory reports and documentation are emphasized. *Prerequisites: ELE121. 3 credits 5 periods*

ELE261 Communication Systems

Amplitude modulation (AM), frequency modulation (FM), single-sideband (SSB), radio receivers, pulse systems, radiation, antennas and wave propagation. *Prerequisites: ELE121 and ELE131. Corequisites: ELE222. 4 credits 6 periods*

ELE263 Digital Data Communications

Overview of modern telephone system. Telephone switching and modulation techniques. Familiarization with AM (amplitude modulation) and FM (frequency modulation) circuits. Operation of asynchronous and synchronous modems. *Prerequisites: ELE121 and ELE241. 4 credits 6 periods*

EMT-Emergency Medical Technology

EMT101 Cardiopulmonary Resuscitation/Basic Cardiac Life Support

Designed to train students in the skills of cardiopulmonary resuscitation to include mouth-to-mouth, mouth-to-mask, and cardiac compression, stabilization of adult, infant, and child victims with airway obstruction, respiratory, and cardiac arrest. *Prerequisites: None. .5 credit .5 period*

EMT104 Basic Emergency Medical Technology

Techniques of emergency medical care in accordance with national and state curriculum. Study of the human body, patient assessment, treatment of medically or traumatically compromised patients, special hazards, and medical operations. IV monitoring, Sudden Infant Death Syndrome (SIDS), patient-assisted medication administration, automated external defibrillators, and blood-glucose monitoring. Includes participation in two eight-hour clinical rotations through a local emergency department scheduled during the semester outside normal class hours. Requires personal pocket mask, stethoscope, pen light, and trauma scissors. *Prerequisites: Must be at least 18 years of age prior to applying to the BLS (Basic Life Support) Training Program per Arizona Revised Statute, and must have a current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer. Minimum ninth grade level reading proficiency on the Nelson-Denney Examination or appropriate Reading course placement score. Proof of: TB testing or chest x-ray with a negative result within 6 months prior to registration and immunity to rubella (German measles) and rubeola. 8 credits 9.45 periods*

EMT200 Refresher Course for Certified Emergency Medical Technicians

Designed to meet National and Arizona Department of Health Services (A-DHS) recertification for EMTs. Enhances the knowledge base of the Emergency Medical Technician (EMT) and reinforces basic skills competencies. *Prerequisites: Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer or permission of instructor. 2 credits 2.7 periods*

EMT200AB EMT-Basic Certification Expanded Refresher Challenge

Designed to contribute to Arizona Department of Health Services (A-DHS) Bureau of Emergency Medical Services (B-EMS) recertification requirements for Emergency Medical Technician Basic (EMTB) according to the U.S. Department of Transportation (DOT) EMT-Basic National Curriculum and the Arizona EMT Basic Refresher Curriculum Guidelines. *Prerequisites: Current Basic Life Support, American Heart Association Healthcare Provider CPR or equivalent, and current EMT Basic certification in the state of Arizona. Must be currently functioning as an EMT Basic. 1 credit 1 period*

EMT235 Emergency Cardiac Care

Designed to acquaint all levels of emergency care providers with basic electrocardiographic (ECG) rhythm analysis and interpretation and related care in a clinical and prehospital setting. Required content for the identification and treatment of cardiac emergencies. *Prerequisites: EMT/FSC104, or permission of instructor. 3 credits 3 periods*

EMT236 Pharmacology in an Emergency Setting

Designed for the Emergency Medical Technician dealing with the administration of emergency medications in the field as outlined in current paramedic legislation. In-depth coverage of medications enumerated in the algorithms of patient care as defined by the American Heart Association (AHA), Advanced Cardiac Life Support (ACLS). Coverage of medications that interact or interfere with the AHA ACLS algorithms. Indications, therapeutic effect, contraindications, toxicology, and side effects to medications. *Prerequisites: EMT/FSC104, or permission of instructor. MAT082 or equivalency preferred, but not required. 3 credits 3 periods*

EMT240 Advanced Cardiac Life Support

Designed to provide the healthcare professional with comprehensive information to identify emergency cardiovascular care and protocols for the patient in cardiac arrest, post-resuscitative patient management, and core cases in Advanced Cardiac Life Support (ACLS) according to current Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care 2004. Includes the ACLS approach to cardiovascular emergencies, elements of emergency cardiovascular care, ethical and legal issues, airway assessment and management, ventilation techniques, oxygen therapy, intravenous therapy, analyzing and interpreting the electrocardiogram (ECG), analyzing and interpreting the 12-lead ECG, myocardial ischemia, injury, and infarction, electrical interventions, cardiovascular pharmacology, acute coronary syndromes, emergency cardiovascular care algorithms, acute stroke and transient ischemic attack, and special resuscitation situations. *Prerequisites: Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer and (EMT235 and EMT236, or permission of instructor). 2 credits 2 periods*

EMT242 Pediatric Advanced Life Support

Didactic and psychomotor skill education and training in techniques of Pediatric Advanced Life Support. Includes endotracheal intubation, defibrillation, arrhythmia recognition, pharmacology, and intraosseous infusion. Required for American Heart Association Provider approval and validation. *Prerequisites: (Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer or [EMT235 and EMT236]) or permission of instructor. 1 credit 1 period*

EMT245 Trauma Management I

Designed to instruct prehospital care personnel in the critical skills necessary to manage the trauma victim and the emergency scene through the Incident Command System (ICS). Enhances basic emergency medical technology (EMT) skills by focusing on emergency care interventions. Provides exposure to victim assessment, initial treatment, resuscitative techniques, victim stabilization, transportation of the victim to an emergency care facility, and documentation. *Prerequisites: Basic EMT certification or nurse with emergency room experience, or permission of department. 2 credits 3.5 periods*

EMT265 Pediatric Education for Prehospital Providers: Advanced

An interactive, scenario-based course designed for Advanced EMTs who practice in the field. Enables providers to perform a rapid assessment of sick and injured children in variety of circumstances. Includes scene management, use of pediatric assessment triangle, developmental differences, injury prevention, airway management techniques, intravenous and intraosseous access and monitoring, ECG arrhythmia recognition, synchronized and unsynchronized cardioversion, pediatric trauma and mechanism of injury, submersion events, children with special health care needs, child abuse and neglect, child and family interactions, use of specialized equipment, documentation of signs, symptoms, care and transportation, special issues in pediatric transportation. Treatment to children is in accordance with recommendations of the American Academy of Pediatrics. *Prerequisites: Advanced cardiac life support course or emergency cardiac care course, and EMT-Paramedic certification, and current employment as an EMT Paramedic, or permission of instructor. 1 credit 1.43 periods*

EMT272AA Advanced Emergency Medical Technology

Designed to provide the emergency medical technician with advanced knowledge about the acute critical differences in physiology, pathophysiology, and clinical symptoms, as they pertain to prehospital emergency care. Emphasis on developing diagnostic and advanced emergency treatment skills necessary to care for the acutely ill and seriously injured. *Prerequisites: ([MAT102 or equivalent, or a satisfactory score on an applicable district placement exam], ENG101, EMT235, and EMT236) or permission of Program Director. Comprehensive written, oral and practical evaluation on EMT272AA. Prerequisite courses required and valid Arizona Certification and employment as an EMT for one full calendar year. Corequisites: EMT272AB and EMT272LL. 12.5 credits 17.3 periods*

ENG-English

ENG100AA American-English Spelling System

American-English spelling system rules and mnemonic devices. *Prerequisites: Appropriate English placement test score, or a grade of "C" or better in ENG040, or (ENG040AA, ENG040AB, and ENG040AC), or ENG071, or permission of instructor. 1 credit 1 period*

ENG100AB Vocabulary Development

Latin and Greek derivatives, development of competency and discrimination in word choice and specialized vocabulary. *Prerequisites: Appropriate English placement test score, or a grade of "C" or better in ENG040, or (ENG040AA, ENG040AB, and ENG040AC), or ENG071, or permission of instructor. 1 credit 1 period*

ENG100AC The Mechanics of Written English

Review of the mechanics of written English, including punctuation, arbitrary marks and usages, capitalization, agreement, tense, and sentence patterns. *Prerequisites: Appropriate English placement test score, or a grade of "C" or better in ENG040, or (ENG040AA, ENG040AB, and ENG040AC), or ENG071, or permission of instructor. 1 credit 1 period*

ENG100AD Grammar and Usage

The social aspects of grammar and usage, including appropriate levels of formal and informal language. *Prerequisites: Appropriate English placement test score, or a grade of "C" or better in ENG061 or ENG071. 1 credit 1 period*

ENG101 First-Year Composition

Emphasis on rhetoric and composition with a focus on expository writing and understanding writing as a process. Establishing effective college-level writing strategies through four or more writing projects comprising at least 3,000 words in total. *Prerequisites: Appropriate English placement test score, or a grade of "C" or better in ENG071. 3 credits 3 periods*

ENG102 First-Year Composition
Emphasis on rhetoric and composition with a focus on persuasive, research-based writing and understanding writing as a process. Developing advanced college-level writing strategies through three or more writing projects comprising at least 4,000 words in total. *Prerequisites: ENG101 with a grade of "C" or better. 3 credits 3 periods*

ENG107 First-Year Composition for ESL
Equivalent of ENG101 for students of English as a Second Language (ESL). Standard American English writing skills and emphasis on expository composition. *Course Notes: Taking ESL040 and ESL042 may build skills tested by the ASSET/COMPASS placement. Prerequisites: Appropriate ASSET/COMPASS placement test score, or a grade of "C" or better in ENG071 or ESL077. 3 credits 3 periods*

ENG108 First-Year Composition for ESL
Equivalent of ENG102 for students of English as a Second Language. Continued development of standard English writing skills. Introduction to research, note-taking, organization and documentation in the preparation and writing of a research paper. Not open to students who have completed ENG101. *Prerequisites: Grade of "C" or better in ENG107. 3 credits 3 periods*

ENG109 Business Writing for ESL
ESL focus: writing business letters and memos with an emphasis on persuasion and organization. *Prerequisites: Appropriate ESL or ASSET placement test score, or a grade of "C" in ENG107, or ENG108 or ENG101, or ENG102, or ENG111, or permission of instructor. 3 credits 3 periods*

ENG111 Technical Writing
Analysis, planning, organization, research, and writing of technical reports and oral presentations for specific job-related audiences. Preparation of recommendation and feasibility reports, proposals, and applications of graphics in documents and oral presentations. *Prerequisites: ENG101 with a grade of "C" or better, or permission of instructor. 3 credits 3 periods*

ENG200 Reading and Writing About Literature
Emphasis on critical analysis of various genres of literature; includes study of necessary terminology, introduction to methods of literary criticism, and practice in interpretation and evaluation. For English or English education majors and minors. *Prerequisites: ENG102. 3 credits 3 periods*

ENG210 Creative Writing
Skills and techniques used in the production of marketable materials for contemporary publications that buy prose fiction, poetry, and expository articles. May be repeated for a total of six (6) credit hours, with departmental approval. *Prerequisites: ENG102 with a grade of "C" or better, or permission of department. 3 credits 3 periods*

ENG211 Screenwriting
Principles and techniques necessary in planning, researching, and writing screenplays. May be repeated for a total of six (6) credit hours with approval of instructor. *Prerequisites: ENG101 and ENG102 with a grade of "C" or better, or permission of instructor. 3 credits 3 periods*

ENG213 Introduction to the Study of Language
Study of language as code; phonetics, phonology, morphology, syntax, semantics; language acquisition; historical and socio-linguistics. *Prerequisites: ENG102 or ENG111 with a grade of "C" or better, or permission of instructor. 3 credits 3 periods*

ENG215 Strategies of Academic Writing
Advanced course in techniques of analyzing and writing academic expository prose. Writing to be research-based. *Prerequisites: A grade of "C" or better in ENG102 or ENG111, or permission of instructor. 3 credits 3 periods*

ENG216 Persuasive Writing on Public Issues
Advanced course in techniques of analyzing and writing persuasive arguments addressing topics of current public interest. Papers are research-based. *Prerequisites: ENG102. 3 credits 3 periods*

ENG217 Personal and Exploratory Writing
Using writing to explore one's self and the world one lives in; emphasis on journal writing as a source and inspiration for public writing. *Prerequisites: ENG101 or ENG107 or equivalent. 3 credits 3 periods*

ENG282AA-AC Volunteerism for English: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. Development of writing skills, analysis, and synthesis in on-site volunteer experience. May be repeated for a total of six (6) ENG282 credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: ENG101 and (RDG091 or higher) and permission of instructor. 1-3 credits 1-3 periods*

ENH-English Humanities

ENH110 Introduction to Literature
Introduction to international literature through various forms of literary expression, e.g., poetry, drama, essay, biography, autobiography, short story, and novel. Provides a global overview of literature with special emphasis on diverse cultural contributions of women, African Americans, Asian Americans, Hispanic Americans, and Native Americans. *Prerequisites: None. 3 credits 3 periods*

ENH111 Literature and the American Experience
Introduction to the foundations and diversity of American culture through a survey of its literature, including minority and women writers. Exploration of various facets of American culture including frontier, regional, rural, and urban life; ethnic, racial, and immigrant experience; and political and social philosophies. *Prerequisites: None. 3 credits 3 periods*

ENH112 Chicano Literature
Introduction to the works of Mexican-American writers of the Southwest. Samples poetry, fiction, and essays viewed in their relationship to American cultural heritage and to contemporary culture. *Prerequisites: None. 3 credits 3 periods*

ENH113 Writers/Directors and Current Issues
In-depth analysis of literary texts by contemporary writers/directors from throughout the world, including essayists, journalists, playwrights, novelists, directors, short story writers, and/or poets. Examines perspectives representing a variety of cultures. Critical responses to current issues of worldwide interest examined, including such topics as environment, technology, medicine, economics, politics, education, human rights, law and order. *Prerequisites: None. 3 credits 3 periods*

ENH114 African-American Literature
Survey of major African-American writers from Colonial period through the present; analysis of trends and movements within African-American literary history; analysis of literary types and selected works. *Prerequisites: None. 3 credits 3 periods*

ENH206 Nature and Environmental Literature
Investigates major themes in nature and environmental writing. Explores relationship between humanity and the environment as expressed through fiction, non-fiction, and poetry. Examines how literature drives attitudes and policies. *Prerequisites: None. 3 credits 3 periods*

ENH214 Poetry Study
Involves reading, discussing, and analyzing poetry of various forms and from selected periods. *Prerequisites: None. 3 credits 3 periods*

ENH221 Survey of English Literature Before 1800
Emphasizes the social and political backgrounds as well as the form and content of English literature from Anglo-Saxon times to the end of the eighteenth century. *Prerequisites: (ENG101 or ENG107) or equivalent. 3 credits 3 periods*

ENH222 Survey of English Literature After 1800
Emphasizes the social and political backgrounds as well as the form and content of English literature in the nineteenth and twentieth centuries. *Prerequisites: (ENG101 or ENG107) or equivalent. 3 credits 3 periods*

ENH235 Survey of Gothic Literature
A study of the origins, common elements and characteristics, and historical development of Gothic literature with an exploration of the literary techniques and psychological aspects of the genre. *Prerequisite: None. 3 credits 3 periods*

ENH241 American Literature Before 1860
Includes literature written prior to 1860 in the United States. *Prerequisites: None. 3 credits 3 periods*

ENH242 American Literature After 1860
Includes literature written after 1860 in the United States. Prerequisites: None. 3 credits 3 periods

ENH251 Mythology
Deals with the myths and legends of civilizations with the greatest influence upon the development of the literature and culture of the English speaking people, and compares those myths with myths from other cultures. *Prerequisites: None. 3 credits 3 periods*

ENH254 Literature and Film
Presents works of literature and their film versions, and analyzes distinguishing techniques of each medium. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

ENH255 Contemporary U.S. Literature and Film
Strengths and weaknesses of literature and film. Challenges of adapting literature to film. Addressing racial, ethnic, gender, class, and religious differences between cultures and mediums. Use of narrative in each medium and how it translates various cultural values and assumptions. Specific genres present in literature and film. Cultural metaphors and symbols used in literature and film. *Prerequisites: ENG101. 3 credits 3 periods*

ENH275 Modern Fiction
Includes novels and short stories of modern writers which reflect significant themes of our time. *Prerequisites: None. 3 credits 3 periods*

ENH284 19th Century Women Writers
Investigates major themes in literature by women writing in the 19th century, including the nature of women's lives in the family, in work situations, and in society. Poetry, prose, essays, and drama are examined with an emphasis on common themes. *Prerequisites: None. 3 credits 3 periods*

ENH285 Contemporary Women Writers
Explores twentieth century literature (short stories, essays, plays, and poetry) written by women and about women. Focus on themes relevant to women's lives regardless of age, creed, or ethnic background. *Prerequisites: None. 3 credits 3 periods*

ENH291 Children's Literature
Review of folk and modern literature from a variety of world cultures, including application of literary criteria to folk and modern literature for children. *Prerequisites: None. 3 credits 3 periods*

ENH295 Banned Books and Censorship
History, motivations, and effects of censorship in a democratic society. Censorship and book banning as a method of silencing diverse voices. Critical analysis of banned or challenged literature for children and adults. *Prerequisites: None. 3 credits 3 periods*

EPD-Education Professional Development

EPD220 Introduction to Serving English Language Learners (ELL)

Rationale for and current educational and legal issues for English Language Learners (ELL). Comparison and evaluation of various types of language educational models including Structured English Immersion (SEI), English as a Second Language (ESL) and bilingual. *Course Notes: Approved school-based practicum is required. EDU/EPD220 incorporates the 45-clock-hour curricular framework for provisional SEI endorsement through the Arizona Department of Education. Prerequisites: (Must have a provisional or standard elementary, secondary, or special education teaching certificate) or permission of department. 3 credits 3 periods*

EPD233 Structured English Immersion (SEI) and English as a Second Language (ESL) Teaching Methods

Methods of planning, developing, and analyzing lesson plans in all content areas using English Language Learners (ELL) Standards. Emphasis on components of curriculum content, teaching strategies, development/evaluation/adaptation of teaching materials, and the role of culture in learning. Examines the alignment of ELL Proficiency Standards to the Arizona Language Arts Academic Standards. Covers multiple assessment techniques, tracking of student progress using the Stanford English Language Proficiency (SELP) assessment, and use of assessment results for placement and accommodation. *Course Notes: Approved school-based practicum required. This course incorporates curricular framework for the 45-clock-hour requirement for SEI endorsement through the Arizona Department of Education. Prerequisites: Must have a provisional or standard elementary, secondary, or special education teaching certificate and (EDU220 or EDU225 or permission of department). 3 credits 3 periods*

EPD244 Reading and Writing in SEI/ESL/Bilingual Settings

Introduction to Structured English Immersion (SEI)/English as a Second Language (ESL) terminology, second language acquisition theories, and reading terminology. Teaching and assessment strategies as well as reading comprehension and writing skills covered. *Prerequisites: Provisional or standard elementary, secondary, or special education teaching certificate and (EDU220 or EPD220 or EDU225), or permission of department or division. Course Notes: EPD244 incorporates the 45-clock-hour curricular framework for SEI endorsement through the Arizona Department of Education. 3 credits 3 periods*

EPD246 Teaching and Assessment of English Language Learners (ELL)

Teaching and assessment of English Language Learners (ELL). Covers differentiated instruction, special education needs vs. language needs, learning environments in multilingual and multicultural classrooms, identification, exiting and ongoing assessment of student learning. Legal issues and historical perspectives also covered. Linking assessment to instruction and the review of methods and techniques employed for language and academic assessment included. Standards emphasized. *Prerequisites: (EDU or EPD220 or EDU225) and must hold a provisional or standard elementary, secondary or special education teaching certificate. 3 credits 3 periods*

EPD247 Practicum for English as a Second Language (ESL)/Bilingual Teachers

Provides an opportunity to receive guided practical, on-site experience working with English Language Learners (ELL). Requires observations of ELL students in a variety of settings, evaluation of teaching techniques and critical review of academic standards as they relate to English as a Second Language (ESL) learners. *Prerequisites: (EDU220 or EPD220 or EDU225), or EDU230, or ENG213, or (EDU228 or EDU233 or EPD233 or EDU240 or EDU241), and provisional or standard elementary, secondary or special education teaching certificate. 3 credits 3 periods*

EPD275 Diagnosis and Remediation of Reading K-12

Fundamentals of diagnosis and remediation of reading problems for K-12. Administration, analysis and interpretation of informal diagnostic procedures and use of assessment results in planning a program of remediation. The Diagnostic Teaching of Reading emphasized. *Prerequisites: EDU270AA or EDU270AB, and must hold a provisional or standard elementary, secondary or special education teaching certificate. 3 credits 3 periods*

EPD279 Reading Practicum K-12

Focus on the practical application of current philosophical theories, methods, and models of assessment and instruction for remediation of reading. *Prerequisites: EDU270AA or EDU270AB, and must hold a provisional or standard elementary, secondary or special education teaching certificate. 3 credits 4.5 periods*

EPS-Entrepreneurial Studies

EPS102 Rich Dad's Cashflow

Principles, processes, and tools that represent a new paradigm for financial literacy. Concepts and principles based upon Rich Dad Poor Dad, Cashflow Quadrant, and the Cashflow 101 game©. *Prerequisites: None. 2 credits 2 periods*

EPS250 Introduction to Entrepreneurship

Fundamentals of starting or buying a new business. The nature of the entrepreneurial process and the skills required to be successful, including planning, financing, starting, and managing the business. *Prerequisites: None. 2 credits 2 periods*

EPS295 The Business Plan and Business Start-Up

Development of an integrated approach to strategic choice concerning new venture start-up. Includes development of a comprehensive business plan. *Prerequisites: None. 2 credits 2 periods*

EQS-Equine Science

EQS105 Principles of Equine Science

Breeds, colors, and markings; horse selection; basic conformation; form to function; structures of the hoof; footfall sequences; vision, managed health program; nutrition principles and management practices. *Prerequisites: None. 3 credits 3 periods*

EQS120 Equine Anatomy and Physiology

Study of structure and function of the equine. Includes cell structure and anatomy and physiology of major systems with emphasis on skeletal, muscular, and digestive systems. *Prerequisites: None. 3 credits 3 periods*

EQS130 Equine Business and Law

Practices and records used in the equine business. Includes record keeping systems and basic accounting principles; taxes; personnel management practices; computer programs for record keeping and operations management. Addresses legal aspects and laws unique to equine businesses. *Prerequisites: None. 3 credits 3 periods*

EQS140 Equine Behavior

Equine behavior modification using the horse's natural behavior patterns. Emphasis on intelligence level, vision, emotions, hearing, and attention span of the horse. *Prerequisites: None. 3 credits 3 periods*

ESL-English as a Second Language

ESL010 English as a Second Language I: Grammar

First level of English as a Second Language (ESL). Emphasis on basic conversational skills, pronunciation, vocabulary building, and grammar. Some reading and sentence-level writing. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL placement test score. 3 credits 3 periods*

ESL011 English as a Second Language I: Listening and Speaking

Emphasis on listening and speaking skills involving survival skills. Asking and answering questions related to work, shopping, and personal safety. May be repeated for a maximum of six (6) credits. *Prerequisites: Appropriate ESL placement test score or ESL002. 3 credits 3 periods*

ESL012 ESL I-Writing with Oral Practice

Emphasis on basic conventions of writing in English. Includes introduction to the alphabet, capitalization, punctuation, and simple sentence structure. May be repeated for a maximum of six (6) credits. *Prerequisites: Approximate ESL placement test score, or permission of instructor. 3 credits 3 periods*

ESL020 English as a Second Language II: Grammar

Second level of English as a Second Language (ESL). Continued emphasis on conversational skills, pronunciation, vocabulary building, and grammar with some reading and sentence-level writing. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL placement test score, or a grade of "P" or "C" or better in ESL010, or (ESL010AA, ESL010AB, and ESL010AC). 3 credits 3 periods*

ESL021 English as a Second Language II: Listening and Speaking

Emphasis on listening and speaking skills involving social exchange. Asking and answering questions, and using tag questions. Practice with question and answer patterns. Polite questions and responses. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL placement test score or ESL010 or ESL011 or ESL012 or RDG010. 3 credits 3 periods*

ESL022 ESL II–Writing with Oral Practice

Emphasis on basic writing skills, accompanied by recitation of short writings. Sentence patterns and introduction of paragraph writing. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL course placement score, or a grade of "C" or better in ESL012, or permission of instructor. 3 credits 3 periods*

ESL030 English as a Second Language III: Grammar

Third level of English as a Second Language (ESL). Emphasis on sentence structure and paragraph building. Extensive grammar study and writing practice. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL placement test score, or a grade of "P" or "C" or better in ESL020. 3 credits 3 periods*

ESL031 English as a Second Language III: Listening and Speaking

Emphasis on listening and speaking skills related primarily to the academic environment. Asking questions, working in small groups, using college resources, informal oral presentation. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL placement test score or ESL020 or ESL021 or ESL022 or RDG020. 3 credits 3 periods*

ESL032 ESL III–Writing with Oral Practice

Emphasis on complex sentence patterns in writing and speech. Introduction to the prewriting and writing process in a college setting. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL course placement score, or a grade of "C" or better in ESL022, or permission of instructor. 3 credits 3 periods*

ESL040 English as a Second Language IV: Grammar

Fourth level of English as a Second Language (ESL). Continued emphasis on sentence structure and paragraph building. Extensive grammar study and writing practice. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL placement test score, or a grade of "P" or "C" or better in ESL030, or (ESL030AA, ESL030AB, and ESL030AC). 3 credits 3 periods*

ESL041 English as a Second Language IV: Listening and Speaking

Emphasis on academic skills. Listening to lectures, note-taking, peer interaction, accessing and using media resources, formal oral presentations. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL placement test score or ESL030 or ESL031 or ESL032 or RDG030. 3 credits 3 periods*

ESL042 ESL IV–Writing with Oral Practice

Emphasis on paragraph writing and oral recitation of complex sentences and paragraphs. Introduction to the prewriting and writing process for short essays. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL course placement score, or a grade of "C" or better in ESL032, or permission of instructor. 3 credits 3 periods*

ESL051 Pronunciation Improvement for ESL Speakers

Individualized pronunciation practice and drills for English as a Second Language (ESL) speakers. May be repeated for a maximum of six (6) credit hours. *Prerequisites: Appropriate ESL course placement score, or a grade of "C" or better in (ESL020 or ESL021 or ESL022 or RDG020), or permission of instructor. 3 credits 3 periods*

ETL-Excellence/Teaching/Learning

ETL287 Teaching and Learning Seminar

Emphasis on enhancing teaching and learning through readings, discussions, presentations and synthesis of literature related to a selected topic relevant to current issues in higher education. *Course Notes: May be repeated for a total of sixteen (16) credit hours. Prerequisites: Permission of department or division. 1 credit 1 period*

EXS-Exercise Science

EXS112 Professional Applications of Fitness Principles

Basic principles of fitness for the prospective fitness professional. Planning and teaching in a fitness program. Topics include exercise risks and safety, weight control, components of fitness, fitness assessment, and exercise programming. *Prerequisites: None. 3 credits 3 periods*

EXS125 Introduction to Exercise Physiology

Principles of exercise science applied to teaching fitness/aerobics. Major factors related to the function of the human body. Emphasis on anatomy/physiology, exercise physiology, and biomechanics. *Prerequisites: None. BIO160 recommended but not required. 3 credits 3 periods*

EXS130 Strength Fitness-Physiological Principles and Training Techniques

Principles and techniques of strength training including strength physiology, performance factors, training recommendations, exercise techniques, and program design and management. *Prerequisites: None. 3 credits 4.5 periods*

EXS132 Cardiovascular Fitness: Physiological Principles and Training Techniques

Covers principles and techniques of aerobic training and the application of these to the development of aerobic training programs. Includes instructional techniques and safety, and stresses injury prevention. *Prerequisites: None. 2 credits 2 periods*

EXS136 Sport Psychology for the Fitness Professional

Major principles of sport psychology for fitness professionals who work with athletes and sports participants. Psychological considerations related to communication, mental training, and performance enhancement. *Prerequisites: None. EXS112 and PSY101 recommended. .5 credit .5 period*

EXS137 Exercise Psychology for the Fitness Professional

Major principles of exercise psychology applied to fitness professionals who train or deal with fitness participants. Psychological considerations related to communication, motivation, and mental training. *Prerequisites: None. EXS112 and PSY101 recommended. .5 credit .5 period*

EXS138 Starting Your Own Personal Training Business

Overview of the personal training business in the fitness industry. Skills for becoming a successful and effective personal training business owner. *Prerequisites: None. 1 credit 1 period*

EXS139 Practical Applications of Personal Training Skills and Techniques Internship

Development of personal training skills including effective communication, client assessment, fitness testing, goal setting, program design, and program implementation. Includes hands-on experience with clients in a fitness center. *Course Note: CPR certification must be current through the duration of the internship. Prerequisites: (EXS142 or HES154 within the past two years), or current CPR certification, or permission of instructor. 3 credits 5.4 periods*

EXS139AA Practical Applications of Personal Training Skills and Techniques Internship

Development of personal training skills including effective communication, client assessment, fitness testing, goal setting, program design, and program implementation. Includes hands-on experience with clients in a fitness center. *Course Note: CPR certification must be current through the duration of the internship. Prerequisites: (EXS142 or HES154 within the past two years), or current CPR certification, or permission of Instructor. 1 credit 1.8 periods*

EXS139AB Practical Applications of Personal Training Skills and Techniques Internship

Development of personal training skills including effective communication, client assessment, fitness testing, goal setting, program design, and program implementation. Includes hands-on experience with clients in a fitness center. *Course Note: CPR certification must be current through the duration of the internship. Prerequisites: (EXS142 or HES154 within the past two years), or current CPR certification, or permission of instructor. 2 credits 3.6 periods*

EXS144 Strategies in Diabetes Management

Introduction to strategies in diabetes mellitus management and prevention for individuals diagnosed with diabetes and their caretakers. Includes a physical activity component. *Prerequisites: None. 3 credits 5 periods*

EXS145 Guidelines for Exercise Testing and Prescription

Follows the current ACSM guidelines for health appraisal, risk assessment, safety of exercise, exercise testing, and exercise prescription. *Prerequisites: None. 3 credits 4 periods*

EXS146 Sports Nutrition for Fitness Professionals

Advanced principles and applications in sports nutrition for fitness professionals/trainers. Topics include nutrient needs, effectiveness and usage of ergogenic aids, sports nutrition diet, and program development. *Prerequisites: FON100 or permission of instructor. .5 credit .5 period*

EXS147 Weight Management for Fitness Professionals

Advanced principles of weight management for fitness professionals. Topics include: psychology of eating behaviors, energy balance, obesity theories, weight loss/gain, assessment, and programming. *Prerequisites: WED100 or equivalent, or permission of instructor. 1 credit 1 period*

EXS198CS Projects in Community Service

This course gives the student opportunity to gain work experience in an area of community service which helps relate his/her academic interests to real-life situations. Student and instructor select assignments from an available list of community agencies and organizations which have indicated a need for volunteer workers. The student attends a one-hour seminar weekly and in addition, for each credit in special projects he/she must devote a minimum of 60 hours each semester in designated volunteer assignments. *Prerequisites: None. 3 credits 3 periods*

EXS212CR Instructional Competency Laboratory: Cardiorespiratory Exercises and Activities

Fundamental methods of instructing and leading fitness activities including cardiorespiratory exercises and activities. Core competencies identified by professional certification agencies. *Prerequisites: None. 2 credits 3 periods*

EXS212FL Instructional Competency Laboratory: Flexibility and Mind-Body Exercises

Fundamental methods of instructing and leading fitness activities including flexibility activities. Core competencies identified by professional certification agencies. *Prerequisites: None. 2 credits 3 periods*

EXS212SC Instructional Competency Lab: Muscular Strength and Conditioning

Fundamental methods of instructing and leading fitness activities including strength and conditioning activities. Core competencies identified by professional certification agencies. *Prerequisites: None. 2 credits 3 periods*

EXS215 Fitness for Life

Lifetime health and skill-related components of fitness to achieve total wellness. Topics include health and skill-related components of fitness, guidelines for health and fitness assessment, exercise safety and precautions, nutrition, weight control, cardiovascular risk reduction, psychology of fitness and wellness, consumerism, and overall self-management of personal health and lifestyle habits to achieve the highest potential for well-being. *Prerequisites: None. 3 credits 3 periods*

EXS230 Introduction to Research Methods in Health and Exercise Science

Introduction to the general nature of research with specific application to accessing, reading, evaluating, and reporting research in health and exercise science. Introduce students to select, data-based literature in order to engender an appreciation for and ability to critically evaluate health/exercise science research. *Prerequisites: (ENG101 or ENG107) and MAT082 or permission of instructor. 3 credits 3 periods*

EXS260 Principles of Officiating

Overview of legal rights and responsibilities of the sports official, nutrition and conditioning required of a sports official, psychological aspects of officiation, and effective game and time management techniques. Includes analyzing and maximizing one's own personal officiating style and philosophy. *Prerequisites: None. 2 credits 2 periods*

EXS262BB Basketball Officiating

Methods, materials, and techniques of playing and officiating in basketball. *Course Note: EXS262BB may not be repeated for credit. Prerequisites: None. 2 credits 2 periods*

EXS262BS Sports Officiating: Baseball/Softball

Methods, materials and techniques of playing and officiating in baseball, fast-pitch softball, and slow-pitch softball. *Prerequisites: None. 3 credits 3 periods*

EXS262FB Sports Officiating: Football/Basketball

Methods, materials and techniques of playing and officiating in flag football, tackle football, and basketball. *Prerequisites: None. 3 credits 3 periods*

EXS262VB Volleyball Officiating

Methods, materials, and techniques of playing and officiating in volleyball. *Course Note: EXS262VM may not be repeated for credit. Prerequisites: None. 2 credits 2 periods*

EXS265 Theory of Coaching

Discusses the impact of sports on the American culture, legal liabilities of coaching, principles of a coaching philosophy, the role of teaching skill, physical conditioning and nutrition in coaching, components of team/group psychology and dynamics, motivation and aggression in sport. *Prerequisites: None. EXS281, suggested but not required. 3 credits 3 periods*

EXS265BA Baseball Theory of Coaching

Theory and techniques of coaching baseball as a competitive sport. *Course Note: EXS265BA may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS265BB Basketball Theory of Coaching

Theory and techniques of coaching basketball as a competitive sport. *Course Note: EXS265BB may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS265FB Football Theory of Coaching

Theory and techniques of coaching football as a competitive sport. *Course Note: EXS265FB may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS265GO Theory of Coaching Golf

Theory and techniques of coaching golf as a competitive sport. *Course Note: EXS265GO may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS265SB Softball Theory of Coaching

Theory and techniques of coaching softball as a competitive sport. *Course Note: EXS265SB may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS265VB Volleyball Theory of Coaching

Theory and technique of coaching volleyball as a competitive sport. *Course Note: EXS265VB may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS275 Methods of Enhancing Physical Performance

Theoretical and practical applications of performance enhancement methodologies and practices. Basic sport mechanics and exercise physiology. Training clients for speed, power, agility, balance, and endurance activities to enhance athletic performance. Application of training principles to specific sports and design of training programs. *Prerequisites: EXS125 or EXS130 or permission of instructor. 3 credits 3 periods*

EXS281 Methods of Coaching

Comprehensive overview of the art and science of coaching, including development of coaching philosophy, techniques of sport pedagogy, practical application of sports skill teaching, sport physiology, nutrition, sport/team management and self management. *Prerequisites: None. EXS265 suggested but not required. 3 credits 3 periods*

EXS281BA Baseball Methods of Coaching

Techniques, methods, and procedures of baseball coaching. *Course Note: EXS281BA may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS281BB Basketball Methods of Coaching

Techniques, methods, and procedures of basketball coaching. *Course Note: EXS281BB may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS281FB Football Methods of Coaching

Techniques, methods, and procedures of football coaching. *Course Note: EXS281FB may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS281GO Golf Methods of Coaching

Techniques, methods, and procedures of coaching golf. *Course Note: EXS281GO may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS281SB Softball Methods of Coaching

Techniques, methods, and procedures of softball coaching. *Course Note: EXS281SB may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS281SO Soccer Methods of Coaching

Techniques, methods, and procedures of soccer coaching. *Course Note: EXS281SO may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS281VB Volleyball Methods of Coaching
Techniques, methods, and procedures of volleyball coaching. *Course Note: EXS281VB may not be repeated for credit. Prerequisites: None. 3 credits 3 periods*

EXS285 Exercise Program Design and Instruction
Business aspects of the fitness profession such as program administration, quality assurance, and effective communication skills for the professional personal trainer and/or strength and conditioning coach. Implementation of behavioral strategies, progression of program planning, and development of programs for populations with special physical/medical needs. Designing exercise programs in an internship setting. *Prerequisites: EXS145 or permission of instructor. 3 credits 3 periods*

EXS298AA-AC Special Projects
Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. *Prerequisites: Permission of Program Director or instructor. 1-3 credits 1-3 periods*

FCS-Family and Consumer Science

FCS250 Portfolio Development and Professional Writing
Techniques of portfolio development to document prior learning gained through experience, training, and/or previous education. Includes study of learning styles and levels, analysis of personal and vocational experiences, synthesis of these with competencies for specific courses, and integration of the above with other material to create a portfolio to be introduced for evaluation for credit. *Prerequisites: Completion of twelve (12) credit hours of CFS and/or FCS coursework and permission of Program Coordinator. 3 credits 3 periods*

FCS260 Family and Consumer Science Internship
Work experience in community-based, family-focused service and/or educational organizations. 80 hours of designated work per credit. *Prerequisites: Permission of instructor. 1 credit 1 period*

FLA-Foreign Language

FLA282AB-AC Volunteerism for Foreign Languages: A Service Learning Experience
Service-learning field experience within private/public agencies, and citizen volunteer groups specific to the language of study. May be repeated for a total of (4) FLA282 credit hours. 50 hours of service is required. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 2-3 credits 2-3 periods*

FON-Food and Nutrition

FON100 Introductory Nutrition
Basic nutrition concepts for health and fitness. Emphasizes current dietary recommendations for maximizing well-being and minimizing risk of chronic disease. Focuses on use of tables, food guides, and guidelines for making healthy food choices. Includes unique nutrition needs for selected stages of the life cycle, methods for evaluating credibility of nutrition claims, principles of vegetarian nutrition, safe and economic use of supplements, principles of energy balance, basic elements of food safety, diet for exercise and sports, and personal dietary evaluation techniques. Not for predietetics or selected other preprofessional majors. May not be taken for credit if credit has been earned in FON100AA and/or FON100AC. *Prerequisites: None. 3 credits 3 periods*

FON100AA Introductory Nutrition I
Basic nutrition concepts for optimal health. Emphasizes current dietary recommendations for maximizing well-being and minimizing risk of chronic disease. Focuses on use of tables, food guides, and guidelines for making healthy food choices. Includes methods for evaluating credibility of nutrition claims, principles of vegetarian nutrition, safe and economic use of supplements, principles of energy balance, and personal dietary evaluation techniques. Not for predietetics or selected other preprofessional majors. May not be taken for credit if credit has been earned in FON100. *Prerequisites: None. 2 credits 2 periods*

FON100AC Introductory Nutrition II
Applications of nutrition guidelines to the life cycle. Focuses on unique dietary needs for pregnancy, lactation, childhood, adolescence, and geriatrics. Includes lifestyle factors that complement diet and basic elements of food safety. *Prerequisites: FON100AA. 1 credit 1 period*

FON100LL Introductory Nutrition Laboratory
Self-evaluative laboratory experience using anthropometric, biochemical, and dietary analysis. Includes the use of qualitative and quantitative methodology to determine nutritional status and evaluate methodological applications. Focus on understanding energy balance related to weight regulation and health. *Course Notes: FON100LL complements FON100, Introductory Nutrition. Prerequisites: None. 3 credits 4 periods*

FON102 Menu Planning
Principles and techniques of menu planning for food service operations where food is served in quantity; includes applications for health care institutions, commercial kitchens, school cafeterias, and industrial facilities. *Prerequisites: None. 2 credits 2 periods*

FON104 Certification in Food Service Safety and Sanitation
Preparation for and certification in a national food sanitation and safety program. Emphasis on food from purchasing, receiving, and storing to preparation, holding, and serving. Focuses on safe and sanitary food service facilities and equipment, employee habits and personal hygiene, and role of management in safety and sanitation. Includes time-temperature principles, foodborne illnesses, pest control, accident prevention, standards for cleaning and sanitizing, and regional regulations and standards. *Prerequisites: None. 1 credit 1 period*

FON118 Commercial Baking Techniques
Principles and techniques for preparation, storage, and serving of bakery products. Includes breads, cakes, pies, pastry, cookies, fillings, and icings. Emphasis on practical experiences in a commercial bakery. *Prerequisites: None. 3 credits 5 periods*

FON124 Customer Service Practicum
Professional food and beverage experience in a commercial food service operation. Focuses on food server, host/hostess, cashier, and busperson. Includes beverage preparation, application of sanitation, and safety concepts. Stresses professionalism in service, demeanor, and appearance. *Prerequisites: FON104. 4 credits 11 periods*

FON125 Introduction to the Professions in Nutrition and Dietetics
Introduction to professions in nutrition and dietetics, including history, current practice, and future trends. Emphasis on the integration of nutrition and dietetics within health care systems and public policy. Highlights professional ethics, standards of practice, education requirements, and areas of practice. *Prerequisites: None. 1 credit 1 period*

FON135 Cooking Life
Basic cooking techniques for healthful and enjoyable eating. Emphasis on strategies for maximizing the use of whole, local, and nutrient-dense food while focusing on applying the dietary recommendations for optimal health to food choices. Opportunities to learn about sustainable food living, and identifying resources that enable people to be more in control of their food supply. *Prerequisites: None. 3 credits 4 periods*

FON142AB Applied Food Principles
Exploration and applications of scientific principles involved in food preparation; experiences with basic cooking methods; emphasis on the rationale of cooking techniques. *Prerequisites: None. 3 credits 3 periods*

FON143 Food and Culture
Foods and dishes unique to cultures or regions such as Oriental, European, African, New England, Southern, and Western. Preparation, service, and historical and cultural significance of foods. *Prerequisites: None. 3 credits 3 periods*

FON179 Garde Manger
Prepares students for employment in garde manger pantry positions in restaurants and resorts. Includes costing out and ordering food products, food and safety factors, preparing and garnishing pantry product. Emphasis on classical food. *Prerequisites: None. 3 credits 5 periods*

FON180 Principles and Skills for Professional Cooking
Introductory principles and skills for professional cooking. Introduces organizational structure of kitchen staff in different types of kitchens. Includes basic principles of safety and sanitation, equipment and utensil use, French cooking terms, recipe use, measuring techniques, identification and use of seasoning agents, and basic cooking methods applied to stocks, sauces and soups, vegetables, starches, entrees, and eggs. Emphasis on practical experiences in a commercial kitchen. *Prerequisites: None. 3 credits 5 periods*

FON181 French Cuisine
Principles of French cooking applied to restaurant kitchens. Includes review of safety and sanitation principles, orientation to French culture, use of French terms and recipes, and reading French menus. Emphasis on practical experiences in preparing French meals in a restaurant kitchen. Introduces preparation of appetizers, hors d'oeuvres, charcuterie items, pastries, and desserts. *Prerequisites: None. 3 credits 5 periods*

FON182 American Regional Cuisine
American regional food preparation applied to restaurants. Review principles of sanitation and safety. Explores history and customs, serving styles, and preparation techniques of foods unique to selected American regions. Emphasis on practical cooking experiences in a restaurant setting. American regions to include, but not limited to: Southern, Cajun/Creole, New England, Mid-West, and Pacific Coast. *Prerequisites: None. 3 credits 5 periods*

FON183 International Cuisine
Gourmet international food preparation applied to restaurants. Review principles of sanitation and safety. Explores history and customs, serving styles, and preparation techniques of foods unique to selected international cultures. Emphasis on practical cooking experiences in a restaurant kitchen. Cultures to include, but not limited to: Italian, German, Oriental, Middle Eastern, and Spanish. *Prerequisites: None. 3 credits 5 periods*

FON184 Pacific Rim Cuisine

Local and gourmet Pacific Rim food preparation applied to restaurants. Overview of principles of sanitation and safety. Explores history and customs, serving styles, and preparation techniques of foods unique to Pacific Rim cultures. Emphasis on practical cooking experiences in a restaurant kitchen. Cultures to include, but not limited to Chinese, Japanese, Thai, Korean, and South Pacific Islands. *Prerequisites: None. 3 credits 5 periods*

FON190 Professional Cooking Practicum

Preparation of hot and cold foods in a commercial food service operation; experience in volume food production preparing salads, soups, stocks, sauces, entrées, starches, and vegetables; designed to develop knowledge and skills necessary to cook in a variety of commercial kitchens. *Prerequisites: FON104, FON180, or departmental approval. 7 credits 19 periods*

FON202 Purchasing for Food Service Systems

Food purchasing for institutions: cost factors, quality standards, purchasing practices and controls. *Prerequisites: None. 3 credits 3 periods*

FON210 Sports Nutrition and Supplements for Physical Activity

Principles of nutrition applied to fitness, exercise, and sports. Dietary fundamentals as applied to body fuels, hydration, and other unique needs for exercise and sports. Includes dietary guidelines for weight or endurance training, glycogen loading, the pre-game meal, and glycogen recovery. Emphasis on maximizing fitness, performance, and safety. Discussion of supplements and their effects on metabolic enhancement. Discussion of anabolic, catabolic, and energy-producing agents. Addresses current supplements on the market. *Prerequisites: FON100AA, or FON100, or equivalent, or permission of instructor. 3 credits 3 periods*

FON218 Commercial Baking: Classical Desserts

Advanced principles and techniques in commercial baking and dessert preparation. Focus on fine pastries with European flair and on desserts served in better hotels, restaurants, and resorts. Preparation of macaroons, tarts, puff pastries, specialty cakes, and desserts such as Bavarian creams, mousses, custards, souffles, crepe desserts, and flammeries. Preparation and use of sauces, techniques for using nuts and chocolate, and exploration of new recipes. *Prerequisites: None. 3 credits 5 periods*

FON220 Advanced Pastry Arts

Advanced pastry arts and decorative work as applied to showpieces and special occasion cakes. Includes sugar work such as pulled, blown, and poured as well as the use of tempered and modeling chocolate. Design and execution of a three-tier wedding cake as well as work on a special occasion and team wedding cake using gumpaste, pastillage, chocolate, or marzipan. Includes desserts for special diets and spa desserts. *Course Note: FON220 may be repeated for a total of six (6) credits. Prerequisites: (FON118 and FON218, or industry equivalent), or permission of Program Director. 3 credits 5 periods*

FON230 Nutrition for Special Populations

Managing and understanding the nutrition needs of special populations. These populations include people who are diagnosed with heart disease, diabetes, women who are pregnant, children who are suffering from obesity, and senior adults. *Prerequisites: FON100 or permission of instructor. 3 credits 3 periods*

FON241 Principles of Human Nutrition

Scientific principles of human nutrition. Emphasis on health promotion and concepts for conveying accurate nutrition information in a professional setting. Addresses therapeutic nutrition principles for treatment of common health conditions. Includes exploration of food sources of nutrients, basic metabolism of nutrients in the human body, relationship between diet and other lifestyle factors, use of supplements, current recommendations for food selection throughout the life cycle, and use of nutrition tools for planning food intake or assessment of nutritional status. *Prerequisites: None. 3 credits 3 periods*

FON241LL Principles of Human Nutrition Laboratory

Self-evaluative laboratory experience to complement FON241, Principles of Human Nutrition, using anthropometric, biochemical, and dietary analysis. Includes the use of qualitative and quantitative methodology to determine nutritional status and evaluate methodological applications. *Prerequisites or Corequisities: FON241. 1 credit 3 periods*

FON247 Weight Management Theory

Comprehensive study of genetic, physiological, psychological, metabolic, and environmental influences on body weight. In-depth study of the theories of body weight with emphasis on distinguishing between behavioral and biological approaches. Focus on discovering successful healthful long-term weight management strategies. *Prerequisites: FON100 or FON241 or permission of instructor. 3 credits 3 periods*

FRE-French

FRE101 Elementary French I
Basic grammar, pronunciation, and vocabulary of the French language. Includes the study of French culture, practice of listening, speaking, reading, and writing skills. *Prerequisites: None. 4 credits 4 periods*

FRE102 Elementary French II
Continued study of grammar and vocabulary of the French language along with the study of French culture. Emphasis on speaking, listening, reading, and writing skills. *Prerequisites: FRE101 or equivalent. 4 credits 4 periods*

FRE115 Beginning French Conversation I
Conversational French. Basic sentence structure, pronunciation, and vocabulary necessary to develop speaking ability in French. Designed for students seeking speaking and listening abilities with little emphasis on grammar. *Prerequisites: None. 3 credits 3 periods*

FRE201 Intermediate French I
Review of essential grammar of the French language and study of French culture. Continued practice and development of reading, writing, and speaking skills. *Prerequisites: FRE102 with a grade of "C" or better, or two years of high school French with an average of "C" or better, or departmental approval. 4 credits 4 periods*

FRE202 Intermediate French II
Review of grammar, continued development of French language skills, and continued study of the French culture. *Prerequisites: FRE201 with a grade of "C" or better or three years of high school French with an average of "C" or better. 4 credits 4 periods*

FSC-Fire Science Technology

FSC101 Introduction to Fire Service Selection
Overview of the application and selection processes used by various fire departments and fire service organizations. Elements of fire service culture and their effects on personal growth and interpersonal relationships. Major components of written application processes, requirements, preparation of resumes and their effect on employment prospects. Preparation for the interview to include communications skills, mental preparation techniques, behaviors, and the importance of the interview in the pre-employment process. Preparation for on-site experiences at a fire station. General components of the selection process, the importance of general education, and components of lifelong learning in career choices. *Prerequisites: None. 3 credits 4 periods*

FSC102 Fire Department Operations
Introductory fire science course primarily designed for the new fire department recruit. Includes firefighting skills, equipment, and administrative policies, fire department operations, and personnel policies and International Fire Science Accreditation Congress Practical Skills Testing. *Prerequisites: (EMT104, FSC105 and FSC130) and permission of instructor. Corequisites: FSC134. 11 credits 19.6 periods*

FSC104 Basic Emergency Medical Technology
Techniques of emergency medical care in accordance with national and state curriculum. Study of the human body, patient assessment, treatment of medically or traumatically compromised patients, special hazards, and medical operations. IV monitoring, Sudden Infant Death Syndrome (SIDS), patient-assisted medication administration, automated external defibrillators, and blood-glucose monitoring. Includes participation in two eight-hour clinical rotations through a local emergency department scheduled during the semester outside normal class hours. Requires personal pocket mask, stethoscope, pen light, and trauma scissors. *Prerequisites: Must be at least 18 years of age prior to applying to the BLS (Basic Life Support) Training Program per Arizona Revised Statutes, and must have a current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer. Minimum ninth grade level reading proficiency on the Nelson-Denney Examination or appropriate Reading course placement score. Proof of: TB testing or chest x-ray with a negative result within 6 months prior to registration; immunity to rubella (German measles) and rubeola. 8 credits 9.45 periods*

FSC105 Hazardous Materials/First Responder
Basic methods of recognition and identification based upon the chemical and physical properties of hazardous materials; basic safety procedures when utilizing specific types of protective clothing and equipment; basic tactical information relating to scene management. Confined space operations in accordance with the National Fire Protection Agency. *Prerequisites: None. 3 credits 3 periods*

FSC106 Introduction to Fire Protection
History and evaluation of fire department organization. Role of the fire service in the community. Responsibilities of the fire administrator including organization, departmental functions, interdepartmental relationships, management of buildings and equipment and techniques of firefighting. Also includes emergency medical services and fire prevention. *Prerequisites: None. 3 credits 3 periods*

FSC108 Fundamentals of Fire Prevention
Fundamentals of fire prevention. Includes techniques, procedures, regulations, and enforcement. Also includes discussion of hazards in ordinary and special occupancies. Field trips and lectures from industry also included. *Prerequisites: None. 3 credits 3 periods*

FSC110 Wildland Firefighter
Basic-level course for individuals with little or no experience in the wildland environment. Preparation for performing as a beginning-level wildland firefighter with an organized fire department engine or hand crew. *Prerequisites: None. 3 credits 3 periods*

FSC111 Emergency Vehicle Driver Operator

Emergency vehicle operator training including the problems facing operators; the personal qualities of emergency vehicle operator candidates; legal responsibilities of operators; physical forces involved in driving an emergency vehicle. Includes hands-on training in an emergency response vehicle. *Prerequisites: None. 2 credits 2 periods*

FSC113 Introduction to Fire Suppression

Characteristics and behavior of fire, fire hazard properties of ordinary materials, extinguishing agents, fire suppression organization and equipment, basic firefighting tactics, and public relations as affected by fire suppression. *Prerequisites: None. 3 credits 3 periods*

FSC117 Fire Apparatus

Principles of care, maintenance, and operation of fire apparatus and pumps. Includes pump construction and accessories, pumping techniques, power development, and transmission. Driving, troubleshooting, and producing effective fire streams. *Prerequisites: None. 3 credits 3 periods*

FSC118 Fire Hydraulics

Review of basic mathematics. Hydraulic laws and formulas as applied to the fire service. Application of formulas and mental calculations to hydraulic problems, water supply variables, and discharge requirements for pumpers. *Prerequisites: None. 3 credits 3 periods*

FSC119 Introduction Fire Service Ethics

Ethical issues, standards, and philosophical consideration of moral problems encountered in fire service. Ethical responsibility of fire service personnel and those they serve. *Prerequisites: None. 3 credits 3 periods*

FSC130 Fitness for Firefighters/CPAT

Skills and abilities required for entry-level position in fire service including physical ability and stamina. Opportunity to take the International Association of Fire Fighters (IAFF) Candidate Physical Ability Test (CPAT) at the end of the course. *Prerequisites: None. Course Note: Offered as credit (P) or no credit (Z) basis. Standard grading available according to procedures outlined in catalog. 1 credit 1.5 periods*

FSC134 Fitness & Conditioning/Firefighters

Overview of all aspects of fitness for current and prospective firefighters. Includes physical and mental aspects of performance for optimal achievement on fire department agility tests and fire fighting tasks; individual conditioning strategies, nutritional guidelines, protective clothing concepts, and basic exercise principles. Pre-employment, evaluation, and lifelong fitness and conditioning. *Prerequisites: None. 3 credits 4.6 periods*

FSC139 Emergency Response to Terrorism

Fundamentals of emergency response to suspected terrorist events. Historical perspective of terrorist activities and methods by which responders can identify and protect themselves and the public from these threats. Coordination of responding agencies. *Prerequisites: None. 3 credits 3 periods*

FSC146 Disaster Recovery Operations

Specialized knowledge and skills for the emergency manager in developing programs and activities associated with disaster recovery assistance and mitigation actions that reduce losses from future disasters. *Prerequisites: None. 3 credits 3 periods*

FSC147 Emergency Preparedness

Emergency preparedness related to natural and man-made disasters. Planning concepts and the planning process; awareness and education programs and strategies for the general community as well as business and industries. *Prerequisites: None. 3 credits 3 periods*

FSC148 Fundamentals of Emergency Management

Emergency management systems including career opportunities, function, tasks and responsibilities of the emergency management program manager, role of the emergency manager in mitigation, preparedness, response, and recovery. Past civil defense and current emergency management systems since evolution from World War II. *Prerequisites: None. 3 credits 3 periods*

FSC149 Hazard Mitigation

Knowledge and skills required to develop programs to reduce losses from future disasters, emergencies, and other extreme events caused by natural and man-made hazards. *Prerequisites: None. 3 credits 3 periods*

FSC202 Supervisory Training for Firefighters

Administrative methods applied to fire service, departmental organization, and personnel management. Includes fire alarm signaling systems, fire service planning, and relationships with other city departments. *Prerequisites: None. 3 credits 3 periods*

FSC204 Firefighting Tactics and Strategy

Methods of coordinating personnel, equipment, and apparatus on the fireground. Practical methods of controlling and extinguishing structural and other types of fires. Includes simulation exercises. *Prerequisites: FSC113, or equivalent, or permission of instructor. 3 credits 3 periods*

FSC205 Command Strategies for Major Emergencies

Effective methods of managing major emergency incidents, including multiple alarm structural fires, high rise fires, major brush fires, complex hazardous materials incidents, and multi-casualty medical incidents. Includes incidents that require the commitment of resources based on a transitional situation and/or managing the effective interaction between numerous agencies to achieve control. *Prerequisites: FSC204. 3 credits 3 periods*

FSC208 Firefighter Safety and Building Construction

Actions necessary to provide for the safety of firefighters operating on the fireground. Effects that fire and heat may have on various types of building construction resulting in the loss of structural integrity. Includes signs and symptoms of structural damage. *Prerequisites: FSC113, or equivalent, or permission of instructor. 3 credits 3 periods*

FSC211 Fundamentals of Flammable Hazardous Materials

Fundamentals of chemistry used in fire service, chemistry of flammable hazardous materials, containers used to store and transport flammable hazardous materials, and equipment and materials used in controlling emergencies involving flammables. Also includes tactics for hazardous materials emergencies, and laws at federal, state, and local levels pertaining to the use, storage, and transportation of hazardous materials and hazardous wastes. *Prerequisites: FSC105. 3 credits 3 periods*

FSC212 Dangerous and Explosive Hazardous Materials

The chemistry of reactive and unstable hazardous materials, the toxicology of dangerous chemicals, and the measures taken to protect responders, the community, and the environment of chemical accidents. Also includes an introduction to field sampling of unknown substances. *Prerequisites: FSC211. 3 credits 3 periods*

FSC214 Human Resource Management in Fire Service

Management of fire service personnel functions. Includes selection procedures, employee discipline, performance ratings and elements of supervision. Labor relations and related personnel responsibilities. *Prerequisites: FSC202, or four years in the fire service. 3 credits 3 periods*

FSC215 Customer Service in the Public Sector

Examines the personal and practical skills needed to enhance customer service in the public sector with an emphasis on application, basic management requirements, and training. *Prerequisites: None. 3 credits 3 periods*

FSC224 Incident Command Systems

Methods for managing emergency incidents including command, control and coordination of response to all types of incidents, including hazardous materials, natural hazards, fire and multiple causality incidents. Emphasis on stabilization and protecting life, property, and environment. *Prerequisites: None. 3 credits 3 periods*

FSC258 Victimology and Crisis Management

Focuses on victimology and techniques of crisis intervention, and the importance of multicultural perspective. Includes coverage of sexual assault, family violence, child abuse, post-traumatic stress disorder, substance abuse, coping skills, stress management, and community resources. *Prerequisites: None. 3 credits 3 periods*

FSC298AC Special Projects

Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. *Prerequisites: Permission of Program Director or instructor. 3 credits 3 periods*

FUS-Future Studies

FUS101 Dimensions of the Future

Significant changes taking place in society and the world, and possible changes in the future. *Prerequisites: None. 3 credits 3 periods*

GBS-General Business

GBS104 Quality Telephone Techniques

Specific telephone communication techniques for delivering professional customer service. *Prerequisites: None. 1 credit 1 period*

GBS110 Human Relations in Business and Industry

Exploration of fundamental theories and concepts of human relations in business and industry. Particular emphasis is placed on developing effective interpersonal relationships and leadership skills within an organization. *Prerequisites: None. 3 credits 3 periods*

GBS131 Business Calculations

Review of basic arithmetic and application of mathematics to business problems, includes percentage, interest, discount, and markups. *Prerequisites: None. 3 credits 3 periods*

GBS132 Personal and Family Financial Security

Principles and practices of personal and family financial planning, includes savings, budgeting, credit, buying versus renting, and general principles of consumerism. *Prerequisites: None. 3 credits 3 periods*

GBS151 Introduction to Business

Characteristics and activities of current local, national, and international business. An overview of economics, marketing, management, and finance. *Prerequisites: None. 3 credits 3 periods*

GBS161 Mathematics of Business

Applications of basic financial mathematics; includes interest, financial statement, stocks and bonds, and international business. *Prerequisites: GBS131, or MAT102, or permission of department/division. 3 credits 3 periods*

GBS205 Legal, Ethical, and Regulatory Issues in Business

Legal theories, ethical issues, and regulatory climate affecting business policies and decisions. *Prerequisites: None. 3 credits 3 periods*

GBS206 Business Law (UCC)
Legal and ethical aspects of contracts, sales, commercial paper, secured transactions, documents of title, letter of credit, bank deposits, and collections. *Prerequisites: None. 3 credits 3 periods*

GBS207 Business Law (General Corporate)
Legal and ethical aspects of agency, partnerships, corporation, bankruptcy, antitrust, securities, and other regulations of business. *Prerequisites: None. 3 credits 3 periods*

GBS211 Legal, Ethical, and Regulatory Issues of the Internet Studies
Legal, ethical, and regulatory issues of the Internet environment, including personal, commercial, and business electronic transactions in cyberspace. *Prerequisites: GBS210, or permission of instructor. 3 credits 4 periods*

GBS219 Statistics for Real Estate Appraisers
Real estate appraisal and business applications of probability, descriptive and inferential statistics. Includes the use of spreadsheet software for business statistical analysis. Focus on real estate business applications. *Prerequisites: Grade of "C" or better in MAT120. 3 credits 3 periods*

GBS221 Business Statistics
Business applications of descriptive and inferential statistics, measurement of relationships, and statistical process management. *Prerequisites: Grade of "C" or better in GBS220 or MAT172. 3 credits 3 periods*

GBS233 Business Communication
Internal and external business communications, including verbal and nonverbal techniques. *Prerequisites: ENG101 or ENG107 with grade of "C" or better, or permission of department/division. 3 credits 3 periods*

GBS261 Investments I
Evaluation of various investment forms including study of inflation, taxation, government securities, stocks and bonds, real estate, and retirement plans. *Prerequisites: None. 3 credits 3 periods*

GBS282AA-AC Volunteerism for General Business: A Service-Learning Experience
Service-learning field experience within private/public agencies, educational institutions, and citizen volunteer groups. May be repeated for a total of six (6) GBS282 credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: GBS151 and permission of instructor. 1-3 credits 1-3 periods*

GCU-Cultural Geography

GCU102 Introduction to Human Geography
Systematic study of human use of the earth. Spatial organization of economic, social, political, and perceptual environments. *Prerequisites: None. 3 credits 3 periods*

GCU121 World Geography I: Eastern Hemisphere
Description and analysis of areal variations in social, economic, and political phenomena in major world regions. Emphasis on Europe, Russia, North Africa, and the Asian world. *Prerequisites: None. 3 credits 3 periods*

GCU122 World Geography II: Western Hemisphere
Description and analysis of variations in social, economic, and political phenomena in major world regions. Emphasis on Sub-Saharan Africa, Latin America, and Anglo America. *Prerequisites: None. 3 credits 3 periods*

GCU221 Arizona Geography
The historical to modern development of Arizona. The interplay between the physical, cultural, and economic factors affecting Arizona today. *Prerequisites: None. 3 credits 3 periods*

GER-German

GER101 Elementary German I
Basic grammar, pronunciation, and vocabulary of the German language. Includes the study of German culture, practice of listening, speaking, reading, and writing skills. *Prerequisites: None. 4 credits 4 periods*

GER102 Elementary German II
Continued study of grammar and vocabulary of the German language along with the study of German culture. Emphasis on German language skills. *Prerequisites: GER101 or equivalent. 4 credits 4 periods*

GER115 Beginning German Conversation I
Conversational German. Basic sentence structure, pronunciation, and vocabulary necessary to develop speaking ability in German. Designed for students seeking speaking and listening abilities with little emphasis on grammar. *Prerequisites: None. 3 credits 3 periods*

GER201 Intermediate German I
Review of essential grammar of the German language and study of the German culture. Continued practice and development of reading, writing, and speaking skills. *Prerequisites: GER102, or two years of high school German, or departmental approval. 4 credits 4 periods*

GER202 Intermediate German II
Continued development of German language skills and continued study of the German culture. *Prerequisites: GER201, or equivalent, or departmental approval. 4 credits 4 periods*

GLG-Geology

GLG101 Introduction to Geology I – Physical Lecture
A study of the kind and arrangement of materials composing the earth's crust and the geological processes at work on and within the earth's surface. *Prerequisites: None. 3 credits 3 periods*

GLG102 Introduction to Geology II – Historical Lecture

Outlines the origin and history of the earth with emphasis on North America, its dynamic, geographic, and climatic changes; animals and plants of the past; the evolution of life. *Prerequisites: None. 3 credits 3 periods*

GLG103 Introduction to Geology I – Physical Lab

May accompany GLG101. Study of common rock-forming minerals, rocks, and maps. *Prerequisites: None. 1 credit 3 periods*

GLG104 Introduction to Geology II – Historical Lab

May accompany GLG102. Study of geological structures and rocks, fossils, and geologic maps. May require field trips. *Prerequisites: None. 1 credit 3 periods*

GLG105 Introduction to Planetary Science

A survey of solar system objects and their geologic evolution, surfaces, interiors, and atmospheres, and the methods used to study them; weekly laboratory for data analysis and experiments; possible weekend field trip. *Prerequisites: None. 4 credits 6 periods*

GLG110 Geologic Disasters and the Environment

Acquaints students with the use and importance of geological studies as they apply to the interactions between people and the earth. Includes geological processes and hazards such as floods, earthquakes, and landslides; use of fossil fuels; mining of raw materials. *Prerequisites: None. 3 credits 3 periods*

GLG111 Geological Disasters and the Environment Lab

May accompany GLG110. Basic geological processes and concepts. Emphasis on geology-related environmental problems concerning Arizona. Case histories and field studies. May require field trips. *Prerequisites: None. 1 credit 3 periods*

GLG121 Geology of the Grand Canyon

Introduction to the physiography and geology of the Grand Canyon. Includes a hiking field trip to the Grand Canyon. *Course Notes: GLG103 suggested but not required. Prerequisites: None. 1 credit 2 periods*

GLG230AA Field Geology of the Southwest

Field trips to selected areas in the Southwest, such as Arizona, Utah, California, and Sonora to observe and interpret various geological features and phenomena. *Course Notes: GLG103 suggested but not required. Prerequisites: None. 1 credit 5 periods*

GLG280 Geology of Arizona Lecture

Acquaints students with the physical and historical geology of Arizona, including the origin of present-day land forms and outstanding modern geologic features and processes now in operation. *Prerequisites: None. 3 credits 3 periods*

GLG282AA Volunteerism for Geology: A Service-Learning Experience

Service-learning field experience within human service organizations, government offices, public schools, or hospitals. May be repeated for a total of six (6) GLG282 credit hours; may not repeat specific agency assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1 credit 1 period*

GPH-Physical Geography

GPH111 Introduction to Physical Geography

Spatial and functional relationships among climates, landforms, soils, water, and plants. *Prerequisites: None. 4 credits 6 periods*

GPH210 Society and Environment

Principles of physical geography relating to environmental problems pertinent to contemporary society. Pollution, maladjusted land use, and resource exploitation. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

GPH212 Introduction to Meteorology I

Atmospheric processes and elements. General and local circulation, heat exchange, and atmospheric moisture. *Prerequisites: None. 3 credits 3 periods*

GPH213 Introduction to Climatology

Study of atmospheric phenomena over periods of time measured in months, years or longer. Includes average weather conditions, infrequent and unusual types of weather, and the influence of weather on the cultural and human landscape. *Prerequisites: None. 3 credits 3 periods*

GPH214 Introduction to Meteorology Laboratory I

Basic meteorological and climatological measurements. *Prerequisites: None. Corequisites: GPH212. 1 credit 3 periods*

GPH215 Introduction to Climatology Laboratory

A mathematical, statistical, and spatial analysis of climatological phenomena. *Prerequisites: None. Corequisites: GPH213. 1 credit 3 periods*

GPH219 Introduction GIS Using ArcGIS

An introduction to desktop Geographic Information Systems (GIS) technology using ArcGIS software. *Prerequisites: CIS105 or CSC180 or permission of instructor. 3 credits 3 periods*

GPH220 Intermediate GIS Using ArcGIS

Further development of knowledge and skills in Geographic Information Systems (GIS), including evolution of GIS, GIS users, statistical applications, spatial databases, spatial analysis and related technology, and overview of spatial data. *Prerequisites: GPH219 or permission of instructor. 3 credits 3 periods*

GPH230 Spatial Database I

Design of spatial databases, including data types, fields, tables, and relationships. Covers key fields, attribute domains, spatial data collection methods, software development lifecycle, and Computer Aided Software Engineering (CASE) tools. *Prerequisites: GPH220 or permission of instructor. 3 credits 3 periods*

GPH235 Internet Mapping Using ArcIMS

Development of internet map servers using ArcIMS. Covers software architecture, configuration, and deployment. *Prerequisites: CIS159, or CSC181, or GPH273, or permission of instructor. 3 credits 3 periods*

GPH240 Natural Hazards, Disasters, and Catastrophes

Emphasis on interaction of physical and cultural geography in potentially hazardous atmospheric, oceanic, geologic, and astronomic processes. Exploration of hazard risk analysis. *Prerequisites: ENG101. 3 credits 3 periods*

GPH270 Introduction to Cartography and Geospatial Technologies

Overview of maps, map projections and cartography. Introduction to geospatial technologies, including remote sensing, Global Positioning System, Geographic Information System, and statistical analysis. *Prerequisites: None. 3 credits 3 periods*

GPH273 Advanced GIS Using ArcGIS

Advanced data and spatial analysis techniques in Geographic Information Systems (GIS), using ArcGIS. *Prerequisites: GPH220 or permission of instructor. 3 credits 3 periods*

GPH275 Remote Sensing, GPS, and GIS

Uses and applications of remote sensing and imagery in Geographic Information Systems (GIS). Uses and application of Global Positioning Systems to GIS and Remote Sensing. *Prerequisites: None. 3 credits 3 periods*

GPH282AA Volunteerism for Physical Geography: A Service-Learning Experience

Service-learning field experience within private/public agencies and citizen volunteer groups. May be repeated for a total of six (6) GPH282 credit hours; may not repeat specific agency assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1 credit 1 period*

GPH298AC Special Projects

Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment are available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. *Prerequisites: Permission of Program Director or instructor. 3 credits 3 periods*

GTC-General Technology

GTC102 Machine Processes, Theory, and Application

Study and application of principles and theory of common metal removal processes including drilling, reaming, boring, milling, turning, and grinding. Cutting tool geometry and materials, cutting speeds and feeds, coolants, and precision measurement. *Prerequisites: None. 3 credits 6 periods*

GTC104 Manufacturing Processes

Introduces students to manufacturing processes used in conversion of raw materials into useful products. Presents the basic manufacturing processes in logical groups, based on similarities of purpose and applications. *Prerequisites: None. 4 credits 7 periods*

GTC106 Industrial Safety

Safety, health management and accident prevention in industrial work environment. Role of Occupational Safety and Health Administration (OSHA) act, materials handling, electrical safety, machine safety, first response to fire and medical emergencies, safety signs and color codes, recognition of safety and health hazards accident prevention, and management's responsibilities. *Prerequisites: None. 2 credits 2 periods*

GTC106AA Industrial Safety

Safety, health management and accident prevention in industrial work environment. Role of Occupational Safety and Health Administration (OSHA) act, materials handling, electrical safety, machine safety, first response to fire and medical emergencies, safety signs and color codes, recognition of safety and health hazards accident prevention, and management's responsibilities. *Prerequisites: None. 2 credits 3 periods*

GTC107 Technical Mathematics I

Mathematical principles to include basic operations, significant digits, exponents, square roots and order of operations. Solve problems using arithmetic, signed numbers, percentages, fractions, exponents, and square root. Use of hand held calculator. Technology related problems. Recommended for all technology students except electronics. *Prerequisites: None. 3 credits 3 periods*

GTC108 Technical Mathematics II

Fundamental algebraic operations. Problem solving involving metric measurement, gears, pulleys, simple mechanism problems. Areas and volume calculations of geometric figures. Essentials of trigonometry for solving right and oblique triangles. *Prerequisites: GTC/MET107, or permission of instructor. 3 credits 3 periods*

GTC110 Semiconductor Processing Technology I

Basic units of measure and conversion factors, commonly used terminology, and elementary physical and chemical principles applicable to semiconductor processing technology. *Prerequisites: None. 3 credits 3 periods*

GTC127 Beginning Woodworking
Woodworking fundamentals and applications including basic construction, wood preparation, finishing techniques, and project material calculation. Emphasis on safe and proper use of hand tools and both stationary and portable power tools. *Prerequisites: None. 3 credits 4 periods*

GTC128 Intermediate Woodworking
Development and application of basic woodworking skills; emphasis on planning a project; calculating and buying needed materials, jointery, wood preparation and finishing techniques. *Prerequisites: GTC127 or previous woodworking experience. 3 credits 4 periods*

GTC129 Manufacturing Welding
Technical theory, safety considerations, and application of shop and welding processes commonly used in manufacturing, including oxyacetylene welding, brazing, and cutting, SMAW (Elec ARC), GMAW (MIG), GTAW (TIG), and plasma cutting. *Prerequisites: None. 3 credits 8 periods*

GTC130 Furniture Construction I
Process of building a piece of furniture including calculating and buying needed material, using tools properly and safely (hand tools and machines), jointery, wood preparation and basic finishing techniques. *Prerequisites: None. 3 credits 6 periods*

GTC131 Furniture Construction II
Continuation of GTC130 including special setups on machines, special joints, adhesives, special finishes, panel doors, panel drawers, metal drawer guides and plastic laminates. *Prerequisites: GTC130 or departmental permission. 3 credits 6 periods*

GTC144 Introduction to Cabinetmaking
Cutting, shaping, assembling, and finishing of articles of furniture or fixtures; stresses safe use of hand and power tools. *Prerequisites: None. 3 credits 5 periods*

GTC145 Advanced Cabinetmaking
Advanced types and methods of construction as applied to building projects. *Prerequisites: GTC144, or departmental permission. 3 credits 5 periods*

GTC170 Plastics Technology
Composition, classifications, characteristics, processing methods, terminology, and uses of important materials of plastics industry. *Prerequisites: None. 3 credits 6 periods*

GTC181 Introduction to Fluid Power
Develops an understanding of the fundamental laws and principles of fluids together with consideration of such fluid devices as valves, cylinders, pumps, sizes of lines, and simple hookups. Includes both hydraulics and pneumatics. *Prerequisites: ELE101, or equivalent. 3 credits 6 periods*

GTC185 Electro-Mechanical Devices
Concepts, principles, maintenance, and troubleshooting of mechanical and electro-mechanical devices; mechanical alignment of shafts, pillowblocks, gears, and couplers on mechanical breadboard; transmission devices including lead screws, linkages, worm and worm wheels, gear trains, speed reducers, chain drives, and belt drives; principles of lubrication; operation of DC (direct current), AC (alternating current), and stepping motors; application of tachometers, stepping motors, linear actuators, relays, solenoids, switches, contactors, starters, and fuses; selection and specification of components from manufacturers' catalogs. *Prerequisites: ELE101 or GTC108 or MAT103AA or MAT103AB or permission of instructor. 4 credits 6 periods*

GTC206 CNC Programming
CNC Programming of Word Address Language (G & M Code) for computer numerical control (CNC) Machine tools. 2, 3 and 4-Axis CNC Programming for CNC-controlled machines. Computer-based tool path verification, CNC controller tool path verification and CNC machine tool program verification. Study of tooling, speeds, feeds and material removal as related to CNC machine tools and CNC-controlled machines. *Prerequisites: MET231 or machine shop experience or permission of Program Director. 3 credits 4 periods*

GTC208 Statistical Process Control
Study of statistical process control concepts and methods. Extraction and application of specific parameters from data retrieved from a process. *Prerequisites: ELE101, or GTC108, or permission of department. 3 credits 3 periods*

GTC209 Automated Manufacturing
Evolution of automation in manufacturing from fixed (hard) automation to Computer Integrated Manufacturing (CIM) is presented with numerical control (NC); computer-aided design/computer-aided manufacturing (CAD/CAM); automated material handling; automation communication protocol. Manufacturing management strategies include statistical process control (SPC), material requirements planning (MRP), manufacturing resource planning (MRPII), just-in-time (JIT). Hands-on experience with programmable logic controllers (PLC) and robotics included. *Prerequisites or Corequisites: ELE131, or GTC206, or equivalent. 3 credits 6 periods*

GTC216 Properties of Materials
Study of manufacturing properties of materials, the behavior of materials under load, stress, strain, and torsion, and qualities of materials other than strength. *Prerequisites: None. 3 credits 3 periods*

GTC223 Advanced Machine Tools
Advanced machining practices; emphasis on application of machines and tool theory. *Prerequisites: GTC102, or (MET101 and MET150). 3 credits 6 periods*

GTC236 CAD/CAM CNC Programming

Programming of Numerical Control (NC) mill, lathe, and Wire Electrical Discharge Machine (EDM), utilizing computer-aided drafting and computer-aided manufacturing (CAD/CAM) for design and generation of part geometry. Verification of tool path using CAD graphics. Generate programs using CAM post processor. *Prerequisites: GTC/MET206. 3 credits 6 periods*

GTC246 Advanced CAD/CAM CNC Programming

Programming of Computer Numerical Control (CNC) mill, lathe, and Wire Electrical Discharge Machine (EDM) utilizing multiaxis and three-dimensional graphics input. *Prerequisites: GTC236. 3 credits 6 periods*

GTC266 Solids Modeling

CAD/CAM modeling, solid part generation, assembly of parts, and working drawing creation. Applications of CAD/CAM in Computer Integrated Technology (CIM). *Prerequisites: GTC246, or DFT254, or permission of instructor. 3 credits 6 periods*

GTC272 Automated Control Systems (Programmable Logic Controller Applications)

The programmable logic controller as the control unit for the application of sensors, switches, and transducers. Motors, stepper motors, and other prime movers are controlled. Includes both on/off and analog devices. *Prerequisites: GTC209, or permission of instructor. 3 credits 6 periods*

GTC273 Industrial Automation Controls and System Integration

A study in application and implementation of industrial control systems including machine building and system integration. *Prerequisites: GTC272. 3 credits 6 periods*

GTC276 Solids Programming

Parametric modeling, CNC part production, model to CAM system integration, and solid model part representation. Applied CAD/CAM in the role of Computer Integrated Technology (CIM). *Prerequisites: GTC266. 3 credits 6 periods*

HBR-Hebrew

HBR101 Elementary Biblical Hebrew I

Introduction to the basic alphabet, grammar, pronunciation and vocabulary of classical Hebrew. Listening, speaking, reading, and writing skills. *Prerequisites: None. 4 credits 4 periods*

HCC-Health Core Curriculum

HCC109 CPR for Health Care Provider

Current American Heart Association standards for one and two-rescuer cardiopulmonary resuscitation (CPR) and obstructed airway procedures on the adult, infant, and pediatric victim. Use of automated, external defibrillation and resuscitation equipment. *Prerequisites: None. .5 credit .5 period*

HCC130 Fundamentals in Health Care Delivery

Overview of current health care professions including career and labor market information. Health care delivery systems, third-party payers, and facility ownership. Health organization structure, patient rights, and quality care. Health care and life values. Definition and importance of values, ethics, and essential behaviors in the workplace. Worker rights and responsibilities. Healthful living practices to include nutrition, stress management, and exercise. Occupational Safety and Health Administration (OSHA) standard precautions and facility safety. Use of principles of body mechanics in daily living activities. Basic communication skills which facilitate teamwork in the health care setting. Focus on development of personal communication skills, and an understanding of how effective communication skills promote teamwork. Focus on intercultural communication strategies. *Prerequisites: None. 3 credits 3 periods*

HCC130AA Health Care Today

Overview of current health care professions including career and labor market information. Health care delivery systems, third-party payers, and facility ownership. Health organization structure, patient rights, and quality care. *Prerequisites: None. .5 credit .5 period*

HCC130AB Workplace Behaviors in Health Care

Health care and life values. Definition and importance of values, ethics, and essential behaviors in the workplace. Worker rights and responsibilities. *Prerequisites: None. .5 credit .5 period*

HCC130AC Personal Wellness and Safety

Introduces healthful living practices to include nutrition, stress management, and exercise. Includes Occupational Safety and Health Administration (OSHA) standard precautions and facility safety. Use of principles of body mechanics in daily living activities. *Prerequisites: None. .5 credit .5 period*

HCC130AD Communication and Teamwork in Health Care Organizations

Emphasis on basic communication skills which facilitate teamwork in the health care setting. Focus on development of personal communication skills, and an understanding of how effective communication skills promote teamwork. Focus on intercultural communication strategies. *Prerequisites: None. .5 credit .5 period*

HCC130AE Legal Issues in Health Care

Basic legal terminology used in the health care setting. Legal concepts related to health care employment, medical documentation, and communication. Introduction to regulatory requirements in health care. *Prerequisites: None. .5 credit .5 period*

HCC130AF Decision Making in the Health Care Setting

Principles and application of a decision-making model. Description and application of ethics and process improvement, and the relationship of both to the decision-making model. *Prerequisites: None. .5 credit .5 period*

HCC145 Medical Terminology for Health Care Workers

Medical terminology used in health care, with special care populations and in special services. Body systems approach to terms related to structures, functions, diseases, procedures, and diagnostic tests. Building and analyzing terms using word parts. Medical abbreviations and symbols and term spelling. *Prerequisites: None. 3 credits 3 periods*

HCC146 Common Medical Terminology for Health Care Workers

Common medical terms used in health care. Body systems approach to terms related to structures, functions, diseases, procedures, and diagnostic tests. Building and analyzing terms using word parts. Medical abbreviations and symbols and term spelling. *Prerequisites: None. 2 credits 2 periods*

HCR-Health Care Related

HCR210 Clinical Health Care Ethics

An introduction to health care ethics with emphasis on analysis and ethical decision making at both the clinical and health policy levels for health care professionals. Theoretical foundation of bioethics reviewed within historical and contemporary contexts. *Prerequisites: ENG102. 3 credits 3 periods*

HCR220 Health Care Organizations

Overview of United States health care delivery systems; financing, health policy, impact of managed care, and basic principles of budgeting, cost-benefit analysis, and resource management. *Prerequisites: ENG102. 3 credits 3 periods*

HCR230 Culture and Health

Relation between cultures of diverse groups and health/illness. Emphasis on cross-cultural communication, including awareness of own cultural influences and indigenous and complementary healing practices. *Prerequisites: None. 3 credits 3 periods*

HCR240AA Human Pathophysiology I

Chemical, biologic, biochemical, and psychological processes as a foundation for the understanding of alterations in health. The structural and functional pathophysiology of alterations in health; selected therapeutics considered. *Prerequisites: BIO202 or BIO205 or equivalent. Corequisites: HCR240AB or permission of instructor. 2 credits 2 periods*

HCR240AB Human Pathophysiology II

Chemical, biologic, biochemical, and psychological processes as a foundation for the understanding of alterations in health. The structural and functional pathophysiology of alterations in health; selected therapeutics considered. *Prerequisites: BIO202 or BIO205 or equivalent. Corequisites: HCR240AA or permission of instructor. 2 credits 2 periods*

HES-Health Science

HES100 Healthful Living

Health and wellness and their application to an optimal lifestyle. Explores current topics of interest such as stress management, nutrition, fitness, and environmental health. Evaluates common risk factors associated with modern lifestyles. *Prerequisites: None. 3 credits 3 periods*

HES126 Women's Health Issues

Develops awareness of women's health issues across cultures, lifespan, socioeconomic status, education and addresses global concerns and inequalities. The course introduces women's health issues through the history of the Women's Health Movement and the political climate and economic systems in the United States. Addresses women's health issues regarding sexual health and reproduction and examines many chronic diseases common to women. Explores predisposing and precipitating factors affecting women's health and reviews current treatment of disease. Identifies interpersonal and social issues related to women's health and focuses on the development of behaviors that promote a healthy and productive life. *Prerequisites: None. 3 credits 3 periods*

HES154 First Aid/Cardiopulmonary Resuscitation

Cardiopulmonary Resuscitation and first aid for the adult, child and infant patients includes Automated External Defibrillator (AED), rescue breathing, obstructed airway, and other first aid procedures. Designed to train citizen responders in skills and procedures required during emergency situations. *Prerequisites: None. 3 credits 3 periods*

HES201 Substance Abuse and Behavior

Principles and factual bases of drug use and abuse. Physiological and socio-psychological effects of drug use and law enforcement of drug abuse. Consultants used extensively to enrich course. *Prerequisites: None. 3 credits 3 periods*

HES271 Prevention and Treatment of Athletic Injuries

Prevention and care of athletic injuries, emphasizing use of modern training techniques and support materials. Utilization of preventive taping, strapping, bandaging, cardiopulmonary resuscitation, massage, cryotherapy, hydrotherapy, and practical application of muscle reconditioning. *Prerequisites: None. 3 credits 3 periods*

HIS-History

HIS100 History of Western Civilization to Middle Ages

Survey of the origin and development of Western civilization and its institutions from prehistory through the Ancient World and the Middle Ages. *Prerequisites: None. 3 credits 3 periods*

HIS101 History of Western Civilization, Middle Ages to 1789

Survey of origin and development of Western civilization and its institutions from the Renaissance and Reformation through Age of Enlightenment. *Prerequisites: None. 3 credits 3 periods*

HIS102 History of Western Civilization, 1789 to Present

Survey of origin and development of Western civilization and its institutions from French Revolution through the present. *Prerequisites: None. 3 credits 3 periods*

HIS103 United States History to 1870

The political, economic, and social development of the United States from Colonial through Reconstruction period. *Prerequisites: None. 3 credits 3 periods*

HIS104 United States History 1870 to Present

The political, economic, and social development of the United States from Reconstruction period up to present time. *Prerequisites: None. 3 credits 3 periods*

HIS105 Arizona History

The prehistoric and contemporary Native American experience, Spanish colonial times, the Mexican National period, the U.S. federal territorial years, and Arizona's political and economic development during the twentieth century. *Prerequisites: None. 3 credits 3 periods*

HIS106 Southwest History

Survey of Hispanic, Anglo, African American and Native cultures of the peoples who have settled the American Southwest. Emphasis on cattle, mining, fur trade, and transportation industries, and role development of the region. *Prerequisites: None. 3 credits 3 periods*

HIS107 Selected Issues in United States History

Survey of selected major issues in history of the United States from early times to present. *Prerequisites: None. 3 credits 3 periods*

HIS109 Mexican American History and Culture

Examination of origins and development of Spanish-American and Mexican-American people and their contribution to culture, history, and development of the United States. Emphasis on Mexican-American War and its impact on educational, social, and economic conditions of the Mexican-Americans of the Southwest. *Prerequisites: None. 3 credits 3 periods*

HIS113 History of Eastern Civilization to 1850

An examination of the characteristics and development of civilizations, religions, and philosophies of the Middle East, India, Far East, and Southeast Asia from ancient times to the mid-nineteenth century. *Prerequisites: None. 3 credits 3 periods*

HIS114 History of Eastern Civilization 1850 to Present

Examination of characteristics and development of civilizations of Middle East, India, Far East, and Southeast Asia from mid-nineteenth century to present. *Prerequisites: None. 3 credits 3 periods*

HIS145 History of Mexico

Survey of the political, economic, and social forces which have shaped the development of Mexico from Precolumbian times to the present. *Prerequisites: None. 3 credits 3 periods*

HIS173 United States Military History

Focuses on the impact of the United States military in both peace and war on American society, politics, and foreign relations from the colonial period to the present. *Prerequisites: None. 3 credits 3 periods*

HIS201 History of Women in America

Introduction to women's history from the Colonial period to the present. Deals chronologically with changes and developments which have influenced the lives of women. *Prerequisites: None. 3 credits 3 periods*

HIS203 African-American History to 1865

History and cultural heritage of African-Americans from their beginnings in Ancient Africa through the experience of chattel slavery in the Americas to their eventual emancipation and participation in the American Civil War. *Prerequisites: None. 3 credits 3 periods*

HIS204 African-American History 1865 to Present

Multifaceted experiences of African-American people from the post-Civil War period (1865) to the present, including the collective struggle for freedom, equality, and self-determination in the United States. *Prerequisites: None. 3 credits 3 periods*

HIS243 History of World Religions

Historical context for the development, practice and spread of various world religions. Focus on environmental factors (social, political, economic) influencing religious thought. Consideration of the changes in belief systems throughout different periods and social contexts. *Prerequisites: None. 3 credits 3 periods*

HIS251 History of England to 1700

History of England to 1660. Analysis of the major political, cultural, social, and intellectual factors in English historical development from its earliest times until 1660. *Prerequisites: None. 3 credits 3 periods*

HIS252 History of England 1700 to Present
Analysis of the major political, cultural, social, and intellectual factors in English historical development from 1650 to the present. *Prerequisites: None. 3 credits 3 periods*

HIS273 US Experience in Vietnam, 1945-1975
Survey of the US experience in Vietnam, 1945-1975, in view of political, economic, and social forces of the Cold War. *Prerequisites: None. 3 credits 3 periods*

HIS277 The Modern Middle East
Survey of the political and economic development of the Middle East since 1500. Emphasis on the decline of the Moslem empire, the resurgence of contemporary Pan-Arabian, the Palestinian-Israeli question, and the impact of oil production on the region and the rest of the world. *Prerequisites: None. 3 credits 3 periods*

HIS282AA-AC Volunteerism for History: A Service-Learning Experience
Service-learning field experience within private/public agencies such as museums and libraries, and citizen volunteer groups. Development of historical research and inquiry skills through on-site volunteer experience. May be repeated for a total of six (6) HIS282 credit hours; may not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

HLR-Health Related

HLR286 Women and Health: Body/Mind/Spirit/ Connection
Economic, sociopolitical, and demographic factors affecting women's health. Methods for optimizing physical, emotional, and spiritual health. Specific health concerns of women throughout the lifespan. Activism for health promotion. *Prerequisites: None. 3 credits 3 periods*

HRM-Hotel Restaurant Management

HRM145 Events Management
Introduction to organizing special events from concept through completion, including planning, coordination, marketing, financing and risk management. Overview of the critical stages and functions involved in staging and managing special events including meetings, conferences, entertainment, expositions, conventions and sporting events. *Prerequisites: None. 3 credits 3 periods*

HUM-Humanities

HUM107 Humanities Through the Arts
Introduction to humanities including film, drama, music, literature, painting, sculpture, and architecture. *Prerequisites: None. 3 credits 3 periods*

HUM108 Contemporary Humanities
An exploration of human expression in contemporary arts and sciences. *Prerequisites: None. 3 credits 3 periods*

HUM125 The Urban Experience
Examines the urban experience's representation in and influence on the arts; considers such subjects as the physical environment of the city, language, ethnic diversity, values, perception of time and space, relationship between the individual and the community. Lecture and discussion on various art forms, including literature, visual arts, music, dance, film, and theater. *Prerequisites: None. 3 credits 3 periods*

HUM190 Honors Forum (Modules AA-AI)
Interdisciplinary studies of selected issues confronting the individual and society. Formal lectures followed by informal discussions with outstanding scholars and social leaders. Supplemented by readings and pre- and post-forum discussion and critique. Varied content from module to module due to changing forum themes and issues. *Prerequisites: Admission to the college honors program, or permission of the instructor. 1 credit 1 period*

HUM201 Humanities: Universal Themes
Origins and creation myths, the material world, and the spiritual world as themes in the humanities. *Prerequisites: None. 3 credits 3 periods*

HUM202 Humanities: Universal Themes
The hero/heroine, the fool, the social world, and the future as themes in the humanities. *Prerequisites: None. 3 credits 3 periods*

HUM205 Introduction to Cinema
Survey of the history and development of the art of motion pictures, including criticism of aesthetic and technical elements. *Prerequisites: None. 3 credits 3 periods*

HUM206 Introduction to Television Arts
History and development of electronic media and its impact on popular arts. *Prerequisites: None. 3 credits 3 periods*

HUM209 Women and Films
Analysis of images of women in films from both historical and contemporary perspectives. *Prerequisites: None. 3 credits 3 periods*

HUM210 Contemporary Cinema
A study of contemporary films, directors, and critics with emphasis on evaluating film as an art form. *Prerequisites: None. 3 credits 3 periods*

HUM211AA Foreign Films: Classics
Analysis of contributions of foreign directors to the art and history of motion pictures through a study of selected films. *Prerequisites: None. 3 credits 3 periods*

HUM214 African-Americans in Film
Study of films featuring African-American performers and directors from the Silent Era to the present. Emphasis on the historical and social elements of African-Americans in film and basics of film analysis. *Prerequisites: None. 3 credits 3 periods*

HUM250 Ideas and Values in the Humanities
An historical analysis of the interrelationships of art, architecture, literature, music, and philosophy from the early civilizations to the Renaissance, including western and non-western cultures. *Prerequisites: ENG101. 3 credits 3 periods*

HUM251 Ideas and Values in the Humanities
An historical analysis of the interrelationships of art, architecture, literature, music, and philosophy from the Renaissance to modern period, including Western and Non-Western cultures. *Prerequisites: ENG101. 3 credits 3 periods*

HUM292 The Art of Storytelling
Explores the art and origin of storytelling. Provides a variety of storytelling techniques, styles and exercises to enhance the delivery of telling stories. Assists in the integration and application of storytelling to the learning environment in the classroom. *Prerequisites: None. 3 credits 3 periods*

IBS-International Business

IBS101 Introduction to International Business
A basic overview of international business to introduce students to international trade concepts. Focus of the course is on international business environment issues that influence global business practices, decisions, and applications. *Prerequisites: None. 3 credits 3 periods*

IBS109 Cultural Dimension for International Trade
The importance of cultural sensitivity in international business relations investigated by studying the impact of geography, history, religion, politics, customs, and cross-cultural communications on society. *Prerequisites: None. 3 credits 3 periods*

IBS116 Export/Import Management
Basics of importing and exporting processes with focus on documentation and procedures. Includes transportation and distribution options, freight forwarders, International Common Terms (INCO) shipping terms, packaging strategies, contract negotiation, and execution of international contracts. *Prerequisites: IBS101, or permission of instructor. 3 credits 3 periods*

IBS118 International Marketing Management
Planning, implementing, and managing international marketing strategies through application of international marketing research and evaluation in diverse cultural, economic, and political environments. Emphasis on implementation of product, price, promotion, and distribution strategies. *Prerequisites: IBS101, or permission of instructor. 3 credits 3 periods*

IBS123 U.S. Customs and Export Licensing Regulations
Requirements for importing into the United States, and for export clearance, licensing, and foreign entry. Includes role of customs brokers, duty rate structure and determination as well as Commerce Control List (CCL) and Export Control Commodity Numbering (ECCN), export licenses, and governmental requirements regarding exports. *Prerequisites: IBS101, or permission of instructor. 3 credits 3 periods*

IBS140 International Financial Management
Development of foreign exchange and international banking, including methods of payment, export financing, and application for and administration of government loan programs, country risk analysis, and negotiation and processing of letter of credit and other payment methods. *Prerequisites: IBS101, or permission of instructor. 3 credits 3 periods*

IFS-Information Studies

IFS101 Information Skills in the Digital Age
Development of skills and competency in accessing, evaluating and using information resources while examining the social and historical context, as well as the technological implications of the use and organization of information. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

IND-Industry

IND133 Speaking in Business
Practical, effective speech techniques for everyday business interactions. Listening skills and stages of and barriers to the perception process. Examination of effective message preparation skills and communication styles and techniques. Interaction emphasizing conflict management and resolution in oral communication. *Prerequisites: None. 3 credits 3 periods*

INT-Interior Design

INT100 Interior Design Drafting
Basic manual drafting techniques used in the interior design industry. Focus on industry standards of equipment use, lettering, line work, dimensioning, scaling, and annotation. Introduction and practice of industry-specific drawing types, including floor plans, elevations, sections, details, multi-view projection, and paraline. Brief exploration of hand sketching and Computer-Aided Design (CAD) techniques as they relate to manual drafting. *Prerequisites: None. 3 credits 3 periods*

INT105 Introduction to Interior Design
Introduction to the profession of interior design, including design process, elements and principles of design, and basic concepts of space planning and furniture layout. Development of design vocabulary relative to architectural details, furnishings, and finishes. *Prerequisites: None. 3 credits 3 periods*

INT115 Historical Architecture and Furniture
Historical survey of the development of furniture, interiors, and architecture from antiquity to the 19th century. *Prerequisites: None. 3 credits 3 periods*

INT120 Modern Architecture and Furniture
Survey of the development of furniture, interiors, and architecture from the 19th century to the present. Emphasis is on modern architects and designers. *Prerequisites: None. 3 credits 3 periods*

INT140 Introduction to CAD for Interior Design
Introduction to CAD™ tools for the interior designer with emphasis on industry-accepted standards for interior design following American Institute of Architects (AIA) guidelines. *Prerequisites: ARC121, or DFT121, or INT100. 3 credits 6 periods*

INT145 Drawing and Rendering
Development of basic freehand sketching and perspective drawing skills. Explores a variety of styles and techniques with emphasis on quick sketch and presentation type drawings as used by design professionals. *Prerequisites: ARC121, or DFT121, or INT100. 3 credits 6 periods*

INT150 Color and Design
Introduction to the theory and application of color as related to the elements and principles of design. Light and its effect on color. Emphasis on the development of presentation skills for the field of interior design. *Prerequisites: None. 3 credits 6 periods*

INT160 Fabrics for Interiors
Composition and design characteristics of fiber and fabrics. History of fabric and fabric use. Uses and commercial sale of fabrics. *Prerequisites: None. 3 credits 3 periods*

INT170 Interior Materials
Properties, performance, maintenance, sustainability and general characteristic of interior finishes, furnishings, and equipment. Emphasis on building a resource file of interior finishes, furnishings, and equipment sources. *Prerequisites: INT105. Prerequisites or Corequisites: INT160. 3 credits 6 periods*

INT175 Custom Design
Custom design for interiors. Creative problem solving using design theory and process. Visualization of concepts through sketching. *Prerequisites: INT105 and (ARC121, or DFT121, or INT100). 3 credits 6 periods*

INT190 Space Planning
Study of creative, critical, analytical and strategic thinking as it relates to human behavior and the built environment. Emphasis on the design theory, process and application. Stresses creative expression through the utilization of design elements and principles. *Prerequisites: INT105 and (ARC121, or DFT121, or INT100). Prerequisites or Corequisites: INT140 or ARC141. 3 credits 6 periods*

INT200 Advanced CAD for Interior Design
Continued development of skills in CAD for the interior designer focusing on current technology and trends in the interior design industry. Emphasis is placed on critical thinking skills. Experience in production techniques including rendering and manipulation of two- and three-dimensional space. *Prerequisites: INT140. 3 credits 6 periods*

INT205 Residential Design
Use of design process to create design solutions for residential spaces. Functional and aesthetic analysis of interior components. Includes kitchen and bath design; residential furnishings, fixtures, and equipment (FF&E); and environmental considerations. Refinement of presentation skills. *Prerequisites: INT145, INT170, and INT190. 3 credits 6 periods*

INT215 Professional Practices
Marketing and business processes used in interior design studios. Ethical issues facing interiors industry. Development of business plan. *Prerequisites: INT190. 3 credits 3 periods*

INT230 Presentation Techniques
Advanced freehand sketching and perspective drawing skills. Explores a variety of styles and techniques with emphasis on presentation type drawings and portfolio development techniques used by design professionals. *Prerequisites: INT145. 3 credits 6 periods*

INT260 Interior Codes and Regulations
Study of interior building codes, regulations, and standards and their impact on the health, safety, and welfare of the public. Emphasis on occupancy classifications, means of egress, fire protection, finish/furniture standards and testing, and Americans with Disabilities Act Accessibility Guidelines (ADAAG). *Prerequisites or Corequisites: INT190 or permission of department. 3 credits 3 periods*

INT265 Building Systems
Study of building systems and their impact on the health, safety and welfare of the public. *Prerequisites: AAS Degree or permission of department. 3 credits 3 periods*

INT270 Commercial Design
Creation of design solutions for commercial spaces. Focuses on issues affecting the health, safety and welfare of the public. *Prerequisites: AAS Degree or permission of instructor. 3 credits 6 periods*

INT271AA Interior Design Internship
Interior design work experience in a business or industry. Required to work 80 hours. Supervised and evaluated by a coordinator. *Prerequisites: Departmental approval. 1 credit 5 periods*

INT271AB Interior Design Internship
Interior design work experience in a business or industry. Required to work 160 hours. Supervised and evaluated by a coordinator. *Prerequisites: Departmental approval. 2 credits 10 periods*

INT271AC Interior Design Internship
Interior design work experience in a business or industry. Required to work 240 hours. Supervised and evaluated by a coordinator. *Prerequisites: Departmental approval. 3 credits 15 periods*

INT274AB Interior Design Study Tour
A tour of the interior design industry outside of the metropolitan Phoenix area. Includes a variety of experiences and activities to enhance knowledge about this multi-faceted career. *Prerequisites: Departmental approval. 2 credits 10 periods*

INT290 Advanced Commercial Design
Use of design process to create solutions for medium to large multi-story commercial interiors. Focuses on issues affecting the health, safety, and welfare of the public. *Prerequisites: INT270. 3 credits 6 periods*

ITA-Italian

ITA101 Elementary Italian I
Introduction to basic grammar, pronunciation, and vocabulary of Italian. Development of speaking, listening, reading, and writing skills. *Prerequisites: None. 4 credits 4 periods*

ITA102 Elementary Italian II
Continued development of speaking, listening, reading, and writing skills in Italian. Study of Italian culture. *Prerequisites: ITA101, or equivalent, or departmental approval. 4 credits 4 periods*

ITA115 Beginning Italian Conversation I
Conversational Italian. Basic sentence structure, pronunciation, and vocabulary necessary to develop speaking ability in Italian. Designed for students seeking speaking and listening abilities with little emphasis on grammar. *Prerequisites: None. 3 credits 3 periods*

ITS-Information Technology Security

ITS172 Viruses and Other Malicious Software
Spyware, adware, viruses, worms and trojans. Available tools for identifying and removing malicious software. Techniques for analyzing the behavior of malicious software. Methods of infection and prevention of infection. *Prerequisites: None. 1 credit 2 periods*

JPN-Japanese

JPN101 Elementary Japanese I
Basic grammar, pronunciation, and vocabulary of the Japanese language. Study of Japanese culture. Development of speaking, listening, reading, and writing skills. *Prerequisites: None. 5 credits 6 periods*

JPN102 Elementary Japanese II
Continued study of basic grammar, pronunciation, and vocabulary of the Japanese language. Study of the Japanese culture. Intensive practice in oral communication and development of reading and writing skills. *Prerequisites: JPN101, or departmental approval. 5 credits 6 periods*

JPN115 Beginning Japanese Conversation I
Conversational Japanese. Basic sentence structure, pronunciation, and vocabulary necessary to develop speaking ability in Japanese. Designed for students seeking speaking and listening abilities, with little emphasis on grammar, reading, or writing. *Prerequisites: None. 3 credits 3 periods*

JPN201 Intermediate Japanese I
Expansion of sentence structures through oral/aural practice. Increased emphasis on reading and writing in Japanese and study of Japanese culture. *Prerequisites: JPN102 or equivalent. 5 credits 6 periods*

JPN202 Intermediate Japanese II
Extensive review of Japanese grammar; development of vocabulary and idiomatic expressions through reading and writing. Continued practice of oral communication skills and study of Japanese culture. *Prerequisites: JPN201 or equivalent. 5 credits 6 periods*

JRN-Journalism

JRN125 Photo Editing
Basic techniques of photo composition and editing for media reproduction. Teach how to crop and size photographs. Use of photo editing and design software in paginating a newspaper page on the computer. The effect and impact of color vs. black and white photographs. Basic techniques of photo essay, photo page and photo story and/or multimedia news products and the impact of photos on typography. *Prerequisites: None. 3 credits 3 periods*

JRN133 Development of Small Publications
Design, plan, and write newsletters, brochures, and advertisements. Desktop computer production and paste-up techniques. *Prerequisites: None. Computer experience and (BPC138AA or BPC138AB) suggested but not required. 3 credits 3 periods*

JRN201 News Writing
Writing news for the print media. Composing at the computer keyboard. Associated Press editing style writing skills, and organizational structure for news. *Prerequisites: ENG101, ENG107, or equivalent. 3 credits 5 periods*

JRN203 Writing for Online Media
Writing using the modes and resources available on the Internet. Use of information and resources available on the Internet in writing, as well as writing for the Internet itself. *Prerequisites: Placement into ENG101 on a District-approved writing placement test. 3 credits 3 periods*

JRN212 Broadcast Writing
Writing techniques for basic broadcast scripts: promotions, commercials, public service announcements, new leads, news stories, audio and video, sports, weather, traffic checks, five-minute newscasts, and reports, using broadcast style rules. *Prerequisites: ENG101. 3 credits 5 periods*

JRN215 News Production
Writing, editing, and publishing the student newspaper. Emphasis on news judgment, page design, computer pagination, photo usage, headline writing, editorial writing, newsroom management, and legal and ethical considerations. Emphasis may vary according to student goals. *Prerequisites: None. 3 credits 5 periods*

JRN225 Photojournalism
Reporting the news as a photojournalist, with emphasis on the development and creation of news photographs. Experience in shooting, editing and transmitting digital photos using Photoshop, InDesign and QuarkXpress software. *Prerequisites: None. 3 credits, 3 periods*

JRN234 Feature Writing
Emphasis on crafting stylized stories for publications. Includes research, interviewing, writing techniques, editing, and professional concerns. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

JRN235 Practicum: Public Relations
On-campus public relations experience, including writing media releases, designing and producing promotional materials, planning events, script writing, and developing presentations. *Prerequisites: BPC128, JRN133, JRN201, JRN215, MCO120 and MKT101. 3 credits 5 periods*

JRN236 Advanced Practicum: Public Relations
Off-campus public relations experience integrating skills developed in previous courses. Students placed in community public relations job sites. Writing media releases, designing and producing promotional materials, planning events, script writing, and developing presentations. *Prerequisites: BPC128, JRN133, JRN134, JRN201, JRN215, JRN235, MCO120, and MKT101. 3 credits 5 periods*

JRN240AA-AC Journalism Internship
Journalism work experience with a newspaper or other news organization. 80 hours of designated work per credit. Maximum of 6 credits allowed. *Prerequisites: JRN215. 1-3 credits 1-3 periods*

JUD-Judicial Studies

JUD101 The Courts in Arizona
Comparative analysis of courts in Arizona and how they relate to each other, including the federal courts, the Arizona supreme court and court of appeals, juvenile courts, justice courts, municipal and town courts, and tribal courts. *Prerequisites: None. 1 credit 1 period*

JUD103 Role of the Court Staff
Roles and responsibilities of court staff and other court personnel in Arizona. *Prerequisites: None. 1 credit 1 period*

JUD107 Civil Procedure in Arizona Courts
Rules of civil procedure as applied to both standard civil actions and small claims cases found in Arizona limited jurisdiction courts. Conduct of the typical civil trials and small claims hearings, and pretrial procedures in managing a civil calendar. *Prerequisites: None. 2 credits 2 periods*

JUD109 Judicial Writing
Judicial writing skills, including research skills, organization, grammar, and style. Goals and objectives of writing in courts. *Prerequisites: None. 1 credit 1 period*

JUD111 Sentencing Misdemeanants
Alternatives, methods, laws, rules, and practices governing the sentencing of persons convicted of misdemeanors under Arizona law. *Prerequisites: None. 1 credit 1 period*

JUD113 Court Management
Organization and management of courts with emphasis on problems relating to personnel issues, case processing, standards, staff organization, quality management, and court administration. Management of fines, fees, bonds, and restitutions. *Prerequisites: None. 2 credits 2 periods*

JUD115 Injunctive Actions
Injunctive actions (orders of protection and injunctions prohibiting harassment), including philosophy and practical applications of the governing statutes and judicial responsibilities and limitation of powers as related to injunctive orders. *Prerequisites: None. 2 credits 2 periods*

JUD119 Alternative Dispute Resolution
Techniques for conflict resolution. *Prerequisites: None. 1 credit 1 period*

JUD121 Appeals
Processing of appeals from limited jurisdiction to general jurisdiction courts. *Prerequisites: None. 1 credit 1 period*

LAT-Latin

LAT101 Elementary Latin I

Introduction to the basic grammar and vocabulary of the Latin language. Practice reading and translating Latin into English. *Prerequisites: None. 4 credits 4 periods*

LAT102 Elementary Latin II

Comparative study of English and Latin grammar. Emphasis on analytical thinking, memorization, and familiarization with new terminology. Translation from English and from original works in Latin. *Prerequisites: LAT101 or permission of instructor. 4 credits 4 periods*

LAT201 Intermediate Latin I

Introduction to translation techniques using selections from various authors; emphasis on use of primary texts. *Prerequisites: LAT102 or permission of instructor. 4 credits 4 periods*

LAT202 Intermediate Latin II

Refinement of translation techniques using selections from Virgil's Aeneid; emphasis on use of language and meter. *Prerequisites: LAT201. 4 credits 4 periods*

LBS-Library Skills

LBS220 Information Literacy and the Internet

Exploration of the Internet as an informational resource. Development of basic information literacy skills. *Prerequisites: None. 1 credit 1 period*

LBT-Library Technology

LBT101 Foundation of Libraries and Information Services

Introduction to evolving roles of information paraprofessionals, including historical and philosophical foundations of libraries, and overview of the professional setting, including types of libraries, information centers, and professional organizations. Evolution of information from books to digital information. Terminology associated with information and libraries. Services, functions, and organizational structure of libraries and the information industry. *Prerequisites or Corequisites: ENG101 or ENG107 or equivalent. 3 credits 3 periods*

LBT110 Introduction to Technical Services and Collection Management

Types and nature of information management and organization, including core collections, reference and special collections. Introduction to technical services functions in libraries, including materials selection, acquisition, and collection management. *Prerequisites or Corequisites: LBT101 or permission of instructor or Program Director. 3 credits 3 periods*

LBT130 Introduction to References Skills and Resources

Introduction to the reference process and uses of various types of sources including traditional formats, online databases, CD-ROM databases, web-based resources, and other developing technologies. Basic principles of fulfilling information needs and selecting appropriate sources, including selecting and managing electronic resources. *Prerequisites or Corequisites: LBT101 or permission of instructor or Program Director. 3 credits 3 periods*

LBT140 Multimedia for Libraries and Information Centers

Theory, function, and operation of audio equipment, video equipment, computer graphics and computer software, photography, and media formats, and their relationships to libraries and information services. *Prerequisites or Corequisites: LBT101 or permission of instructor or Program Director. 3 credits 4 periods*

LBT150 Introduction to Public Services

The changing nature of information access and the role of library and information service paraprofessionals in public services in libraries and information centers. Principles of library public services and functions of the various departments including circulation systems, interlibrary loan, reserves, current periodicals, and other typical public service areas. Historic patterns, future trends, and ethical and professional standards. Working effectively with library users and staff in providing information access and customer service. *Prerequisites or Corequisites: LBT101, or permission of instructor or Program Director. 3 credits 3 periods*

LBT160 Introduction to Library Information Systems

Introduction to information systems for libraries and the information industry, including the fundamentals of library systems such as online catalogs, computerized circulation systems, basic operating systems, LANs, and networked databases. Evolution and future trends in library technology, integration of library online systems, and impact of computing on libraries and the information industry. *Prerequisites or Corequisites: LBT101, or permission of instructor. BPC101AA suggested but not required. 3 credits 4 periods*

LBT212 Introduction to Archival Methods

Foundations of archival practice and the activities and functions of an archivist. Appraisal, acquisitions, organization, description, and access as they apply to archival materials. History of the profession and application of technology to preservation and access. *Prerequisites: LBT110, or approval of instructor or Program Director. 2 credits 2 periods*

LBT215 Cataloging and Classification of Library Materials

Principles and methods of bibliographic control of library materials. Library cataloging and classification systems, MARC records subject analysis, and authority control. Knowledge and skills underlying the processes of cataloging and classification and use of bibliographic utilities. The role of the paraprofessional in cataloging. *Prerequisites or Corequisites: LBT110 or approval of instructor or Program Director. 2 credits 2 periods*

LBT217 Serials Management

Selection, acquisition, de-acquisition, cataloging, housing, reference service, automation, and financial management of serials. *Prerequisites or Corequisites: LBT110 or approval of instructor or Program Director. 1 credit 1 period*

LBT218 Basic Materials Repair

Preservation management, including the repair program in general libraries; methods of performing basic repairs to book and nonbook materials; selecting materials for in-house repair; cost factors involved in in-house repair programs, including supplies, staffing, equipment, space, maintaining quality, and evaluating in-house repair programs. *Prerequisites: None. 1 credit 1 period*

LBT219 Collection Maintenance and Shelf Management

Introduction to collection management and maintenance, including ongoing collection assessment, deselection, and inventory. Effective organization and physical location of materials. *Prerequisites: None. 1 credit 1 period*

LBT234 Advanced Internet Research

Exploration of the Internet as an informational resource. Development of basic information literacy skills. *Prerequisites or Corequisites: LBT130, or approval of instructor or Program Director. 1 credit 1 period*

LBT252 Customer Services and Supervision

Communication, teamwork, leadership, and supervisory skills required in delivery of customer services. Working effectively with users, providing and evaluating services, working with problem patrons, and strategies for delivery of customer services. Theory and practice of supervision and types of groups to be supervised. *Prerequisites: None. 1 credit 1 period*

LBT254 Library Services for Children and Young Adults

Introduction to library services for children and young adults. Principles and practices of effective services, including types of libraries with children's services, children's programming, materials selection, age-appropriate activities, reader's advisory, public relations, evaluation of programs, physical environment considerations, and special issues and trends. *Prerequisites or Corequisites: LBT150, or approval of instructor or Program Director. 2 credits 3 periods*

LBT255 Organization and Management of the Small Library

Introduction to library functions and overview of management theories and practices appropriate for the operation of libraries and information organizations. Includes issues of personnel, policies and procedures, finance, buildings, planning, supervision, cooperation with other libraries and agencies, marketing and public relations, and development of leadership qualities. *Course Note: LBT255 is geared to the library technician or practitioners/director managing a small library or department. Prerequisites or Corequisites: LBT101 or permission of instructor. 3 credits 3 periods*

LBT262 Computer Maintenance and Security for Libraries

Introduction to computer maintenance and security for libraries, including software and hardware, wiring and basic troubleshooting. Trends and issues in computer maintenance and security in libraries. *Prerequisites or Corequisites: LBT160, or approval of instructor or Program Director. 1 credit 1 period*

LBT265 Database Management for Libraries

Fundamentals of library database systems, including information storage and retrieval systems assessment and design. Basic elements and uses of library databases, including data models, records structures, information processing, and search methods. *Prerequisites: Approval of instructor or Program Director. 1 credit 1 period*

LBT266 Advances in Information Systems

Fundamentals of distributed computing and network technologies used in libraries. Introduction to distributed computing and network planning and design principles, local and wide area networks and their uses in libraries, network protocols, client-server systems, and distributed computing applications. *Prerequisites: LBT160, or approval of instructor or Program Director. 1 credit 1 period*

LBT270 Practicum Project

Practical experience organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance in professional-type facilities. May be repeated for a total of three (3) credit hours. *Prerequisites: Approval of instructor or Program Director. 1 credit 5 periods*

LBT271 Library Information Industry Careers and Portfolio Development

Professionals, organizations, and journals in the library information field. Resume writing, cover letters, career choices, interviews, and job searching. Includes time management and coping with change. Development of portfolio to document and showcase learning and achievement in the Library Information Technology program. *Prerequisites: Approval of instructor or Program Director. 1 credit 1 period*

LBT272AA Library Internship in Technical Services

Supervised work experience in technical services in a public, school, academic, or special library. Daily log of activities required for discussion and evaluation of objectives in individual conferences. *Prerequisites: Approval of instructor or Program Director. 1 credit 5 periods*

LBT272AB Library Internship in Public Services

Supervised work experience in public services in a public, school, academic, or special library. Daily log of activities required for discussion and evaluation of objectives in individual conferences. *Prerequisites: Approval of instructor or Program Director. 1 credit 5 periods*

LBT272AC Library Internship in Media Services or Information Systems

Supervised work experience in media information services in a public, school, academic or special library. A daily log of activities required for discussion and for evaluation of objectives in regularly scheduled group sessions and individual conferences. *Prerequisites: Approval of instructor or Program Director. 1 credit 2 periods*

LBT273 Special Topics in Library Information Services

Current topics and contemporary issues in library information services. Application of research and industry trends to solve problems and/or investigate issues. Topics chosen from any area of the LBT curriculum. Course may be repeated for a total of three (3) credits. *Prerequisites: (LBT101, LBT110, LBT130, LBT140, LBT150 and LBT160), or permission of instructor or Program Director. 1 credit 1 period*

LBT273AA-AC Special Topics in Library Information Services I-III

Current topics and contemporary issues in library information services. Application of research and industry trends to solve problems and/or investigate issues. Topics chosen from any area of the LBT curriculum. Course may be repeated for a total of three (3) credits. *Prerequisites: (LBT101, LBT110, LBT130, LBT140, LBT150 and LBT160), or permission of instructor or Program Director. 1-3 credits 1-3 periods*

LBT274 Independent Study in Library Information Services

Independent study and individualized learning research activities organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized study guided by professional expertise. *Prerequisites: Approval of instructor or Program Director. 1 credit 5 periods*

MAT-Mathematics

MAT082 Basic Arithmetic

Primary emphasis placed on fundamental operations with whole numbers, fractions, decimals, integers, and rational numbers; proportions and percentages. Other topics include representations of data, geometric figures, and measurement. *Course Notes: Student may receive credit for only one of the following: MAT081, MAT082, or MAT083. Prerequisites: None. 3 credits 3 periods*

MAT090 Developmental Algebra

Linear behavior; linear equations and inequalities in one and two variables; graphs; systems of equations in two variables; function notation, graphs, and data tables; operations on polynomials; properties of exponents; applications. *Course Notes: May receive credit for only one of the following: MAT090, MAT091, MAT092, or MAT093. Prerequisites: Grade of "C" or better in MAT082, or MAT102, or equivalent, or satisfactory score on district placement exam. 5 credits 5 periods*

MAT092 Introductory Algebra

Linear behavior; linear equations and inequalities in one and two variables; graphs; systems of equations in two variables; function notation, graphs, and data tables; operations on polynomials; properties of exponents; applications. *Course Notes: May receive credit for only one of the following: MAT090, MAT091, MAT092, or MAT093. Prerequisites: Grade of "C" or better in MAT082, or MAT102, or equivalent, or satisfactory score on district placement exam. 3 credits 3 periods*

MAT102 Mathematical Concepts/Applications

A problem-solving approach to mathematics as it applies to life and the world of work. Development, demonstration, and communication of mathematical concepts and formulas that relate to measurement, percentage, statistics, and geometry. *Prerequisites: Grade of "C" or better in MAT082, or equivalent, or satisfactory score on district placement exam. 3 credits 3 periods*

MAT120 Intermediate Algebra

Quadratic, rational, radical, exponential, and logarithmic functions and equations; graphs of quadratic, exponential, and logarithmic functions; equations quadratic in form; operations on rational expressions, radical expressions, and complex numbers; rational exponents; applications. *Course Notes: May receive credit for only one of the following: MAT120, or MAT121, or MAT122. Prerequisites: Grade of "C" or better in MAT090, MAT091, MAT092, MAT093, or equivalent, or satisfactory score on district placement exam. 5 credits 5 periods*

MAT121 Intermediate Algebra
Quadratic, rational, radical, exponential, and logarithmic functions and equations; graphs of quadratic, exponential, and logarithmic functions; equations quadratic in form; operations on rational expressions, radical expressions, and complex numbers; rational exponents; applications. *Course Notes: May receive credit for only one of the following: MAT120, or MAT121, or MAT122. Prerequisites: Grade of "C" or better in MAT090, MAT091, MAT092, MAT093, or equivalent, or a satisfactory score on the district placement exam. 4 credits 4 periods*

MAT122 Intermediate Algebra
Quadratic, rational, radical, exponential, and logarithmic functions and equations; graphs of quadratic, exponential, and logarithmic functions; equations quadratic in form; operations on rational expressions, radical expressions, and complex numbers; rational exponents; applications. *Course Notes: May receive credit for only one of the following: MAT120, or MAT121, or MAT122. Prerequisites: Grade of "B" or better in MAT090, MAT091, MAT092, MAT093, or equivalent, or satisfactory score on district placement exam. 3 credits 3 periods*

MAT142 College Mathematics
Working knowledge of college-level mathematics and its applications to real-life problems. Emphasis on understanding mathematical concepts and their applications. Topics include set theory, probability, statistics, finance, and geometry. *Prerequisites: Grade of "C" or better in MAT120, or MAT121, or MAT122, or equivalent, or satisfactory score on district placement exam. 3 credits 3 periods*

MAT150 College Algebra/Functions
Analysis and interpretation of the behavior and nature of functions including polynomial, rational, exponential, logarithmic, power, absolute value, and piecewise-defined functions; systems of equations, modeling and solving real-world problems. Additional topics may include matrices, combinatorics, sequences and series, and conics. *Course Notes: May receive credit for only one of the following: MAT150, MAT151, MAT152, or MAT187. Prerequisites: Grade of "C" or better in MAT120, or MAT121, or MAT122 or equivalent, or satisfactory score on district placement exam. 5 credits 5 periods*

MAT151 College Algebra/Functions
Analysis and interpretation of the behavior and nature of functions including polynomial, rational, exponential, logarithmic, power, absolute value, and piecewise-defined functions; systems of equations, modeling and solving real-world problems. Additional topics may include matrices, combinatorics, sequences and series, and conics. *Course Notes: May receive credit for only one of the following: MAT150, MAT151, MAT152, or MAT187. Prerequisites: Grade of "C" or better in MAT120, or MAT121, or MAT122, or equivalent, or satisfactory score on district placement exam. 4 credits 4 periods*

MAT152 College Algebra/Functions
Analysis and interpretation of the behavior and nature of functions including polynomial, rational, exponential, logarithmic, power, absolute value, and piecewise-defined functions; systems of equations, modeling and solving real-world problems. Additional topics may include matrices, combinatorics, sequences and series, and conics. *Course Notes: May receive credit for only one of the following: MAT150, MAT151, MAT152, or MAT187. Prerequisites: Grade of "B" or better in MAT120, or MAT121, or MAT122, or equivalent, or satisfactory score on district placement exam. 3 credits 3 periods*

MAT156 Mathematics for Elementary Teachers I
Focuses on numbers and operations. Algebraic reasoning and problem solving integrated throughout the course. *Prerequisites: Grade of "C" or better in MAT142 or MAT150 or MAT151 or MAT152, or equivalent, or satisfactory score on district placement exam. 3 credits 3 periods*

MAT157 Mathematics for Elementary Teachers II
Focuses on measurement, geometry, probability, and data analysis. Appropriate technologies, problem solving, reasoning, and proof are integrated throughout the course. *Prerequisites: MAT156 or equivalent. 3 credits 3 periods*

MAT172 Finite Mathematics
An introduction to the mathematics required for the study of social and behavioral sciences. Includes combinatorics, probability, descriptive statistics, matrix algebra, linear programming and the mathematics of finance. Includes applications of technology in problem solving. *Prerequisites: Grade of "C" or better in MAT150, or MAT151, or MAT152, or MAT187 or equivalent, or satisfactory score on district placement exam. 3 credits 3 periods*

MAT182 Plane Trigonometry
A study of measures of angles, properties of graphs of trigonometric functions, fundamental identities, addition and half-angle formulas, inverse trigonometric functions, solutions of trigonometric equations, complex numbers and properties of triangle solution. May receive credit for only one of the following: MAT182 or MAT187. *Prerequisites: Grade of "C" or better in MAT150, or MAT151, or MAT152, or equivalent, or concurrent registration in MAT150, or MAT151, MAT152, or satisfactory score on district placement exam. 3 credits 3 periods*

MAT187 Precalculus
A precalculus course combining topics from college algebra and trigonometry. Preparation for analytic geometry and calculus. May receive credit for only one of the following: MAT150, or MAT151, or MAT152, or MAT187. *Prerequisites: Grade of "B" or better in MAT120, MAT121, or MAT122, or equivalent, or satisfactory score on a placement test. 5 credits 5 periods*

MAT206 Elements of Statistics
Basic concepts and applications of statistics, including data description, estimation and hypothesis tests. *Prerequisites: (Grade of "C" or better in MAT140 or MAT141 or MAT142) or (a grade of "C" or better in MAT150 or MAT151 or MAT152) or equivalent, or satisfactory score on district placement exam. 3 credits 3 periods*

MAT212 Brief Calculus
Introduction to the theory, techniques and applications of the differential and integral calculus of functions with problems related to business, life, and the social sciences. *Prerequisites: Grade of "C" or better in MAT150, or MAT151, or MAT152, or equivalent, or satisfactory score on district placement exam. 3 credits 3 periods*

MAT220 Analytic Geometry and Calculus I
Limits, continuity, differential and integral calculus of functions of one variable. *Course Notes: MAT220 students may receive credit for only one of the following: MAT220 or MAT221. Prerequisites: Grade of "C" or better in (MAT150, or MAT151, or MAT152) and MAT182 or MAT187, or equivalent, or satisfactory score on district placement exam. 5 credits 5 periods*

MAT225 Elementary Linear Algebra
Introduction to matrices, systems of linear equations, determinants, vector spaces, linear transformations, and eigenvalues. Emphasizes the development of computational skills. *Prerequisites: Grade of "C" or better in MAT212 or MAT220, or MAT221, or equivalent. 3 credits 3 periods*

MAT227 Discrete Mathematical Structures
Introduction to lattices, graphs, Boolean algebra, and groups. Emphasis on topics relevant to computer science. *Prerequisites: Grade of "C" or better in CSC100 and (MAT220, or MAT221, or equivalent), or permission of instructor. 3 credits 3 periods*

MAT231 Calculus with Analytic Geometry II
Techniques of integration for both proper and improper integrals with applications to the physical and social sciences, elements of analytic geometry, and the analysis of sequences and series. *Course Notes: MAT231 students may receive credit for only one of the following: MAT230 or MAT231. Prerequisites: Grade of "C" or better in MAT220 or MAT221, or equivalent. 4 credits 4 periods*

MAT241 Calculus with Analytic Geometry III
Multivariate calculus including vectors, vector-valued functions, partial differentiation, multiple integration and an introduction to vector fields. *Course Notes: MAT241 students may receive credit for only one of the following: MAT240 or MAT241. Prerequisites: Grade of "C" or better in MAT230 or MAT231. 4 credits 4 periods*

MAT262 Differential Equations
Ordinary differential equations with applications including LaPlace transforms with numerical methods. *Prerequisites: Grade of "C" or better in MAT230 or MAT231, or equivalent. 3 credits 3 periods*

MCO-Mass Communications

MCO120 Media and Society
A study of the roles of communication media and their economical and psychological impact upon society. *Prerequisites: ENG101 or ENG107, or equivalent. 3 credits 3 periods*

MCO220 Cultural Diversity and the Media
Images of the diverse cultures and gender issues within the U.S. media. Exploration of racial and gender roles which shape the media as well as media roles which influence U.S. race relations and racial change. Roles, contributions, and challenges of the minority press in the United States. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

MET-Manufacturing Technology

MET131 Lean Manufacturing
Lean manufacturing methodologies and application to a manufacturing organization. Identification of waste and application of cost to poor quality process within a manufacturing organization. Lean manufacturing tools and implementation. Organizational buy-in. *Prerequisites: None. 3 credits 3 periods*

MGT-Management

MGT101 Techniques of Supervision
Overview of the foundations of supervision and how to get things done within an organization through other people. The functions of planning, organizing, staffing, motivating and controlling presented. *Prerequisites: None. 3 credits 3 periods*

MGT147 Supply Chain Management
Supply chain management, including basic concepts and underlying principles of logistics and inventory management. *Prerequisites: None. 3 credits 3 periods*

MGT179 Utilizing the Human Resources Department
Provides the opportunity to learn how to appropriately utilize the human resources department within an organization in order to improve job performance. Topics include staffing, training and development, manpower planning, compensation and benefits, federal labor laws and why people seek outside representation. *Prerequisites: None. 3 credits 3 periods*

MGT229 Management and Leadership I
Covers management concepts and applications for business, industry, and government organizations. *Prerequisites: None. 3 credits 3 periods*

MGT230 Management and Leadership II
Includes practical applications of activities, issues, and problems related to current managerial and supervisory skills and talents. *Prerequisites: MGT229 or departmental approval. 3 credits 3 periods*

MGT242 Project Scope and Procurement Management
Scope management and procurement management in a project environment, including how a project's scope is planned, defined, and verified. Concepts of scope change management. Concepts of procurement management, including procurement planning, supplier solicitation, supplier selection, contract administration, and contract closeout. *Prerequisites: TQM240 or instructor approval. 2 credits 2 periods*

MGT243 Project Time and Cost Management
Time management and cost management in a project environment, including activity definition, sequencing and duration estimating. Schedule development and specific tools to support schedule creation and control. Project cost management including resource planning, cost estimation, cost budgeting, and cost control. *Prerequisites: TQM240 or instructor approval. 2 credits 2 periods*

MGT244 Project Risk and Quality Management
Risk management and quality management in a project environment, including risk identification, risk aversion, and risk response planning. Presents techniques to perform risk analysis and risk response planning on projects. Concepts of quality management including quality planning, quality assurance, and quality control. Concepts of quality systems and their applicability to project management. *Prerequisites: None. 2 credits 2 periods*

MGT245 Project, Human Resources and Communications Management
Concepts of human resource management and communications management in a project environment, including project organizational planning, staff acquisition, and team development. Concepts of project communications planning, information distribution, performance reporting, and project closeout. *Prerequisites: None. 2 credits 2 periods*

MGT246 Principles of Project Management
Project management principles expected of a project management professional (PMP). Includes an overview of exam format, topics, and study techniques. Focus is on project scope, procurement, time, risk, cost, quality, human resource, communication, and integration management. *Prerequisites: TQM240 or permission of instructor. 3 credits 3 periods*

MGT251 Human Relations in Business
Analysis of motivation, leadership, communications, and other human factors. Cultural differences that may create conflict and affect morale individually and within an organization. *Prerequisites: None. MGT101, or MGT175, or MGT229 suggested, but not required. 3 credits 3 periods*

MGT253 Owning and Operating a Small Business
Starting, organizing, and operating a small business, including location, finance management processes, advertisement and promotion, credit, inventory control, and ethics. *Prerequisites: None. 3 credits 3 periods*

MGT270AC Management Internship
Management work experience in a business or industry. 80 hours of designated work per credit. Maximum of 3 credits allowed. *Prerequisites: Departmental approval. 3 credits 3 periods*

MGT276 Personnel/Human Resource Management
Human resource planning, staffing, training, compensating, and appraising employees in labor management relationships. *Prerequisites: None. MGT101, or MGT175, or MGT229 suggested but not required. 3 credits 3 periods*

MHL-Music: History/Literature

MHL130 Herstory: Women in Popular Music
Overview of the contributions made by women in the evolution of popular music and its industry. *Prerequisites: None. 3 credits 3 periods*

MHL140 Survey of Music History
Study of composers, compositions, styles, and periods in music history. *Prerequisites: None. 3 credits 3 periods*

MHL143 Music in World Cultures
Non-European musical traditions including the study of music in rituals, musical instruments, and the impact of cultures on musical styles. *Prerequisites: None. 3 credits 3 periods*

MHL145 American Jazz and Popular Music
The study of cultural and social contributions to the evolution of American jazz and popular music from the mid-1800's to present. *Prerequisites: None. 3 credits 3 periods*

MHL146 Survey of Broadway Musicals
Survey of Broadway musicals traced from their origins to the present viewed in their cultural, political, and socioeconomic context. Emphasis on stylistic periods, composers, lyricists, directors, and choreographers. *Prerequisites: None. 3 credits 3 periods*

MHL149 Traditional Irish Music
History and culture of traditional Irish music: instruments, styles, training, musical elements, performance venues, related arts and principal proponents of the music. Examines the musical culture of Ireland in the context of contemporary world music issues and the preservation of the tradition. *Prerequisites: None. 3 credits 3 periods*

MHL153 Rock Music and Culture
History of rock music and how cultural, social, political, and economic conditions have shaped its evolution. *Prerequisites: None. 3 credits 3 periods*

MHL155 Survey of American Music
History of the music of North America from the earliest American Indian music to the present. Introduction to the musical trends, composers, socioeconomic developments and trends, musical forms and styles that influence our modern American musical sense. *Prerequisites: None. 3 credits 3 periods*

MHL241 Music History and Literature to 1750
In-depth study of music history from the primitive era through the Baroque periods. *Prerequisites: MTC155 and MTC156, or permission of instructor. 3 credits 3 periods*

MHL242 Music History and Literature, 1750 to Present
In-depth study of music history from the Classical periods through the Contemporary periods. *Prerequisites: MHL241, or permission of instructor. 3 credits 3 periods*

MIS-Military Science

MIS101 Introduction to the Military I
Overview of mission, organization and structure of the Army and its role in national defense, discussion of current military issues. *Prerequisites: None. 3 credits 5 periods*

MIS102 Introduction to the Military II
Introduces problem-solving methods, critical thinking, decision making, and group cohesion as applied in a military environment. *Prerequisites: MIS101. 3 credits 5 periods*

MIS201 Introduction to Leadership Dynamics I
Introduces interpersonal dynamics involved in military team operations; theory and application of military leadership principles. *Prerequisites: None. 2 credits 5 periods*

MIS202 Introduction to Leadership Dynamics II
Introduction to interpersonal dynamics involved in military team operations; theory and application of military leadership principles. *Prerequisites: None. 3 credits 5 periods*

MKT-Marketing

MKT101 Introduction to Public Relations
Emphasizes public relations techniques used both within and outside the business organization, including operation of a PR counseling firm. *Prerequisites: None. 3 credits 3 periods*

MKT109 Introduction to Fashion Merchandising
Explores the various levels and specialized segment of the fashion industry, the principles of fashion, the fundamentals of merchandising apparel, consumers' influence on demand, and marketing activities. *Prerequisites: None. 3 credits 3 periods*

MKT151 Display and Visual Merchandising
An examination of the principles of design including line, color, balance, and texture as they relate to the display of merchandise. Participation in displays, field trips, and individual projects. *Prerequisites: None. 3 credits 4 periods*

MKT200 Retail Buying
Examines management/buyer role in investment, pricing, planning, controlling sales and inventories. *Prerequisites: None. Any BPC/CIS spreadsheet course recommended. 3 credits 3 periods*

MKT263 Advertising Principles
Introduces the advertising function within business, including media study, creative strategies, and advertising campaigns. *Prerequisites: None. MKT271 recommended, but not required. 3 credits 3 periods*

MKT267 Principles of Salesmanship
Analyzes and applies the steps and techniques used in personal selling. Highlights the role of the professional sales representative and his/her functions as they relate to the company's mission and customer expectations. *Prerequisites: None. 3 credits 3 periods*

MKT268 Merchandising
Survey structure and operation of retail organizations. Emphasizes merchandising to include price, location, time promotion, and quantity. *Prerequisites: None. MKT271 suggested but not required. 3 credits 3 periods*

MKT271 Principles of Marketing
An analysis of the marketing process and environment with regard to the product, pricing, distribution, and communication in order to satisfy buyer needs. *Prerequisites: None. 3 credits 3 periods*

MKT273 Marketing Research
Planning and preparing for a marketing research effort and presentation of research findings in a professional manner. Includes the study of problem definition, sampling methods, statistical analysis, presentation techniques, and evaluation of data. *Prerequisites: MKT271, or permission of instructor. 3 credits 3 periods*

MKT274AC Fashion Merchandising Study Tour
A tour of the fashion merchandising industry outside the metropolitan Phoenix area. Includes a variety of experiences and activities to enhance awareness of this multifaceted career. *Prerequisites: Department approval. 3 credits 15 periods*

MKT277 Advanced Sales
Advanced selling and communication techniques. *Prerequisites: MKT267 or departmental approval. 3 credits 3 periods*

MKT280AA Marketing Internship
Marketing work experience in a business or industry. 80 hours of designated work per credit. Maximum of 8 credits allowed. *Prerequisites: Departmental approval. 1 credit 1 period*

MKT280AC Marketing Internship
Marketing work experience in a business or industry. 80 hours of designated work per credit. Maximum of 8 credits allowed. *Prerequisites: Departmental approval. 3 credits 3 periods*

MMT-Multimedia Technology

MMT140 Survey of Multimedia Technology

Introduction to multimedia technology and its uses. Overview of the various hardware and software used in developing and delivering multimedia. Emphasis on how multimedia is used in education and training. Provides a basic understanding of the process used to define and develop multimedia applications. *Prerequisites: CIS105, or permission of instructor. 2 credits 3 periods*

MMT216 Multimedia Project Management

Interactive video and multimedia project management including defining, analyzing, designing, and validating interactive/multimedia applications; building and managing development and production teams; planning, budgeting, and scheduling; interactive/multimedia authoring; project implementation; writing RFP's (Request For Proposal). *Prerequisites: CIS/MMT140, or permission of instructor. 3 credits 6 periods*

MMT292 Multimedia Update

Exploration and comparative analysis of the newest hardware and software products and packages on the market designed to enhance or replace existing multimedia technology. *Prerequisites: CIS/MMT140 or permission of instructor. 1 credit 2 periods*

MSP-Mortuary Science Program

MSP101 Orientation to Funeral Service

Designed to orient prospective students to funeral service and its history, philosophy, educational requirements, apprenticeship, licensure examination, job description for funeral directors and embalmers, and employment outlook. *Prerequisites: None. 1 credit 1 period*

MSP201 History and Sociology of Funeral Service

Survey of history of funeral service from ancient to modern times. Sociological aspects of how various cultures deal with death. *Prerequisites: Admission to the Mortuary Science Program. 3 credits 3 periods*

MSP202 Embalming

Study of the disinfection, preservation, and restoration of the deceased human body by chemical means for the specific purpose of funeralization. *Prerequisites: Admission to the Mortuary Science Program. 4 credits 5 periods*

MSP203 Microbiology for Funeral Service

Survey of the microbiological world as it pertains to the funeral service profession. Knowledge of those organisms that can cause death and safety precautions. *Prerequisites: Admission to the Mortuary Science Program. 3 credits 3 periods*

MSP204 Chemistry for Funeral Service

Basic principles of chemistry related to funeral service. Chemical principles of embalming, disinfection, and public health. Sanitation practices regarding potentially harmful chemicals. *Prerequisites: Admission to the Mortuary Science Program. 3 credits 3 periods*

MSP205 Mortuary Administration I

Funeral directing professional relationships with members of the clergy. Introductory information about the establishment of a funeral home. *Prerequisites: Admission to the Mortuary Science Program. 3 credits 3 periods*

MSP206 Mortuary Administration II

Operation of the established funeral home and product knowledge in the area of funeral service merchandising. *Prerequisites: MSP205. 3 credits 3 periods*

MSP207 Restorative Art

Care and restoration of the deceased human body to create natural form and appearance. Includes anatomical aspects and color theory. *Prerequisites: Admission to the Mortuary Science Program. 4 credits 5 periods*

MSP208 Legal, Regulatory, and Ethical Issues in Funeral Service

Mortuary law regulation by the Funeral Trade Commission, and ethical issues in funeral service. *Prerequisites: Admission to the Mortuary Science Program. 3 credits 3 periods*

MSP209 Pathology for Funeral Service

Pathologic conditions which require special treatment and terminology associated with the causes of death. *Prerequisites: Admission to the Mortuary Science Program. 3 credits 3 periods*

MSP210 Counseling for Funeral Service

Knowledge for facilitating the mourning process after the death of a loved one and for referring bereaved persons to other sources of professional assistance. *Prerequisites: Admission to the Mortuary Science Program. 2 credits 2 periods*

MSP297AA-AC Volunteerism for Mortuary Science: A Service-Learning Experience

Service-learning field experience within human service organization/agency. May be repeated for a total of six (6) MSP297 credit hours; may not repeat specific agency assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

MST-Microsoft Technology

MST140 Microsoft Networking Essentials

Emphasis on local area network with overview of wide area networks. Includes terminology, hardware and software components, connectivity, network architecture, packet structure, topologies, communication standards and protocols, and security issues. Preparation for Microsoft certification examination. *Prerequisites: None. (BPC110 or CIS105, and BPC121AB) suggested but not required. 3 credits 4 periods*

MST141 Supporting Microsoft Windows Desktop Operating Systems

Troubleshooting and repairing problems with Microsoft Windows desktop operating systems. Basic knowledge of system architecture and security as needed to provide skills required to support users. Preparation for Microsoft Certified Desktop Support Technician (MCDST) certification examination. *Prerequisites or Corequisites: MST150XP. 3 credits 4 periods*

MST142 Supporting Applications on Microsoft Windows Desktop Operating Systems

Troubleshooting and repairing end-user problems with applications running on current Windows desktop operating systems. Preparation for Microsoft Certified Desktop Support Technician (MCDST) certification examination. *Prerequisites: CIS102 and CIS105, or permission of instructor. Prerequisites or Corequisites: MST150XP. 3 credits 4 periods*

MST150 Microsoft Windows Professional

Knowledge and skills necessary to perform day-to-day administration tasks in a Microsoft Windows-based network. Preparation for Microsoft certification examination. *Prerequisites: None. CIS190, or CNT140, or MST140 suggested but not required. 3 credits 4 periods*

MST150VI Microsoft Windows Vista Administration

Knowledge and skills necessary to perform day- to-day workstation administration tasks of Microsoft Windows Vista. Preparation for Microsoft certification examination. *Prerequisites: None. CIS190, or CNT140, or MST140 suggested but not required. 3 credits 4 periods*

MST150XP Microsoft Windows XP Professional

Knowledge and skills necessary to perform day-to-day administration tasks of Microsoft Windows XP Professional. Preparation for Microsoft certification examination. *Prerequisites: None. CIS190, or CNT140, or MST140 suggested but not required. 3 credits 4 periods*

MST152 Microsoft Windows Server

Knowledge and skills necessary to install, configure, customize, optimize, network, integrate, and troubleshoot Windows Server. Preparation for Microsoft certification examination. *Prerequisites or Corequisites: Any MST150 course or permission of instructor. 4 credits 5 periods*

MST152DA Microsoft Windows 2000 Server

Knowledge and skills necessary to install, configure, customize, optimize, network, integrate, and troubleshoot Microsoft Windows 2000 Server. Preparation for Microsoft certification examination. *Prerequisites or Corequisites: Any MST150 course or permission of instructor. 4 credits 6 periods*

MST152DB Microsoft Windows 2003 Server

Knowledge and skills necessary to install, configure, customize, optimize, network, integrate, and troubleshoot Microsoft Windows 2003 Server. Preparation for Microsoft certification examination. *Prerequisites or Corequisites: Any MST150 course or permission of instructor. 4 credits 5 periods*

MST155 Implementing Windows Network Infrastructure

Knowledge and skills to install, configure, maintain, and support a Microsoft Windows network infrastructure. Preparation for Microsoft certification examination. *Prerequisites or Corequisites: Any MST152 course or permission of instructor. 3 credits 4 periods*

MST157 Implementing Windows Directory Services

Knowledge and skills to install, configure, and administer Microsoft Windows Active Directory directory services. Preparation for Microsoft certification examination. *Prerequisites: Any MST152 course or permission of instructor. 3 credits 4 periods*

MST172 Visual Basic .NET Web Application Development

Knowledge and skills to develop and implement Web-based applications using ASP.NET, Web forms, and the Microsoft. NET framework with Visual Basic. Preparation for Microsoft Certified Applications Developer (MCAD) certification examination. *Prerequisites: (BPC/CIS133DA, or BPC/CIS133AA and BPC/CIS133BA and BPC/CIS133CA) and CIS259, or permission of instructor. 4 credits 5 periods*

MST176 Visual Basic .NET XML Web Services Development

Knowledge and skills required to develop XML Web Services and Server components with Microsoft.NET Framework with Visual Basic. Preparation for the MCAD (Microsoft Certified Applications Developer) certification examination. *Prerequisites: CIS259 or permission of instructor. 3 credits 4 periods*

MST232 Managing a Windows Network Environment

Knowledge and skills necessary to administer Windows network operating systems. Preparation for Microsoft certification examination. *Prerequisites: MST140, MST150, and MST152, or permission of instructor. 3 credits 4 periods*

MST240 Microsoft Transmission Control Protocol/Internet Protocol (TCP/IP)

Knowledge and skills necessary to install, configure, use, and support TCP/IP on Microsoft Windows network. Preparation for Microsoft certification examination. *Prerequisites: MST152 or permission of instructor. 3 credits 4 periods*

MST244 Microsoft SQL Server Administration

Knowledge and skills required to install, configure, and administer Microsoft Structured Query Language (SQL) server. Preparation for Microsoft certification examination. *Prerequisites: Any MST152 course, or MST170, or permission of instructor. 3 credits 4 periods*

MST253 Designing a Microsoft Windows 2000 Directory Services Infrastructure

Provides students with the knowledge and skills necessary to plan and implement Microsoft Windows 2000 Directory Services in an enterprise environment. *Prerequisites: MST152, or permission of instructor. 3 credits 4 periods*

MST254 Microsoft SQL Server Design and Implementation

Knowledge and skills required to design and implement databases using Microsoft SQL server. Preparation for Microsoft certification examination. *Prerequisites: CIS259, or any MST152 course, or permission of instructor. 3 credits 4 periods*

MST259 Designing Windows Network Security

Knowledge and skills to analyze business requirements and processes to design a security solution for a Microsoft Windows network. Preparation for Microsoft certification examination. *Prerequisites or Corequisites: MST157 or permission of instructor. 3 credits 4 periods*

MTC-Music: Theory/ Composition

MTC101 Introduction to Music Theory

Designed to develop written and aural skills necessary for advanced study of music theory and skills. Recommended for music majors. *Prerequisites: None. 3 credits 3 periods*

MTC103 Introduction to Aural Perception

An introduction to the aural skills necessary to hear relationships of intervals, rhythms, melody, and harmony in music. May be repeated for a total of four (4) credit hours. *Prerequisites: None. 2 credits 2 periods*

MTC105 Music Theory I

The chronological study of music theory including: harmony, melody, texture, structure, and timbre through analysis, original compositions and basic exercises to demonstrate musical concepts. *Prerequisites: MTC100, or MTC101, or permission of instructor. Corequisites: MTC106. 3 credits 3 periods*

MTC106 Aural Perception I

The development of listening and performing skills through dictation, sight singing, and keyboard harmony. *Prerequisites: None. Corequisites: MTC105. 1 credit 2 periods*

MTC120 Introduction to Sound Design for Film and Video

Basic principles of recording and mixing sound for film and video. Includes voice over, automatic dialog replacement (ADR), foley, ambience, special effects and music. Emphasis on analog and digital recording techniques in the field as well as in a controlled environment. *Prerequisites: (TCM100 and TCM136) or permission of instructor. 3 credits 5 periods*

MTC122 Fretboard Harmony

An in-depth study of functional and theoretical practice as applied to the fretboard of the guitar through understanding of chord symbols, intervals, and rhythm. *Prerequisites: MTC100 or MTC101. 3 credits 3 periods*

MTC155 Music Theory II

A continuation of Music Theory I with emphasis on harmony and part-writing procedures. *Prerequisites: MTC105. Corequisites: MTC156. 3 credits 3 periods*

MTC156 Aural Perception II

A continuation of Aural Perception I, including harmonic practices. *Prerequisites: None. Corequisites: MTC155. 1 credit 2 periods*

MTC180 Computer Literacy for Musicians

Instruction in basic computer literacy, including generic applications and music-specific programs with hands-on experience. Ability to read music notation required. *Prerequisites: None. 3 credits 4 periods*

MTC191 Electronic Music I

An introduction to producing music with Musical Instrument Digital Interface (MIDI) configurations consisting of computers, printers, synthesizers, and other compatible MIDI instruments. *Prerequisites: None. 3 credits 4 periods*

MTC192 Electronic Music II

Continued study of the production of music with Musical Instrument Digital Interface (MIDI) configurations. Emphasis on more complex configurations and their applications in song arrangements. *Prerequisites: MTC191. 3 credits 4 periods*

MTC205 Music Theory III

The study of chromatic harmony and melody, modulation techniques, and expanded chords. The analysis of formal structure. *Prerequisites: MTC155. Corequisites: MTC206. 3 credits 3 periods*

MTC206 Aural Perception III

A development of listening and performing skills, including an introduction of chromatic harmonic techniques and concepts of style. *Prerequisites: None. Corequisites: MTC205. 1 credit 2 periods*

MTC220 Advanced Sound Design for Film and Video

Explores techniques and advanced applications used in designing sound using original student footage on a non-linear editing system. *Prerequisites: MTC/TCM120 or permission of instructor. 3 credits 5 periods*

MTC240 Composition

Introduction to the basics of music composition, stressing techniques, and procedures for developing original ideas. May be repeated for total of twelve (12) credit hours. *Prerequisites: (MTC105 and MTC106, or equivalent) and permission of instructor. 3 credits 6 periods*

MTC255 Music Theory IV

A continuation of Music Theory III, including 20th century theories and techniques. *Prerequisites: MTC205. Corequisites: MTC256. 3 credits 3 periods*

MTC256 Aural Perception IV

A continuation of Aural Perception III, including extended chords. *Prerequisites: None. Corequisites: MTC255. 1 credit 2 periods*

MUC-Music: Commercial/ Business

MUC109 Music Business: Merchandising and the Law

Operation, scope, and career opportunities in the music business. Focuses on music in the marketplace, songwriting, publishing, copyright procedures, and business affairs, agents, artist management, and concert production. *Prerequisites: None. 3 credits 3 periods*

MUC110 Music Business: Recording and Mass Media

The operation, scope, and career opportunities in the music business. Focuses on the record industry, environmental music, uses of music in radio, telecommunications, and film, and career options. *Prerequisites: None. 3 credits 3 periods*

MUC111 Digital Audio Workstation I (DAW I)

Use of digital mixing and automation software in conjunction with editing and recording. Includes computer operation, troubleshooting, and file management. *Prerequisites: MUC195 or MUC195AA. 3 credits 5 periods*

MUC112 Digital Audio Workstation II (DAW II)

Use of digital mixing and automation software in conjunction with editing and recording. Includes computer operation, troubleshooting, and file management. *Prerequisites: MUC111. 3 credits 5 periods*

MUC194 Introduction to Audio Mixing Techniques

Approaches in final mixing for different musical genres. Develop critical listening skills and applying these techniques to students' projects. Professional-type facilities and equipment available for student use. *Prerequisites: MUC112 and MUC195 or permission of instructor. 3 credits 3 periods*

MUC195AA Studio Music Recording I

Basic principles of studio sound recording. Emphasis on musical acoustics, operation of recording equipment, studio setups, and multitrack recording. Includes studio session process and musical production decisions. *Prerequisites: None. 3 credits 5 periods*

MUC196 Studio Music Recording II

Emphasis on signal-processing equipment, mixing consoles, and advanced musical recording session procedures, production, and engineering. Includes mix-down and resultant master tape of a musical recording session. *Prerequisites: MUC195 or MUC195AA. 3 credits 5 periods*

MUC197 Live Sound Reinforcement I

Basic principles of live sound engineering. Emphasis on signal flow, acoustic, sound reinforcement setups and installation, signal processing, microphone selections and placement. Includes setting up sound systems and mixing live music. *Prerequisites: None. 3 credits 3 periods*

MUC198 Live Sound Reinforcement II

Emphasis on musical production decisions. Front-of-house and monitor console placement, loudspeaker arrangements, power considerations, program material, and sound pressure levels. Includes setting up of sound system and mixing live performances with various styles of music in addition to mixing at alternate locations. *Prerequisites: MUC197. 3 credits 3 periods*

MUC209 Music Business Industry Leadership and E-Commerce

Operation, scope, and career opportunities in the music business. Focuses on music in the areas of entrepreneurship, the digital age, e-commerce, industry leadership, visionary development and the collaboration process. *Prerequisites: MUC109 and MUC110 or permission of instructor. 3 credits 3 periods*

MUC292 Sound Design

Sound design production for multimedia: includes sound effects, music composition/arranging, and studio recording production for one or more mediums such as film, TV, gaming, theatre, and dance. Emphasis on computer-assisted production using digital audio workstations and acoustic forces. Structured to provide an atmosphere of team research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. *Prerequisites: MTC192, MTC/TCM220, MUC112, MUC196, MTC105, MTC106, and permission of instructor. 3 credits 6 periods*

MUC295 Studio Music Recording III

Producing and engineering a recording project. Covers how recording studios work and how recording projects are organized from pre-production through delivery of the final mix. *Prerequisites: MUC196. 3 credits 6 periods*

MUC295AA Self Promotion for Music
Career goal development. Includes self-presentation and communication skills, keeping files and records, and developing self-promotional materials. *Prerequisites: None. 1 credit 1 period*

MUC297AA-AB Music Internship
Music internship work experience in a business or industry. Eighty (80) hours of designated work per credit. A maximum of 12 credits allowed. *Prerequisites: Departmental approval. 1-2 credits 1-2 periods*

MUE-Music: Education

MUE137 Class Brass I
Practical class with emphasis on techniques of playing and teaching brass instruments including embouchure, breath control, tone, and literature. *Prerequisites: None. 2 credits 3 periods*

MUE138 Class Brass II
Continuation of Class Brass I with additional focus on skills including ensemble performance, transposition, increasing range and solo literature. *Prerequisites: MUE137 or permission of instructor. 2 credits 3 periods*

MUE235 Class Percussion I
Practical class with emphasis on techniques of playing and teaching percussion instruments including hand position, rudiments, stick control, and elements of reading rhythms. *Prerequisites: None. 2 credits 3 periods*

MUE237 Class Woodwinds I
Practical class with emphasis on techniques of playing and teaching woodwind instruments including embouchure, breath control, tone, mouthpiece selection, and literature. *Prerequisites: None. 2 credits 3 periods*

MUE238 Class Woodwinds II
Continuation of Class Woodwinds I with additional emphasis on skills including ensemble performance, transposition, increasing range and literature. *Prerequisites: MUE237 or permission of instructor. 2 credits 3 periods*

MUP-Music: Performance

MUP101 Private Instruction
Private instruction emphasizing developmental improvement of musicianship and technique from an entering skill level. Four-course sequence required of all music majors meeting departmental requirements. Instruction provided on voice, piano, harpsichord, organ, guitar, trumpet, French horn, trombone, baritone horn, tuba, flute, oboe, clarinet, bassoon, saxophone, violin, viola, violoncello, contrabass, bass guitar, percussion, and harp. May be repeated for credit. *Prerequisites: None. 1 credit one 30-minute lesson per week*

MUP102 Private Instruction
Private instruction emphasizing musicianship, literature, technique, and performance. Four-course sequence designed for university transfer equivalency. Instruction provided on voice, piano, harpsichord, organ, guitar, trumpet, French horn, trombone, baritone horn, tuba, flute, oboe, clarinet, bassoon, saxophone, violin, viola, violoncello, contrabass, bass guitar, percussion, and harp. May be repeated for credit. *Prerequisites: None. 2 credits two 30-minute lessons per week*

MUP123AA Studio Class/Piano
Performance and laboratory class for students enrolled in private piano instruction. Emphasis on demonstration and discussion of specific piano problems. MUP123AA may be repeated for credit. *Prerequisites: None. Corequisites: Private piano instruction. .5 credit .5 period*

MUP123AB Studio Class/Voice
Performance and laboratory class for students enrolled in private voice instruction. Emphasis on demonstration and discussion of specific vocal problems. MUP123AB may be repeated for credit. *Prerequisites: None. Corequisites: Private voice instruction. .5 credit .5 period*

MUP123AC Studio Class/Guitar
Performance and laboratory class for students enrolled in private guitar instruction. Emphasis on demonstration and discussion of specific guitar problems. MUP123AC may be repeated for credit. *Prerequisites: None. Corequisites: Private guitar instruction. .5 credit .5 period*

MUP123AD Studio Class/Instrumental
Performance and laboratory class for students enrolled in private instrumental instruction. Emphasis on demonstration and discussion of specific instrumental problems. MUP123AD may be repeated for credit. *Prerequisites: None. Corequisites: Private instrumental instruction. .5 credit .5 period*

MUP123AE Studio Class: Jazz Styles
Performance and laboratory class for students enrolled in private jazz styles instruction. Emphasis on demonstration and discussion of specific jazz styles problems. MUP123AE may be repeated for credit. *Prerequisites: None. Corequisites: Private jazz styles instruction. .5 credit .5 period*

MUP130 Beginning Group Piano
Basic introduction to playing piano through music reading, chords, rhythmic, and written activities. Designed for those with little or no piano experience. *Prerequisites: None. 2 credits 3 periods*

MUP131 Class Piano I
Development of beginning piano techniques and the fundamentals of music including basic hand position, music reading skills of melodic and harmonic material, major scales, transposition, and harmonizations including the I, IV, V7 chords. *Prerequisites: None. 2 credits 3 periods*

MUP132 Class Piano II
Continuation of Piano I with emphasis on elementary piano techniques including major and minor scales, transposition, improvisation, and sight-reading. *Prerequisites: MUP131, or permission of instructor. 2 credits 3 periods*

MUP133 Class Voice I
Introduction to the fundamentals of vocal production. Emphasis on breathing techniques, tone production, and performances in class of solo vocal literature. *Prerequisites: None. 2 credits 3 periods*

MUP134 Class Voice II
Continuation of Class Voice I including the elements of stage presence and diction. *Prerequisites: MUP133 or permission of instructor. 2 credits 3 periods*

MUP140 Elementary Piano Pedagogy
An overview of techniques, methods, materials, stylistic characteristics, and repertoire used in teaching piano to students at the early and late elementary levels including creating a studio policy, simulated teaching, and observing private instruction and group piano classes. *Prerequisites: Permission of instructor or department. 2 credits 2 periods*

MUP141 Intermediate Piano Pedagogy
Overview of techniques, methods, materials, stylistic characteristics, and repertoire used in teaching piano students at the intermediate and early advanced levels including simulated teaching, performance and competition preparation, and observing private instruction and group piano classes. *Prerequisites: Permission of instructor or department. 2 credits 2 periods*

MUP150 Community Chorus
A mixed chorus with emphasis on college/community participation and preparation of a variety of choral literature for public performance. Auditions may be required. May be repeated for credit. *Prerequisites: None. 1 credit 3 periods*

MUP151 Private Instruction
Private instruction emphasizing developmental improvement of musicianship and technique from an entering skill level. Four-course sequence required of all music majors meeting departmental requirements. Instruction provided on voice, piano, harpsichord, organ, guitar, trumpet, French horn, trombone, baritone horn, tuba, flute, oboe, clarinet, bassoon, saxophone, violin, viola, violoncello, contrabass, bass guitar, percussion, and harp. May be repeated for credit. *Prerequisites: None. 1 credit one 30-minute lesson per week*

MUP152 Private Instruction
Private instruction emphasizing musicianship, literature, technique, and performance. Four-course sequence designed for university transfer equivalency. Instruction provided on voice, piano, harpsichord, organ, guitar, trumpet, French horn, trombone, baritone horn, tuba, flute, oboe, clarinet, bassoon, saxophone, violin, viola, violoncello, contrabass, bass guitar, percussion, and harp. May be repeated for credit. *Prerequisites: None. 2 credits two 30-minute lessons per week*

MUP153 A Cappella Choir
A mixed choir designed to emphasize choral techniques and performance of all styles of choral literature. Public performances are scheduled during the year including a concert tour. Auditions may be required. May be repeated for credit. *Prerequisites: None. 2 credits 5 periods*

MUP154AA Jazz Vocal Ensemble
Practical and performing experience in vocal jazz. Includes music from the 1920's through the present. *Course Notes: MUP154AA may be repeated for credit. Prerequisites: Auditions required or permission of instructor. 1 credit 3 periods*

MUP159 Community Orchestra
Emphasis on college/community participation and the preparation of orchestral literature for public performance. Auditions may be required. May be repeated for credit. *Prerequisites: None. 1 credit 3 periods*

MUP161 Community Band
Emphasis on college/community participation and the preparation of band literature for public performance. Auditions may be required. May be repeated for credit. *Prerequisites: None. 1 credit 3 periods*

MUP162 Band
A class designed to emphasize instrumental techniques and the preparation of all styles of band literature. Public performances are scheduled during the year. Auditions may be required. May be repeated for credit. *Prerequisites: None. 2 credits 5 periods*

MUP163 Jazz Ensemble
Practical and performance experience in various jazz styles. Open to all students on the basis of auditions. May be repeated for credit. *Prerequisites: None. 1 credit 3 periods*

MUP164 Jazz Improvisation I
Theoretical and performance skills in many styles of jazz improvisation. May be repeated for a total of six (6) credit hours. *Prerequisites: None. 2 credits 3 periods*

MUP165 Jazz Improvisation II
Intermediate theoretical and performance skills in many styles of jazz improvisation. May be repeated for a total of six (6) credit hours. *Prerequisites: MUP164, or permission of instructor. 2 credits 3 periods*

MUP166 Jazz Piano I
Introduction to basic jazz piano skills, including chord construction, chord voicings, accompanying and solo piano arrangements. May be repeated for a total of four (4) credits. *Prerequisites: MUP131, or permission of instructor. 1 credit 2 periods*

MUP167 Jazz Piano II
Continued development of jazz piano techniques with emphasis on voicing formulas for ninth, eleventh, thirteenth, and altered dominant chords. *Prerequisites: MUP166, or permission of instructor. 1 credit 2 periods*

MUP181 Chamber Music Ensembles
Practical and performance experience in instrumental, vocal, and mixed ensembles. May be repeated for credit. *Prerequisites: None. 1 credit 2 periods*

MUP182 Chamber Singers
Practical and performance experience in various styles of vocal music. Open to all students on the basis of auditions. May be repeated for credit. *Prerequisites: None. 1 credit 3 periods*

MUP185 Flute Choir
Ensemble of the entire flute family that may include piccolo, E flat flute, C flutes, alto flutes, and bass flute. Literature will include commissioned works, original works for standard flute choir, and transcriptions from various musical periods. *Course Notes: MUP185 may be repeated for credit. Prerequisites: Audition or permission of instructor. 1 credit 3 periods*

MUP201 Private Instruction
Private instruction emphasizing developmental improvement of musicianship and technique from an entering skill level. Four-course sequence required of all music majors meeting departmental requirements. Instruction provided on voice, piano, harpsichord, organ, guitar, trumpet, French horn, trombone, baritone horn, tuba, flute, oboe, clarinet, bassoon, saxophone, violin, viola, violoncello, contrabass, bass guitar, percussion, and harp. May be repeated for credit. *Prerequisites: None. 1 credit one 30-minute lesson per week*

MUP202 Private Instruction
Private instruction emphasizing musicianship, literature, technique, and performance. Four-course sequence designed for university transfer equivalency. Instruction provided on voice, piano, harpsichord, organ, guitar, trumpet, French horn, trombone, baritone horn, tuba, flute, oboe, clarinet, bassoon, saxophone, violin, viola, violoncello, contrabass, bass guitar, percussion, and harp. May be repeated for credit. *Prerequisites: None. 2 credits two 30-minute lessons per week*

MUP209 Elements of Conducting
Essentials of conducting techniques used in choral and instrumental ensembles including terminology, interpretation, and styles. *Prerequisites: None. 2 credits 2 periods*

MUP217 Music Theatre: Broadway Solos
Study and in-class performance of scenes and solos from Broadway musical literature. *Course Notes: MUP217 may be repeated for credit. Prerequisites: None. 2 credits 3 periods*

MUP225 Class Guitar I
Emphasis on note-reading and folk-style harmonic accompaniment. Includes finger-style playing. Stresses development of efficient practicing techniques and proper sitting and hand positions. *Prerequisites: None. 2 credits 3 periods*

MUP226 Class Guitar II
Note-reading range including second position and parts of higher positions. Classical, popular, Latin, and other styles of music. Theory including scales, keys, and chord construction. Technical exercises of both hands. *Prerequisites: MUP225 or permission of instructor. 2 credits 3 periods*

MUP227 Class Guitar III
Additional fingerboard positions. Ensemble techniques and performance. *Prerequisites: MUP226, or permission of instructor. 2 credits 3 periods*

MUP228 Class Guitar IV
Advanced fingerboard positions. Duet and trio performances. Advanced ensemble techniques. *Course Notes: MUP228 may be repeated for credit. Prerequisites: MUP227 or permission of instructor. 2 credits 3 periods*

MUP231 Class Piano III
Development of intermediate piano techniques including selected solo literature, transposition of harmonic patterns, and secondary dominants. *Prerequisites: MUP132 or permission of instructor. 2 credits 3 periods*

MUP232 Class Piano IV
Continuation of Piano III including modulation techniques, improvisation of piano accompaniments, advanced chromatic harmony, and sight-reading of advanced literature. *Prerequisites: MUP231 or permission of instructor. 2 credits 3 periods*

MUP233 Class Voice III
Interpretive singing through a closer examination of coloring, tone production, dynamics, and tempo indications. *Prerequisites: MUP134. 2 credits 3 periods*

MUP234 Class Voice IV
Continuation of Class Voice III with additional emphasis on the preparation of solo vocal literature for the purpose of evaluation and the integration of the music with the drama of the music. *Course Notes: MUP234 may be repeated for credit. Prerequisites: MUP233, or permission of instructor. 2 credits 3 periods*

MUP240 Piano Literature
Survey of solo literature written for the piano or for other keyboard instruments (i.e., harpsichord, clavichord) but suitable for performance on the piano. Emphasis on stylistic characteristics information correlating the composer's life and period with compositional techniques used. *Prerequisites: MUP141 or permission of instructor. 2 credits 2 periods*

MUP250AC Survey of Diction for Singers (German)
Introduction to the use of phonetics in the study of German song literature. *Prerequisites: None. 1 credit 2 periods*

MUP250AD Survey of Diction for Singers (French)
Introduction to the use of phonetics in the study of French song literature. *Prerequisites: None. 1 credit 2 periods*

MUP251 Private Instruction
Private instruction emphasizing developmental improvement of musicianship and technique from an entering skill level. Four-course sequence required of all music majors meeting departmental requirements. Instruction provided on voice, piano, harpsichord, organ, guitar, trumpet, French horn, trombone, baritone horn, tuba, flute, oboe, clarinet, bassoon, saxophone, violin, viola, violoncello, contrabass, bass guitar, percussion, and harp. May be repeated for credit. *Prerequisites: None. 1 credit one 30-minute lesson per week*

MUP252 Private Instruction
Private instruction emphasizing musicianship, literature, technique, and performance. Four-course sequence designed for university transfer equivalency. Instruction provided on voice, piano, harpsichord, organ, guitar, trumpet, French horn, trombone, baritone horn, tuba, flute, oboe, clarinet, bassoon, saxophone, violin, viola, violoncello, contrabass, bass guitar, percussion, and harp. May be repeated for credit. *Prerequisites: None. 2 credits two 30-minute lessons per week*

MUP270 Musical Theatre Workshop
Workshop in the study and performance of musical theatre repertoire. Including audition techniques, talent evaluation criticism, rehearsal techniques, vocal acting styles, stage movement, and performance. May be repeated for credit. *Prerequisites: None. 2 credits 5 periods*

MUP288 Basics of Piano Accompanying Vocal
Introduction to piano accompanying with emphasis on basic skills needed to accompany solo voice, choral singing, and congregational singing. May be repeated for a total of four (4) credit hours. *Prerequisites: MUP151AD, or MUP231, or permission of instructor. 2 credits 2 periods*

MUP289 Basics of Piano Accompanying Instrument
Introduction to piano accompanying with emphasis on basic skills needed to accompany solo instruments, chamber music and musicals. May be repeated for a total of four (4) credit hours. *Prerequisites: MUP151AD, or MUP231, or permission of instructor. 2 credits 2 periods*

NAV-Navajo

NAV101 Elementary Navajo I
Basic grammar, pronunciation, and vocabulary of the Navajo language. Practice of listening, speaking, reading, and writing skills. Includes the study of the Navajo culture with participation in an off-campus Navajo cultural event. *Prerequisites: None. 4 credits 4 periods*

NAV115 Beginning Navajo Conversation I
Beginning conversational Navajo with emphasis on basic listening and speaking skills, including basic pronunciation, vocabulary, sentence structure, and cultural awareness. *Prerequisites: None. 3 credits 3 periods*

NCE-Nursing: Continuing Education

NCE115 Nursing Healthcare Transition and Safe Passage
Overview of American nursing practice, including historical and current perspectives. Key components of transitioning to Registered Nurse role in the United States. Contrasting Registered Nurse roles in US and in other countries. Career development and successful transitioning to role of nurse in the United States. *Prerequisites: NUR228 or permission of instructor. 2 credits 2 periods*

NCE214CA Interpretation of Cardiac Arrhythmias
Focuses on common cardiac arrhythmias. Includes abnormalities in regard to the major and minor effects on a patient's health, specific drug therapy, and nursing implications. *Prerequisites: None. 1 credit 1 period*

NCE223 LPN-IV Therapy and Medication Skills
Terminology and anatomy related to intravenous therapy. Drug response factors, dosage, calculations, intravenous site dressing change, intravenous administration equipment, and initiating intravenous therapy. Documentation and procedures for laboratory checklists. Meets state nursing board requirements for initiating intravenous therapy and administrating intravenous medications. *Prerequisites: Current license as Practical Nurse, or permission of instructor. 3 credits 3 periods*

NCE282AA-AC Volunteerism for Nursing: A Service-Learning Experience
Service-learning field experience within human service organization/agency. May be repeated for a total of six (6) NCE282 credit hours; may not repeat specific agency assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 13 periods*

NUR-Nursing Science: Basic

NUR104 Structured Nursing Review
Structured nursing tutorial assistance and nursing study skills to help students achieve success in their respective block of nursing courses. Nursing process and critical thinking application skills emphasized. *Course Notes: Course offered as credit (P) no credit (Z) basis. May be repeated for a total of six (6) credit hours. Prerequisites: None. Corequisites: Concurrent enrollment in the Nursing program or permission of Department Chair. 1 credit 1 period*

NUR104AA Structured Nursing Review
Structured nursing tutorial assistance and nursing study skills to help students achieve success in their respective block of nursing courses. Nursing process and critical thinking application skills emphasized. *Course Notes: Course offered as credit (P) no credit (Z) basis. May be repeated for a total of six (6) credit hours. Prerequisites: None. Corequisites: Enrollment in the Nursing program or permission of department chair. .5 credit .5 period*

NUR104AB Structured Nursing Review
Structured nursing tutorial assistance and nursing study skills to help students achieve success in their respective block of nursing courses. Nursing process and critical thinking application skills emphasized. *Course Notes: Course offered as credit (P) no credit (Z) basis. NUR104AB may be repeated for a total of eight (8) credit hours. Prerequisites: None. Corequisites: Concurrent enrollment in the Nursing program or permission of Department Chair. 1 credit 1 period*

NUR151 Nursing Theory and Science I

Introduction to fundamentals of nursing theory and practice utilizing critical thinking based on the nursing process and principles of evidence-based practice. Focus on meeting basic human needs within the wellness/illness continuum. Theoretical concepts related to holistic care of well, geriatric, and adult clients. Provides safe nursing care to clients with selected alterations in health. Introduction to professional nursing practice. Applies concepts of health promotion, disease/illness prevention. Provides care based upon integration of pathophysiology, nutrition, communication and physical, biological, and psycho-social sciences. Uses information technology in performing and evaluating client care. *Prerequisites: Admission into the Nursing Program. 10 credits 20 periods*

NUR158 Nurse Assisting

Introduction to the role of the nursing assistant for clients across the wellness/illness continuum within the nurse assisting scope of practice. Includes basic problem solving processes specific to meeting the basic and holistic needs of clients, therapeutic communication skills essential for the nursing assistant, interventions to ensure the needs and safety of the client, specific types of diseases, conditions and alterations in behavior of the client, and principles of nutrition and fluid balance. Focus is on special needs of the elder client in the acute and long-term care settings, and basic emergency care skills and procedures. Provides opportunity for the development of clinical competency in the performance of selected nurse assisting skills and procedures through participation in the care of clients. *Prerequisites: Completed Health and Safety Documentation Form (proof of immunity or immunizations for Rubella, Rubeola, Mumps, Varicella, Hepatitis B, Td, current TB testing, current HealthCare Provider CPR card and current Fingerprint Clearance Card) and completed Health Care Provider Signature form. 6 credits 10 periods*

NUR171 Nursing Theory and Science II

Application of nursing theory and practice utilizing critical thinking based on the nursing process and evidence-based practice. Holistic nursing concepts of health promotion, disease/illness prevention, and health restoration for adult and geriatric clients. Role development as the professional nurse member of the health care team. Participation in client teaching and discharge planning. Application of previous knowledge of physical, biologic, psycho-social sciences, and the cultural and spiritual aspects of nursing care. Application of nursing concepts in the development of plan of care to include pathophysiology, nutrition, pharmacology, and skills in communication. Uses information technology in planning, documenting, and evaluating client care. *Prerequisites: NUR151 or permission of Nursing Department Chairperson. 8 credits 16 periods*

NUR191 Practical Nursing Transition

Overview of the role of the practical nurse in care of clients. Includes nursing standards and scope of practice of the practical nurse. Emphasis on nursing care related to pediatric and care of the well childbearing client and childbearing family. Focus on the role of practical nurse in providing care through interventions consistent with established nursing care plans. *Prerequisites: NUR171 or permission of Nursing Department Chair. 3 credits 5 periods*

NUR228 Registered Nurse Refresher

Update of current general principles of nursing theory and clinical skills for RNs returning to active nursing in a medical-surgical health care setting. Concepts of caring, holism, critical thinking, and nursing process to provide safe nursing care for clients and their families with acute alterations in health. Application of professional nursing principles and theories related to health education and promotion for culturally diverse clients and families. *Prerequisites: None. 5 credits 5 periods*

NUR229 Registered Nurse Preceptorship

Application of theoretical and clinical nursing concepts to clients and families in health care settings working under the supervision of a registered nurse preceptor with faculty guidance. Emphasis on application of basic nursing care concepts, nursing process principles, skills, and the caregiver role of the professional nurse. *Prerequisites: NUR228 and current or temporary registered nurse license. 4 credits 12 periods*

NUR241 Nursing Process and Critical Thinking IV

Nursing and critical thinking strategies for complex holistic needs of high-risk clients with multi-system health alterations. Includes perinatal, newborn, pediatric, and adult clients in acute care settings. Continuation of role development of the professional nurse. Integrates concepts of nutrition, communication, health promotion, and advanced pathophysiology. Application of previous knowledge of physical, biologic, social, and nursing sciences. *Prerequisites: NUR231, NUR237, and (NUR238 or NUR239). Corequisites: NUR248 or permission of Nursing Department Chairperson. 4 credits 4 periods*

NUR248 Nursing Science IV

Synthesis of nursing concepts. Provides nursing care for high-risk newborn, pediatric, perinatal, and adult clients with multi-system alterations in health. Emphasis on leadership and management roles of the nurse. Includes a preceptorship experience to facilitate role transition from student to graduate nurse. Integrates concepts of nutrition, communication, health promotion, and advanced pathophysiology. *Prerequisites: NUR231, NUR237, and NUR238. Corequisites: NUR241 or permission of Nursing Department Chairperson. 5 credits 15 periods*

NUR251 Nursing Theory and Science III
Application of critical thinking strategies related to holistic care of the newborn, pediatric, and childbearing clients. Integration of concepts related to holistic care of adults and geriatric clients with selected acute and chronic alterations in health. Integration of professional nursing standards in role development. Utilization of previous knowledge of physical, biologic, psycho-social sciences, and the cultural, spiritual aspects of nursing care. Integration of concepts of nutrition, pharmacology, communication, health promotion, and pathophysiology into nursing care. *Prerequisites: (BIO202, BIO205, and NUR171) or permission of Nursing Department Chairperson. 8 credits 16 periods*

NUR271 Nursing Theory and Science IV
Integration of critical thinking strategies for complex holistic needs of high-risk clients with multi-system health alterations. Application of strategies related to holistic care of the client with psychiatric/mental health disorders. Introduction to community-based care. Assimilation of professional role into practice. Evaluation of care based on the knowledge of physical, biologic, psycho-social sciences, and the cultural and spiritual beliefs of clients. Development of nurse leadership and management roles. Integration of concepts of nutrition, pharmacology, communication, health promotion, and pathophysiology into nursing care. *Prerequisites: NUR251 or permission of Nursing Department Chairperson. 7 credits 14 periods*

NUR291 Nursing Clinical Capstone
Synthesis of the nursing process to facilitate role transition from student to graduate nurse within a preceptorship experience. Development of nurse leadership and management roles. *Prerequisites: NUR271 or permission of Nursing Department Chairperson. 2 credits 6 periods*

OAS-Office Automation Systems

OAS101 Computer Typing I: Keyboarding and Formatting
Keyboard mastery; letters, tables, and reports; office production; manuscripts. *Prerequisites: None. 3 credits 5 periods*

OAS101AA Computer Typing I: Keyboard Mastery
Incorporates correct touch typing principles. *Prerequisites: None. 1 credit 1.7 periods*

OAS101AB Computer Typing I: Letters, Tables, and Reports
Letter, table, and report formatting. *Prerequisites: OAS101AA or permission of department/division. 1 credit 1.7 periods*

OAS101AC Computer Typing I: Office Production and Manuscripts
Simple office projects and manuscripts. *Prerequisites: OAS101AB or permission of department/division. 1 credit 1.7 periods*

OAS103AA Computer Typing: Skills Building
Individual progression on speed accuracy drills. *Prerequisites: Ability to touch type 25 words per minute or permission of department/division. 1 credit 1.7 periods*

OAS108 Business English
Comprehensive coverage of correct use of English grammar including spelling, punctuation, capitalization, and number style mechanics in a business context. *Prerequisites: None. 3 credits 3 periods*

OAS111AA Computer Keyboarding I
Mastery of essential microcomputer keyboarding skills. Emphasis on touch typing of alphabetic and numeric keys and symbols. *Prerequisites: None. 1 credit 1.7 periods*

OAS118 10 Key By Touch
Touch system of numeric keys on ten-key pads. *Prerequisites: None. 1 credit 1.7 periods*

OAS135DK Word: Level I
Using Word word processing software to create and name files, edit text, format, and print a variety of documents. *Prerequisites: None. 2 credits 2 periods*

OAS235DK Word: Level II
Using Word word processing software such as math, columns, macros, styles, graphics, sort, outlines, and table of contents. *Prerequisites: BPC/OAS135DK or permission of instructor. 2 credits 2 periods*

PED-Physical Education

PED101 Physical Activities: Basic
Individual, dual, or team sports activities at the basic level. *Prerequisites: None. 1 credit 2 periods*

PED102 Physical Activities: Intermediate
Individual, dual, or team sports activities at the intermediate level. *Course Note: PED102 may be repeated for credit. Prerequisites: None. Prior experience recommended. 1 credit 2 periods*

PED103RS Recreational Sports
Introduction to a variety of recreational sports. *Course Note: PED103RS may be repeated for credit. Prerequisites: None. .5 credit 1 period*

PED113 Weight Training
Weight training activity and wellness study to help develop a lifetime of regular exercise, stress management, and proper nutrition. Workout includes warm-up/stretch, aerobic exercise, selected strength exercises, and cool down/stretch. *Prerequisites: None. 1.5 credits 3 periods*

PED114 Fitness
Fitness activity and wellness study to help develop a lifetime of regular exercise, stress management, and proper nutrition. Workout includes warm-up/stretch, aerobic exercise, selected strength exercises, and cool down/stretch. *Course Note: PED114 may be repeated for credit. Prerequisites: None. 1.5 credits 3 periods*

PED115 Lifetime Fitness
Fitness activity and wellness study to help develop a lifetime of regular exercise, stress management, and proper nutrition. Workout includes warm-up/stretch, aerobic exercise, selected strength exercises, and cool down/stretch. *Course Note: PED115 may be repeated for credit. Prerequisites: None. 2 credits 4 periods*

PED120AF Special Emphasis Activities: Weight Training
Intensive experience in weight training. *Course Note: PED120AF may be repeated for a total of 8 credits. Prerequisites: None. 2 credits 4 periods*

PED133 Olympic Style Weight Lifting
Advanced study of the science, strategy, and techniques of Olympic Style Weight lifting. For the fitness professional who is interested in competing, or is seeking to incorporate advanced strength and conditioning modalities. Addresses current topics, theories and techniques. *Prerequisites: None. 2 credits 4 periods*

PED201 Physical Activities: Advanced
Individual, dual, or team sports activities at the advanced level. *Course Note: PED201 may be repeated for credit. Prerequisites: None. Prior experience at competitive level recommended. 1 credit 2 periods*

PED287 Physical Education of the Atypical
Individualized activities programs for students with limited physical capacities. May be repeated for credit. *Prerequisites: Permission of instructor. 2 credits 2 periods*

PHI-Philosophy

PHI101 Introduction to Philosophy
General consideration of human nature and the nature of the universe. Knowledge, perception, freedom and determinism, and the existence of God. *Prerequisites: None. 3 credits 3 periods*

PHI103 Introduction to Logic
Informal logic, logical fallacies, elementary symbolic logic, analysis of argument forms, and construction of proofs for validity. *Prerequisites: ENG101 or ENG107 or equivalent. 3 credits 3 periods*

PHI105 Introduction to Ethics
Major theories of conduct. Emphasis on normative ethics, theories of good and evil from Plato to the present. *Prerequisites: None. 3 credits 3 periods*

PHI106 Critical Thinking and Problem-Solving
Commonly used informal fallacies; examination of emotive and unclear uses of language, including sexism and loaded terms; methods for analyzing extended arguments. Application to the news media, advertising, political speeches, and textbooks. *Prerequisites: ENG101 or ENG107 or equivalent. 3 credits 3 periods*

PHI201 History of Ancient Philosophy
Historical survey of the intellectual history of the Greco-Roman world, focusing on the philosophical tradition and social/historical context. *Prerequisites: None. 3 credits 3 periods*

PHI212 Contemporary Moral Issues
Philosophical consideration of such moral issues as civil disobedience, preferential treatment, abortion, privacy, sexual morality, poverty and hunger. *Prerequisites: None. 3 credits 3 periods*

PHI213 Medical and Bio-Ethics
A philosophical consideration of moral problems that arise in relation to medicine and biology, e.g., death, patient rights, and biological experimentation. *Prerequisites: None. 3 credits 3 periods*

PHI218 Philosophy of Sexuality
Philosophical examination of sexuality in human life. Historical and critical survey of philosophical and theological views. Comparison and evaluation of contemporary theories about the nature of sexual desire and sexual acts. Implications of theories for contemporary moral problems. *Prerequisites: None. 3 credits 3 periods*

PHI224 Political Philosophy
Predominant figures and theories in Euroamerican political philosophy from Plato to contemporary social/political philosophers. *Prerequisites: None. 3 credits 3 periods*

PHI234AA Plato
The ideas of Plato and Socrates and their impact on Western thought. *Prerequisites: None. 3 credits 3 periods*

PHI244 Philosophy of Religion
Religious language, the existence of God, miracles, and human destiny. *Prerequisites: None. 3 credits 3 periods*

PHS-Physical Science

PHS110 Fundamentals of Physical Science
Survey of the principles of physics and chemistry. *Prerequisites: Grade of "C" or better in MAT090, or MAT091, or MAT092, or MAT093, or equivalent, or satisfactory score on math placement exam. 4 credits 6 periods*

PHY-Physics

PHY101 Introduction to Physics

A survey of physics emphasizing applications of physics to modern life. *Course Notes: May receive credit for only one of the following: PHY101 or PHY101AA. Prerequisites: Grade of "C" or better in MAT090, or MAT091, or MAT092, or MAT093, or equivalent, or satisfactory score* on math *placement exam. 4 credits 6 periods*

PHY111 General Physics I

Includes motion, energy, and properties of matter. *Course Notes: Recommended for preprofessional and suggested for certain majors. May receive credit for only one of the following: PHY111 or PHY111AA. Prerequisites: MAT182, or MAT 187, or one year high school trigonometry with a grade of "C" or better, or permission of Department or Division. 4 credits 6 periods*

PHY112 General Physics II

Includes electricity, electromagnetism, and modern physics. *Prerequisites: PHY105, or PHY111. 4 credits 6 periods*

PHY282AA Volunteerism for Physical Science: A Service-Learning Experience

Service-learning field experience within human service organizations, government offices, public schools, or hospitals. May be repeated for a total of six (6) PHY282 credit hours; may not repeat specific agency assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1 credit 1 period*

POR-Portuguese

POR101 Elementary Portuguese I

Basic grammar, pronunciation, and vocabulary of the Portuguese language. Includes study of Lusophone culture. Practice in listening, speaking, reading, and writing skills. *Prerequisites: None. 5 credits 6 periods*

POR102 Elementary Portuguese II

Continued study of basic grammar, pronunciation, and vocabulary of the Portuguese language. Includes study of Lusophone cultures and practice in listening, speaking, reading, and writing skills. *Prerequisites: POR101 or permission of department/division. 5 credits 6 periods*

POS-Political Science

POS100 Introduction to Political Science

Introduction to the discipline of political science and its relation to other disciplines with emphasis on the major philosophies and institutions of government. *Prerequisites: None. 3 credits 3 periods*

POS110 American National Government

Study of the historical backgrounds, governing principles, and institutions of the national government of the United States. *Prerequisites: None. 3 credits 3 periods*

POS115 Issues in American Politics

Examination of major issues in current affairs in the fields of politics, economics, social relations, foreign affairs, aesthetics, and others through the reading and viewing of secondary information sources. *Prerequisites: None. ENG101 or ENG107 or equivalent. 3 credits 3 periods*

POS120 World Politics

Introduction to the principles and issues relating to the study of international relations. Evaluation of the political, economic, national, and transnational rationale for international interactions. *Prerequisites: None. 3 credits 3 periods*

POS125 Issues in World Politics

Contemporary issues and factors in international relations. Stress conditions in civil order, trade, and international institutions. May be repeated for a total of six (6) credit hours. *Prerequisites: None. 3 credits 3 periods*

POS130 State and Local Government

Survey of state and local government in the United States. Special attention on Arizona state government. *Prerequisites: None. 3 credits 3 periods*

POS140 Comparative Government

Overview and evaluation of the sub-field of comparative politics. Covers various national governments from around the world: their structure, system, and method of governance. Examines methods of assessing these governments. *Prerequisites: None. 3 credits 3 periods*

POS180 United Nations Studies

Historical origins, structural makeup, political and operational characteristics, and legal activities of the United Nations. Analysis of the overall institution's ongoing utility, productivity, and creativity. *Prerequisites: None. 3 credits 3 periods*

POS210 Political Ideologies

Survey of twentieth century nondemocratic ideologies and movements with emphasis on Marx, Lenin, Mussolini, Hitler, Stalin, and Mao. *Prerequisites: None. 3 credits 3 periods*

POS220 U.S. and Arizona Constitution

Examination of the United States Constitution and the constitution and government of the state of Arizona. *Prerequisites: None. 3 credits 3 periods*

POS221 Arizona Constitution

Examination of the constitution of the state of Arizona. Equivalent to the second part of POS220. May not enroll in POS220 and POS221 concurrently. *Prerequisites: None. 1 credit 1 period*

POS222 U.S. Constitution
Examination of the United States Constitution. Equivalent to the first part of POS220. May not enroll in POS220 and POS222 concurrently. *Prerequisites: None. 2 credits 2 periods*

POS280 Internship Orientation
Preparation for an internship experience and appropriate intern behavior. *Prerequisites: Permission of instructor. 1 credit 1 period*

POS281AA-AC Public Policy/Service Internship
Field experience in community service, public policy or public service. May be repeated for a total of nine (9) POS281 credit hours; may not repeat specific internship assignment. *Prerequisites: Minimum of 15 credit hours at college granting internship with a minimum GPA of 3.0 and permission of instructor. Prerequisites or Corequisites: POS280. 2-4 credits 2-4 periods*

POS282AA-AC Volunteerism for Political Science: A Service-Learning Experience
Service-learning field experience within government agencies, political organizations, citizen advocacy groups, and human service organization/agency. *Course Notes: May be repeated for a total of four (4) POS282 credit hours; may not repeat for a specific agency assignment for more than two (2) credit hours. Standard grading available according to procedures outlined in catalog. Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

PSY-Psychology

PSY101 Introduction to Psychology
To acquaint the student with basic principles, methods, and fields of psychology such as learning, memory, emotion, perception, physiological, developmental, intelligence, social and abnormal. *Prerequisites: None. 3 credits 3 periods*

PSY102 Introduction to Psychology Lab
Optional laboratory designed to accompany PSY101. Application of psychological principles in areas such as learning, memory, emotion, motivation, cognition, language, development, personality, and intelligence. *Prerequisites or Corequisites: PSY101 or permission of instructor. 1 credit 1 period*

PSY123 Psychology for Parenting
The demonstration and application of psychological principles to the development and guidance of children and adolescents. *Prerequisites: None. 3 credits 3 periods*

PSY125 Leadership and Group Dynamics
Practical experience and theory in effective leadership and group problem solving. Includes principles of group dynamics and theory of shared leadership. *Prerequisites: None. 3 credits 4 periods*

PSY132 Psychology and Culture
Presents current knowledge about human diversity in behavior and culture using examples from a variety of contexts and nations. Highlights topics in cross-cultural psychology, such as intergroup relations, ethnocentrism, gender, personality, emotion, language, communication, work, and health. Emphasis on applications of behavioral and cognitive principles to enhance interactions in a multicultural world. *Prerequisites: None. 3 credits 3 periods*

PSY156 Understanding Death and Dying
Designed to give the student an understanding of the research and theories of death, dying, and the bereavement process. *Prerequisites: None. 3 credits 3 periods*

PSY215 Introduction to Sport Psychology
Application of the physiological, behavioral, social, cognitive, and humanistic perspectives in psychology to sport. Includes topics such as optimal performance, correlation, motivation, co-action effect, self-actualization, psycho-behavioral techniques, self-efficacy, and the general health benefits of sport participation. *Prerequisites: PSY101 with a grade of "C" or better, or permission of instructor. 3 credits 3 periods*

PSY225 Psychology of Religion
Provides an introduction to the history, varieties and theories of the psychology of religion from an empirical, research-based perspective. Specific areas of study include the role of gender, age, socioeconomic status, and personality on religious experience, the effects of religion and prayer on mental and physical health, the development of religious thought and behavior over the lifespan, and the social psychology of new religious movements. In addition, the role of cultural differences on religious attitudes both within the USA and around the world is also addressed. *Prerequisites: PSY101 or permission of instructor. 3 credits 3 periods*

PSY230 Introduction to Statistics
An introduction to basic concepts in descriptive and inferential statistics, with emphasis upon application to psychology. Consideration given to the methods of data collection, sampling techniques, graphing of data, and the statistical evaluation of data collected through experimentation. Required of psychology majors. *Prerequisites: PSY101 with a grade of "C" or better and MAT092, or equivalent, or permission of instructor. 3 credits 3 periods*

PSY231 Laboratory for Statistics
Applications of inferential and descriptive statistics to computers in the field of psychology. *Prerequisites: None. Corequisites: PSY230. 1 credit 2 periods*

PSY235 Psychology of Gender
To assess historical and psychological perspectives on women and men, and to evaluate contemporary viewpoints regarding the psychology of women and men. *Prerequisites: PSY101 with a grade of "C" or better, or permission of instructor. 3 credits 3 periods*

PSY240 Developmental Psychology

Human development from conception through adulthood. Includes physical, cognitive, emotional, and social capacities that develop at various ages. Recommended for students majoring in nursing, education, pre-med, and psychology. *Prerequisites: PSY101 with a grade of "C" or better, or permission of the instructor. 3 credits 3 periods*

PSY248 Psychology of Adolescent Development

Explores the highly specialized developmental stage of adolescence. Includes biological, cognitive, psychosexual, and sociocultural factors as well as current theories and research. *Prerequisites: PSY101 with a grade of "C" or better, or permission of instructor. 3 credits 3 periods*

PSY250 Social Psychology

The scientific study of how people's thoughts, feelings, and behaviors are influenced by other people and situations. Includes how we think about ourselves and others, persuasion and influence, sexual and romantic attraction, friendship and helping others, aggression and prejudice. *Prerequisites: PSY101 with a grade of "C" or better, or permission of the instructor. 3 credits 3 periods*

PSY255 Psychology of the Information Age

Influences of the Information Age on human behavior, with an emphasis on technology-related effects. Social and personal behaviors affected by technology, information availability, communication usage, and the potential future of technology. Effects of technology and information avoidance. *Prerequisites: PSY101 with a grade of "C" or better, or equivalent, or permission of instructor. 3 credits 3 periods*

PSY260 Psychology of Personality

Introduction to theories of personality with emphasis upon application of specific theories towards the understanding of individuals. *Prerequisites: PSY101 with a grade of "C" or better, or permission of instructor. 3 credits 3 periods*

PSY266 Abnormal Psychology

Distinguishes between normal behavior and psychological disorders. Subjects may include stress disorders, problems with anxiety and depression, unusual and abnormal sexual behavior, schizophrenia, and addictive behaviors. Causes and treatments of psychological problems and disorders are discussed. *Prerequisites: PSY101 with a grade of "C" or better, or permission of instructor. 3 credits 3 periods*

PSY277 Psychology of Human Sexuality

Survey of psychological and physiological aspects of human sexual behavior. Emphasis placed on the integration of the cognitive, emotional, and behavioral factors in sexual functioning. *Prerequisites: PSY101 with a grade of "C" or better, or permission of instructor. Students must be 18 years or older. 3 credits 3 periods*

PSY282AA-AC Volunteer Service-Learning Experience in Psychology

Service-learning field experience within private/public agencies and citizen volunteer groups. May be repeated for a total of three (3) PSY282 credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: PSY101 and permission of instructor. 1-3 credits 1-3 periods*

PSY290AC Research Methods

Planning, execution, analysis, and written reporting of psychological research. Surveys the literature, procedures, and instruments in representative areas of psychological research. *Prerequisites: ENG101, ENG107 or equivalent. Prerequisites or Corequisites: PSY230 (or equivalent) with a grade of "C" or better, or permission of instructor.4 credits 5 periods*

PSY293 Biological Psychology

Biological foundations of sensation, perception, motivation, emotion, cognition and action. Designed for students in the life sciences. *Prerequisites: PSY101 with a grade of "C" or better or permission of instructor. 3 credits 3 periods*

PSY298AA-AC Special Projects

Organized and tailored around the interests and needs of the individual student. Structured to provide an atmosphere of individualized research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. Allows the best aspects of independent study and individualized learning to be combined to maximize student development. *Prerequisites: Permission of Program Director or instructor. 1-3 credits 1-3 periods*

QCT-Quality Control Technology

QCT143 Principles of Quality Assurance

Principles, development, and applications of quality assurance management systems. Covers International Quality standards, Department of Defense standards, Food and Drug Administration standards, and Federal Aviation Administration standards. *Prerequisites: None. 3 credits 3 periods*

QCT270 Measurements for Quality Control I

Basic concepts of mechanical and electromechanical measuring equipment, techniques, and related errors. Analog and digital measuring devices, including rulers, vernier devices, dial indicators, comparators, air gaging systems, coordinate measuring machines, and others. Introduction to metrology covering measurement of surface texture, flatness, squareness, angles, roundness, and concentricity. Includes non-destructive testing methods and equipment performance. *Prerequisites: None. 3 credits 3 periods*

RDG-Reading

RDG008 Phonics

Designed for students who are learning English as a second language. Includes the study of the speech sounds used in English as represented by the written symbols of the alphabet; recognition of spelling patterns and resulting pronunciation; diacritical markings. *Prerequisites: Reading placement score (CELSA). 3 credits 3 periods*

RDG010 Reading English as a Second Language I

Designed for students who are learning English as a second language. Provides students with skills needed to become proficient readers in English. Teaches sound symbol relationships of the English alphabet. Expands essential vocabulary for daily communication both in isolation and context. Includes development of reading comprehension skills. *Prerequisites: Appropriate ESL placement test score. 3 credits 3 periods*

RDG020 Reading English as a Second Language II

Designed for students who are learning English as a second language. Includes continued development of vocabulary and reading comprehension skills. *Prerequisites: Appropriate ESL placement test score or grade of "C" or better in RDG010, or permission of instructor. 3 credits 3 periods*

RDG030 Reading English as a Second Language III

Designed for students who are learning English as a second language. Includes instruction for more advanced vocabulary and reading comprehension skills. *Prerequisites: Appropriate ESL placement test score or grade of "C" or better in RDG020, or permission of instructor. 3 credits 3 periods*

RDG040 Reading English as a Second Language IV

Developed for students of English as a second language. Includes development of advanced vocabulary, comprehension skills, and culture awareness. *Prerequisites: Appropriate ESL placement test score or grade of "C" or better in RDG030, or permission of instructor. 3 credits 3 periods*

RDG081 Reading Improvement

Designed to improve basic reading skills. Includes word recognition, prediction of contents of reading selections, and development of basic vocabulary. Emphasis on identifying main ideas and related details. Reviews following directions and the understanding of graphic materials. *Prerequisites: Placement test score, or permission of instructor. 3 credits 3 periods*

RDG091 College Reading Skills I

Designed to improve basic reading and study skills, vocabulary, and comprehension skills. Recommended to all students whose placement test scores indicate a need for reading instruction. *Prerequisites: Reading placement test score (ASSET), or grade of "C" or better in RDG081, or permission of instructor. 3 credits 3 periods*

REA-Real Estate

REA179 Real Estate Principles I

Basics of real estate principles including introduction to the profession and license law, definition of real property, legal descriptions, rights and interests in property, ownership, contracts, real estate economics, financing and foreclosure, land use, and valuation. *Prerequisites: None. 3 credits 3 periods*

REA180 Real Estate Principles II

Advanced work in a real estate setting including escrow procedures and title insurance, liens and encumbrances, advanced contracts, water rights, toxic waste and environmental hazards, agency, ethics and professional relationships, real estate code and the commissioner's rules, investment, property management, and government restrictions. *Prerequisites: REA179 or permission of instructor. 3 credits 3 periods*

REA270 Basic Appraisal Principles

Overview of real property concepts and characteristics, legal considerations, value influences, real estate finance, types of value, economic principles, real estate markets and analysis, and ethics in appraisal practice. *Prerequisites: None. 2 credits 2 periods*

REA271 Basic Appraisal Procedures

Overview of real estate appraisal approaches to valuation procedures, value, property description, residential applications, commercial applications, improvement construction, home inspection, and appraisal math. Practical application of appraisal procedures including case studies and examples. *Prerequisites: 2 credits 2 periods*

REA272 Uniform Standards of Professional Appraisal Practice (USPAP)

Basic rules for ethical behavior and competent performance. USPAP requirements for state certified appraisers. Highlights role of the appraiser and implied impartiality of this role. Requirements of the Uniform Standards of Professional Appraisal Practice (USPAP) affect appraisal businesses. *Prerequisites: REA270 and REA271. 2 credits 2 periods*

REA273 Residential Market Analysis Highest and Best Use

Recognize and evaluate market conditions affecting the buyers' and sellers' activities in understanding and reporting values. Gather and evaluate market data. Markets, sub-markets, market segmentation, supply side analysis, demand analysis and the importance of market examination to the appraisal process. *Prerequisites: None. 1 credit 1 period*

REA274 Residential Appraiser Site Valuation and Cost Approach

Learn theories and methodologies for arriving at residential site values and applying the Cost Approach for new and reproduction factors. The advantages and disadvantages of using the cost methods for estimating accrued depreciation. Reading of residential building plans and specifications. *Prerequisites: None. 1 credit 1 period*

REA275 Residential Sales Comparison and Income Approaches

Basic understanding and knowledge of the residential sales comparison and income approaches to appraisal including valuation principles and procedures applicable to these approaches. Development of market analysis, including the application and use of matched pairs and capitalization rates, and gross rent multipliers. Includes organizing market data and reconciling value indications. *Prerequisites: Permission of instructor. 2 credits 2 periods*

REA276AA Residential Report Writing and Case Studies

Exposes appraiser to realistic writing skills essential to producing realistic appraisal reports in their practice. Includes study of writing techniques, grammar, punctuation, and analytical techniques. Actual report writing and case studies are applied. *Prerequisites: None. 1 credit 1 period*

REA276AB Residential Report Writing and Case Studies

Focuses on the valuation analysis of a subject property. Concentrates on preparing results of data analyzed for a final report that is comprehensible and realistic to the intentional client. *Prerequisites: REA276AA or permission of instructor. 2 credits 2 periods*

REA277 Statistics, Modeling and Finance

Recognize statistical analysis in property valuation. Explain the purpose of the real estate finance markets including the importance of credit conditions on property values for appraisal. Calculate and interpret basic numbers in the loan process. *Prerequisites: None. 1 credit 1 period*

REA278 Advanced Residential Applications and Case Studies

Provides actual application using a case study for advanced residential valuation methods. Includes applying the critical thinking and thought process. Capstone course for certified license appraiser. *Prerequisites: REA272, and REA273, and REA274, and REA275, and REA276AA, and REA276AB, and REA277. 1 credit 1 period*

REA281 Principles of Real Estate Law

Incidents of ownership and use of real estate, legal principles, procedures, and methods of acquisition and disposition of real estate. *Prerequisites: REA179 or departmental approval. 3 credits 3 periods*

REA282 Real Estate Finance

Study of lending institutions, including banks, savings and loans, conventional loans, Federal Housing Administration (FHA), Veterans Administration (VA) for residential, commercial, and industrial property. *Prerequisites: REA179 or permission of instructor. 3 credits 3 periods*

REA283 Property Management

Emphasizes realty laws, survey of rentals, housing needs, and rents in Phoenix metropolitan area. *Prerequisites: REA179 or permission of instructor. 3 credits 3 periods*

REA285 Real Estate Selling

Covers obtaining listings, buyer behavior, markets, competition, and psychology of sales techniques. *Prerequisites: REA179 or permission of instructor. 3 credits 3 periods*

REA288 Real Estate Investment Strategy

Covers real estate investments, financing, leverage benefits, risks applicable to residential, commercial and industrial properties for direct and group ownership. *Prerequisites: REA179 or permission of instructor. 3 credits 3 periods*

REA290AH Real Estate Seminar: Contract Writing

Contract writing skills, techniques, and requirements. Writing of basic real estate contracts, including purchase offers, counter offers, sales listing agreements, and riders. *Course Notes: Completion of this module can be applied toward the six- (6-)hour contract-writing requirement for Arizona Real Estate License application and renewal. Prerequisites: (REA180 or REA201 or current Arizona Real Estate License) or permission of department. .5 credit .5 period*

REC-Recreation

REC120 Leisure and the Quality of Life

Overview of the historical, psychological, social, and cultural aspects of play, leisure, and recreation, and their role in contemporary society. Nature of play and leisure behavior in human development within different cultures, and the contribution play, recreation, and leisure make to the quality of life for individuals in today's society. *Prerequisites: None. 3 credits 3 periods*

REC150AA Outdoor Adventure Skills Field Experience

Practical application of camping and outdoor skills including camping, equipment selection and use, cooking, fire building, backpacking safety and cooking. *Prerequisites: None. 1 credit 2 periods*

REC150AB Outdoor Adventure Skills

Camping and outdoor skills including types of camping, equipment selection and use, cooking and fire building, camp programs, backpacking, and safety. *Prerequisites: None. 3 credits 3 periods*

REC155AA Canyoneering

Basic canyoneering skills. Includes hydrology, navigation, safety systems, climbing and hiking skills, wading/swimming techniques and flood/weather identification. *Prerequisites: None. 1 credit 2 periods*

REC160 Leisure and Society

Analysis of the human relationship to leisure. Historical survey of philosophical, psychological, and socioeconomic basis for development of systems that provide leisure programs. *Prerequisites: None. 3 credits 3 periods*

REC210 Leisure Delivery Systems
Systematic study of delivery of leisure services in public, commercial, and independent sectors; particular emphasis placed on the urban setting. *Prerequisites: None. 3 credits 3 periods*

REC230 Programming of Recreation Services
Foundations for designing, planning, delivering and managing recreational and leisure events. Emphasis on application of recreation programming concepts and practices in a variety of settings and situations for a diversity of participants. *Prerequisites: None. 3 credits 3 periods*

REC250 Recreation Leadership
An examination of roles and methods of leadership in leisure services settings. Overview of theories and models of leadership, group dynamics, participant motivation, communication, and face-to-face leadership. Exploration of leadership contexts, including coaching and officiating sports, leading community groups and volunteers, working with persons in various life stages and with varying abilities, and leading different recreation activity areas. *Prerequisites: None. 3 credits 3 periods*

REC282AA-AC Volunteerism for Recreation: A Service-Learning Experience
Service-learning field experience within private/public agencies, educational institutions, and citizen volunteer groups. May be repeated for a total of six (6) REC282 credit hours; may not repeat specific assignment for more than two (2) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

REL-Religious Studies

REL101 Introduction to Religion
Various religious expressions of humankind. Focuses on basic religious themes common to religions, such as encounter with the Holy, search for self and community, mystical illumination, and spiritual discipline. *Prerequisites: None. 3 credits 3 periods*

REL201 Classics of Western Religions
Academic study of the scriptures of Judaism, Christianity and Islam, and works from later phases of these religious traditions. *Prerequisites: None. 3 credits 3 periods*

REL202 Classics of Asian Religions
Academic study of selected works from Hindu, Buddhist, Taoist, and Confucian traditions. Study of cultural values and concepts of the world, history, culture, and human nature as represented in these works. *Prerequisites: None. 3 credits 3 periods*

REL203 American Indian Religions
Tribal traditions of the people native to North America, and pan-Indian religions in the twentieth century. *Prerequisites: ENG101 or ENG107 or equivalent. 3 credits 3 periods*

REL205 Religion and the Modern World
Introduction to the nature and role of religious beliefs and practices in shaping the lives of individuals and societies, with particular attention to the modern world. *Prerequisites: ENG101 or ENG107 or permission of instructor. 3 credits 3 periods*

REL218 Religion and Culture
Examination of the relationship between religion and culture, with a particular emphasis on how culture influences religion and how religion influences culture historically and in modern settings. *Prerequisites: None. 3 credits 3 periods*

REL223 Spiritual But Not Religious
Explore the historical, social, and cultural context for the emergence of spiritual but not religious segment, and examine who identifies with this movement and why. Identify what variety of attitudes and beliefs this group holds, and explore the varieties of private and public spiritual practices and civic engagement this group participates in. *Prerequisites: None. 3 credits 3 periods*

REL225 African-American Religions
Leaders, movements, traditions, and controversies in the religious history of African-Americans. *Prerequisites: None. 3 credits 3 periods*

REL243 World Religions
The development of various religions from prehistoric to modern times. Political, economic, social, and geographic relationships among world religions. Consideration of both Eastern and Western religions. *Prerequisites: None. 3 credits 3 periods*

REL270 Introduction to Christianity
The nature and content of the Christian tradition developed over time, with overview of the New Testament, major historical trends and figures, major Christian ideas and practices, and survey of denominations. *Prerequisites: None. 3 credits 3 periods*

REL290 Women and Religion
The role of women in several organized religions and/or religious sects, including a study of myth and symbols as they are used to establish, maintain, and enforce sex roles within specific religions. *Prerequisites: None. 3 credits 3 periods*

RUS-Russian

RUS101 Elementary Russian I
Basic grammar, pronunciation, and vocabulary of the Russian language. Practice of listening, speaking, reading, and writing skills. *Prerequisites: None. 4 credits 4 periods*

RUS102 Elementary Russian II
Continued study of grammar and vocabulary, with emphasis on speaking, reading, and writing skills. *Prerequisites: RUS101 or departmental approval. 4 credits 4 periods*

RUS201 Intermediate Russian
A continuation of RUS102. Review of essential grammar and continued practice and development of reading, writing, and speaking skills. *Prerequisites: RUS102, or equivalent, or departmental approval. 4 credits 4 periods*

RUS202 Intermediate Russian
Continued development of Russian language skills. *Prerequisites: RUS201 or equivalent or departmental approval. 4 credits 4 periods*

SBS-Small Business Management

SBS204 Small Business Marketing and Advertising
Introduction to marketing and advertising strategies and methods including business image, target market analysis, and customer buying behavior profile. Analysis and selection of advertising/business promotion methods and timing. Methods of deciding product and market segment focus included. Design of an individual marketing and advertising/promotion plan. *Prerequisites: None. 2 credits 2 periods*

SBS213 Hiring and Managing Employees
Methods and techniques for managing employees in a small business. Includes supervisor's role, leadership styles, interpersonal communications, staff planning, employee work styles, techniques for handling problem employees, and employee motivation. Focuses on real-life situations to enable the business owner to gain high performance from the employee team. Includes segment on hiring, new employee orientation, training, benefits, and developing future staffing needs assessment. *Prerequisites: None. 1 credit 1 period*

SBS214 Small Business Customer Relations
Developing and improving customer relations for the small business. Planning and delivering quality customer service. Includes topics on attitude of employees, customer perceptions and motivations, handling customer dissatisfaction, and developing customer, supplier, vendor, and distributor loyalty. *Prerequisites: None. 1 credit 1 period*

SBS216 Planning for a Small Business
Relates business management issues to a specific small business through development of an individual study plan. Provides on-site review of business operation by trained instructor. *Prerequisites: SBS200 and SBS204 or permission of instructor. 2 credits 2 periods*

SBS230 Financial and Tax Management for Small Business
An overview of accounting and record-keeping for the successful management of a small business. Develops an understanding of the accounting cycle and preparation of financial statements. Includes section on tax consequences and the choice of legal entity choice based on taxation. *Prerequisites: None. 2 credits 2 periods*

SBU-Society and Business

SBU200 Society and Business
The study and scientific inquiry of issues and demands placed on business enterprise by owners, customers, government, employees, and society. Included are social, ethical, and public issues, and analysis of the social impact of business responses. *Prerequisites: None. 3 credits 3 periods*

SLG-Sign Language

SLG101 American Sign Language I
Introduction of principles, methods, and techniques for communicating with deaf people who sign. Development of expressive and receptive sign skills, manual alphabet, numbers, and sign vocabulary. Overview of syntax, grammar, and culture related to American Sign Language (A.S.L.). *Prerequisites: None. SLG103 suggested as a corequisite, but not required. 4 credits 4 periods*

SLG102 American Sign Language II
Continued development of knowledge and language skills for communicating with deaf people who sign. Includes numbers, fingerspelling, and culture. Emphasis on enhancement of receptive sign skills and continued development of expressive sign skills. Application of rudimentary, syntactical, and grammatical structure stressed with continued development of sign vocabulary. *Prerequisites: SLG101 with a grade of "C" or better, or permission of department/division. 4 credits 4 periods*

SLG201 American Sign Language III
Linguistics of American Sign Language (A.S.L.) including non-manual behaviors and signing English idioms with conceptual accuracy. Emphasis on practical application of A.S.L. skills, expanded vocabulary, and cross-cultural communication. *Prerequisites: SLG102 with a grade of "C" or better, or permission of department/division. Suggested but not required: (ENG101 or ENG107) and (CRE101, or CRE111, or exemption by score on the reading placement test). 4 credits 4 periods*

SLG202 American Sign Language IV
Advanced American Sign Language skills including continued vocabulary. Emphasis on conversational techniques in a cross-cultural framework. Continued work on conceptual accurate signing of English idioms and words with multiple meanings. *Prerequisites: SLG201 with "C" or better, or permission of Department or Division. ENG101, SLG200, and (CRE101, or CRE111, or exemption by score on the reading placement test) suggested but not required. 4 credits 4 periods*

SOC-Sociology

SOC101 Introduction to Sociology
Fundamental concepts of social organization, culture, socialization, social institutions, and social change. *Prerequisites: None. 3 credits 3 periods*

SOC130 Human Sexuality
Examination of the physical, social, cultural, and institutional contributions to human sexuality. Examination of facts and myths, literature, and changing mores regarding human sexuality to acquire knowledge about cultural and social events and processes. Explores the sexuality of males and females in contemporary society. *Prerequisites: Student must be 18 years or older. 3 credits 3 periods*

SOC140 Racial and Ethnic Minorities
Contemporary/historical racial and ethnic intergroup relations emphasizing cultural origins, developments, and problems of minority groups in the United States. *Prerequisites: None. 3 credits 3 periods*

SOC157 Sociology of Marriage and Family
The study of courtship, marriage, and family patterns, their historical development, their adaptation to a changing culture, and their impact on individuals. *Prerequisites: None. 3 credits 3 periods*

SOC180 Social Implications of Technology
Effects of development and implementation of technology on society. Historical and multi-cultural comparisons of this process, current concerns addressed, and prospects for the future analyzed. *Prerequisites: None. 3 credits 3 periods*

SOC212 Gender and Society
A study of the way culture shapes and defines the positions and roles of both men and women in society. Major emphasis on social conditions which may lead to a broadening of gender and a reduction of gender role stereotypes and the implications of these changes. Open to both men and women. *Prerequisites: None. 3 credits 3 periods*

SOC282AA-AC Volunteerism for Sociology: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. May be repeated for a total of six (6) SOC282 credit hours; may not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: SOC101 and permission of instructor. 1-3 credits 1-3 periods*

SPA-Spanish

SPA085AA Speedy Spanish I
Basic vocabulary and grammar to develop conversational skills in Spanish. Emphasis on speaking skills. *Prerequisites: None. 1 credit 1 period*

SPA085AB Speedy Spanish II
Intermediate development of vocabulary and grammar to develop conversational skills in Spanish. Emphasis on speaking skills. *Prerequisites: SPA085AA. 1 credit 1 period*

SPA085AC Speedy Spanish III
Advanced development of vocabulary and grammar to develop conversational skills in Spanish. Emphasis on speaking skills. *Prerequisites: SPA085AB. 1 credit 1 period*

SPA101 Elementary Spanish I
Basic grammar, pronunciation, and vocabulary of the Spanish language. Includes the study of the Spanish-speaking cultures. Practice of listening, speaking, reading, and writing skills. *Prerequisites: None. 4 credits 4 periods*

SPA102 Elementary Spanish II
Continued study of grammar and vocabulary of the Spanish language, and study of the Spanish-speaking cultures. Emphasis on speaking, reading, and writing skills. *Prerequisites: SPA101 or departmental approval. 4 credits 4 periods*

SPA115 Beginning Spanish Conversation I
Basic pronunciation, vocabulary, sentence structures, and cultural awareness necessary to develop speaking and listening skills in Spanish. *Prerequisites: None. 3 credits 3 periods*

SPA117 Health Care Spanish I
Basic conversational Spanish for health care workers or students. Emphasis on basic sentence structure, pronunciation, and vocabulary used in health care settings. *Prerequisites: None. 3 credits 3 periods*

SPA117AA Health Care Spanish I: Introduction
Part one of basic medical terminology in Spanish for health care personnel or students. Emphasis on pronunciation and vocabulary needed in health care setting, including coverage of routine information gathered. *Prerequisites: None. 1 credit 1 period*

SPA117AB Health Care Spanish I: Intermediate
Part two of basic Spanish communication for health care personnel or students. Emphasis on pronunciation and vocabulary needed in health care settings, including medications and their use. *Prerequisites: SPA117AA or permission of instructor. 1 credit 1 period*

SPA119 Spanish for Educational Settings I
Basic conversational Spanish for teachers, counselors, administrators and other school personnel. Emphasis on basic sentence structure, pronunciation and vocabulary used in educational settings. *Prerequisites: None. 3 credits 3 periods*

SPA120 Spanish for Educational Settings II
Basic conversational Spanish for teachers, counselors, administrators and other school personnel. Continuation of SPA119, expanding into secondary and post-secondary educational settings. Emphasis on basic sentence structure, pronunciation and vocabulary. *Prerequisites: SPA119 or permission of department. 3 credits 3 periods*

SPA201 Intermediate Spanish I
Continued study of essential Spanish grammar and Spanish-speaking cultures. Continued practice and development of reading, writing, and speaking skills in Spanish. Emphasis on fluency and accuracy in spoken Spanish. *Prerequisites: SPA102, or SPA111, or permission of department. 4 credits 4 periods*

SPA202 Intermediate Spanish II
Review of grammar, continued development of Spanish language skills with continued study of the Spanish-speaking cultures. *Prerequisites: SPA201, or departmental approval. 4 credits 4 periods*

SPA225 Intermediate Spanish Conversation I
Continued study of vocabulary, sentence structures, and cultural awareness necessary to improve speaking and listening skills in Spanish. Emphasis on fluency and accuracy in spoken Spanish. *Prerequisites: SPA116, or SPA102, or permission of department or division. 3 credits 3 periods*

SPA241 Spanish and Spanish-American Film I
Analysis of Spanish and Spanish-American film as art form and as social commentary. Includes documentary, biography, and films based on works of literature. All films, coursework, class participation, and oral and written reports conducted in Spanish. *Prerequisites: SPA202 or permission of department. 3 credits 3 periods*

SPA265 Advanced Spanish I
Introduction and study of Spanish and Spanish-American literature. Selected readings from most Spanish-speaking countries. All discussions, oral reports, and written assignments are in Spanish. *Prerequisites: SPA202 or departmental approval. 3 credits 3 periods*

SPA282AA-AC Volunteerism for Spanish: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. May be repeated for a total of four (4) SPA282 credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

SWU-Social Work

SWU130 Chemical Dependency
Sociological, psychological and physiological aspects of chemical abuse. Consideration of a variety of treatment programs offered in community agencies. *Prerequisites: None. 3 credits 3 periods*

SWU171 Introduction to Social Welfare
Analysis of contemporary social welfare services and professional social work. *Prerequisites: None. 3 credits 3 periods*

SWU204 Addicted Brain Across the Lifespan
Examines the effects of substances of abuse and dependence on the brain and nervous system, from fetal development through old age. Explores medical and non-medical interventions for chemical dependency. *Prerequisites: BHS/SWU130 or permission of instructor. 3 credits 3 periods*

SWU215 Working with the Chemically Dependent Family
Family counseling techniques for working with the chemically dependent family. Assessment and development of treatment plans. *Prerequisites: SWU292 or permission of Program Director. 3 credits 3 periods*

SWU220 Addictions and Mental Disorders
Concepts of chemical use, abuse, and addiction examined from several perspectives. Concepts integrated from different disciplines and technologies. Addresses issues of psychiatric and substance abuse disorders that commonly occur together. *Prerequisites: BHS/SWU130 or permission of instructor. 3 credits 3 periods*

SWU225 Statistics for Social Research/Justice and Government
Introductory course in descriptive and inferential statistics for social research. Designed to serve as preparation for interpreting and understanding research related to justice and government-related agencies. *Prerequisites: MAT092 or completion of higher level mathematics course. 3 credits 3 periods*

SWU258 Victimology and Crisis Management
Focuses on victimology and techniques of crisis intervention, and the importance of multicultural perspective. Includes coverage of sexual assault, family violence, child abuse, post-traumatic stress disorder, substance abuse, coping skills, stress management, and community resources. *Prerequisites: None. 3 credits 3 periods*

SWU282AA-AC Volunteerism for Social Work: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. May be repeated for a total of six (6) SWU282 credit hours; may not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

SWU291 Social Service Delivery Systems
Purpose, structure, and delivery system of human service agencies. Includes 40 hours of volunteer experience in local human service agencies. *Prerequisites or Corequisites: SWU102, or SWU171, or permission of the department. 3 credits 3 periods*

SWU292 Effective Helping in a Diverse World
Introduction to professional helper communication skills with respect to cross-cultural practice and diversity issues in a social work setting. *Prerequisites: None. SOC101 and SWU102 or SWU171 suggested, but not required. 3 credits 3 periods*

TCM-Telecommunications

TCM101 Fundamentals of Radio and TV

History of American radio and television, government regulations, self-regulation of broadcasting, the relationship of networks and stations, the social and political aspects of radio and television programming, the role of mass communications in America, the socioeconomic pressures on the medium, and the responsibilities and purposes of mass communications. *Prerequisites: None. 3 credits 3 periods*

TEC-Textiles and Clothing

TEC105 Cultural Aspects of Clothing

Psychological, aesthetic, and economic factors applied to the selection of clothing in relation to personality and figure type. *Prerequisites: None. 3 credits 3 periods*

TEC106 History of Fashion

Consideration of historic factors influencing fashion and fashion change with special emphasis on historic costume. *Prerequisites: None. 3 credits 3 periods*

TEC109 Introduction to Fashion Merchandising

Explores the various levels and specialized segment of the fashion industry, the principles of fashion, the fundamentals of merchandising apparel, consumers' influence on demand, and marketing activities. *Prerequisites: None. 3 credits 3 periods*

TEC110 Basic Sewing Skill

Basic clothing construction techniques. Use of commercial patterns and sewing machine in the construction of basic garments. *Prerequisites: None. 3 credits 4 periods*

TEC111 Clothing Construction

Construction of garments applying basic construction principles and techniques using patterns suitable for the individuals and their capabilities. *Course Notes: If student has no previous sewing experience, TEC110 Basic Sewing Skills should be taken prior to and not during this course. May be repeated for a total of 12 credit hours with permission of instructor. Prerequisites: None. 3 credits 5 periods*

TEC112AB Alteration of Ready Made Garments

Knowledge, skills, and techniques of altering ready-made garments for personal or professional use. Experience using a sewing machine assumed. *Prerequisites: None. 2 credits 2 periods*

TEC120 Intermediate Clothing Construction

Application of intermediate clothing and fitting techniques. Emphasis on improving basic construction skills. May be repeated for a total of 8 credit hours with permission of instructor. *Prerequisites: TEC111, or permission of instructor. 2 credits 4 periods*

TEC122 Sewing With Knits

Skills and techniques used in the construction of garments made from knit fabrics. *Prerequisites: None. 3 credits 3 periods*

TEC124 Advanced Clothing Construction

Advanced garment construction techniques, pattern alteration and fit, and techniques used on specialty fabrics. May be repeated for a total of 12 credit hours with permission of instructor. *Prerequisites: TEC111 or permission of instructor. 3 credits 5 periods*

TEC125 Fashion Design

Practical techniques of fashion sketching, pattern drafting and draping. Design apparel. *Prerequisites: None. TEC106 and TEC111 suggested, but not required. 3 credits 3 periods*

TEC126 Sewing for the Home

Emphasizes techniques used in producing household textile goods such as slip covers, bedspreads, window treatments, linens, accessories, pillows, etc. Experience using a sewing machine assumed. May be repeated for a total of 9 credit hours with instructor permission. *Prerequisites: None. 3 credits 3 periods*

TEC128 Home Upholstery

Includes demonstration and application of knowledge and skills involved in upholstering stools, chairs, headboards, and other home furnishings. *Prerequisites: None. 3 credits 4 periods*

TEC129 Sewing With a Serger

Operation of a home serger. Use in constructing, finishing, and decorating garments and home decorations. Home serger required. *Prerequisites: None. 2 credits 2 periods*

TEC134 Fashion Illustration I

Proportions and techniques used in drawing fashion figures and clothing. Introduction of media and illustrative styles for portfolio design, trade sketches, and fashion advertisements. *Prerequisites: None. 3 credits 5 periods*

TEC135 Fashion Illustration II

Advanced study of proportion and techniques used in drawing fashion figures and flats. Continued study of garments, fabric textures, and patterns. Development of skills in presentation drawing and commencing fashion design portfolio illustrations. *Prerequisites: TEC134, or permission of instructor. 3 credits 5 periods*

TEC141 Fashion Design: CAD

Use of computer-assisted design (CAD) in the fashion design industry. Create and illustrate fashion designs using these applications. Color and design principles applied in creating an apparel line and developing a portfolio. *Course Note: TEC141 may be repeated for a total of six (6) credits. Prerequisites: None. 2 credits 2 periods*

TEC151 Display and Visual Merchandising

An examination of the principles of design including line, color, balance, and texture as they relate to the display of merchandise. Participation in displays, field trips, and individual projects. *Prerequisites: None. 3 credits 4 periods*

TEC160 Draping Form Construction Laboratory
Creation of a draping form utilizing the exact measurements of the student for use in fashion design. *Course Notes: TEC160 may be repeated for a total of six (6) credits. Prerequisites: None. 1 credit 2 periods*

TEC161 Digital Machine Embroidery Laboratory
Use of the sewing machine and computer for development of decorative designs for garment and fabric design. *Course Notes: TEC161 may be repeated for a total of six (6) credits. Prerequisites: None. 1 credit 2 periods*

TEC162 Product Development Laboratory
Focus on current trends in fashion product development; methods and techniques to translate ideas into a realistic production product. *Course Notes: TEC162 may be repeated for a total of six (6) credits. Prerequisites: TEC125 or permission of instructor. 1 credit 2 periods*

TEC170 Fashion Merchandising Topics
Current issues affecting the fashion merchandising industry. *Course Notes: TC170 may be repeated for a total of six (6) credits. Prerequisites: None. 1 credit 2 periods*

TEC171 Fashion Design Topics
Current issues affecting the fashion design industry. *Course Notes: TEC171 may be repeated for a total of six (6) credits. Prerequisites: None 1 credit 2 periods*

TEC200 Retail Buying
Examines management/buyer role in investment, pricing, planning, controlling sales and inventories. *Prerequisites: None. Any BPC/CIS spreadsheet course recommended. 3 credits 3 periods*

TEC221 Computer-Assisted Fashion Design
The use of computer hardware and software in the fashion design industry. Create and illustrate fashion designs using computer hardware and software. Color and design principles applied in creating an apparel line and developing a portfolio. *Prerequisites: TEC105 and TEC125. 3 credits 5 periods*

TEC222 Textiles
Study of textile fibers and fabrics, their properties, identification, selection, use, and care. *Prerequisites: None. 3 credits 3 periods*

TEC223 Tailoring
Principles of tailoring as applied in the construction of a coat or suit. Alteration of patterns and fitting techniques. *Course Notes: May be repeated for a total of 12 credit hours with permission of instructor. Prerequisites: TEC111 or permission of instructor. 3 credits 6 periods*

TEC225 Pattern Design I
Creative expression through flat pattern in applying principles of art to clothing design. Various resources for design inspiration. *Prerequisites: (TEC110 or TEC111) or permission of instructor. 3 credits 5 periods*

TEC226 Draping for Fashion Design
Manipulation of fabrics on a dress form and/or live figure to create designs and patterns. Use of a variety of woven/knit fabrics and an exploration of the many possibilities of draping to allow a creative and accurate expression of ideas. *Prerequisites: (TEC110 or TEC111) or permission of instructor. 3 credits 5 periods*

TEC227 Couture Sewing
Construction techniques used in couture sewing. Includes fabric selection, fitting, fabric preparation, hand sewing, garment shaping, edge finishes, embellishments, and closures. Emphasis on couture techniques used in the construction of skirts, pants, blouses, dresses, sleeves, pockets, jackets, coats, and evening wear. *Course Note: May be repeated for a total of 12 credit hours with permission of instructor. Prerequisites: TEC111 or permission of instructor. 3 credits 5 periods*

TEC230 Pattern Design II
Practical application in designing clothing/patterns using flat pattern method. Principles of flat pattern and use of sloper reviewed. Includes pattern grading, sizing for figure differences, and creation of an original design. *Prerequisites: TEC225 or permission of instructor. 3 credits 5 periods*

TEC236 Portfolio Development
Design, produce, and present a professional portfolio. Includes material selection and techniques, customer focus, contents and organization, presentation formats, flat sketching techniques, presentation boards, and writing a resume and cover letter for potential employers. *Prerequisites: (TEC135 and TEC221), or permission of instructor. 1 credit 1.5 periods*

TEC241 Advanced Computer-Assisted Fashion Design
Advanced techniques and use of computer hardware and software in the fashion design industry. Create and illustrate fashion designs using multiple computer applications. Create advanced textile surface pattern design using color and design principles on the computer. Manipulate CAD pattern design for original patterns, grading, and markers. Create storyboards for product development and personal portfolio. *Prerequisites: TEC124 and TEC221. 3 credits 5 periods*

TEC245 Wardrobe Strategies
Methods of clothing selection, coordination, evaluation, and planning to meet men's and women's wardrobe needs. *Prerequisites: None. 3 credits 3 periods*

TEC250 Apparel Quality Analysis
Quality analysis of construction components that affect the appearance, function, and cost of ready-to-wear apparel. *Prerequisites: None. 3 credits 3 periods*

TEC255 Fashion Retail Merchandising
Surveys the structure and operation of fashion retail organizations. Emphasizes the global nature of fashion merchandising and techniques of merchandising for the fashion merchandising major. *Prerequisites: TEC109. 3 credits 3 periods*

TEC260 Fashion Sales Management
Emphasizes the fashion aspects of sales, and the application and management of a sales force for the fashion industry. *Prerequisites: TEC109. 3 credits 3 periods*

TEC271AA Fashion Design Internship
Work experience in fashion design business or industry. Fifteen hours of work weekly. Supervision and evaluation by an internship coordinator. May be repeated for a total of three (3) credits. *Prerequisites: Departmental approval. 1 credit 5 periods*

TEC271AC Fashion Design Internship
Work experience in fashion design business or industry. Fifteen hours of work weekly. Supervision and evaluation by an internship coordinator. *Prerequisites: Departmental approval. 3 credits 15 periods*

TEC272AA-AC Retail Merchandising Internship
Retail merchandising work experience in a business or industry. Supervision and evaluation by an internship coordinator. Eighty hours of designated work per credit per semester. *Prerequisites: Completion of at least twelve (12) college credits, minimum 2.6 grade point average, and be able to obtain a position related to student's academic or career goals (student's present job may qualify); or permission of instructor. 1-3 credits 1-3 periods*

TEC274AC Fashion Merchandising Study Tour
A tour of the fashion merchandising industry outside the metropolitan Phoenix area. Includes a variety of experiences and activities to enhance awareness of this multifaceted career. *Prerequisites: Department approval. 3 credits 15 periods*

TEC275AC Image Consultant Internship
Image consultant work experience in a fashion retail business or industry. Supervision and evaluation by an internship coordinator. Eighty hours of designated work per credit per semester. *Prerequisites: Completion of at least twelve (12) college credits, minimum 2.6 grade point average, and be able to obtain a position related to student's academic or career goals (student's present job may qualify); or permission of instructor. 3 credits 3 periods*

TEC277AA-AC Alteration Internship
Alteration work experience in a fashion business or industry. Supervision and evaluation by an internship coordinator. Eighty hours of designated work per credit per semester. *Prerequisites: Completion of at least twelve (12) college credits, minimum 2.6 grade point average, and be able to obtain a position related to student's academic or career goals (student's present job may qualify); or permission of instructor. 1-3 credits 1-3 periods*

THE-Theater

THE111 Introduction to Theatre
A survey of theatre, including basic elements and principles of production, styles, and/or historical perceptions of theatre, dramatic literature, and criticism. *Prerequisites: None. 3 credits 3 periods*

THE118 Playwriting
Practice and study of theories and techniques of writing for the stage; creating characters, dialogue, and plot for monodramas, scenes, and plays. *Prerequisites: None. 3 credits 3 periods*

THE205 Introduction to Cinema
Survey of the history and development of the art of motion pictures, including criticism of aesthetic and technical elements. *Prerequisites: None. 3 credits 3 periods*

THE210 Contemporary Cinema
A study of contemporary films, directors, and critics with emphasis on evaluating film as an art form. *Prerequisites: None. 3 credits 3 periods*

THE220 Modern Drama
Analysis of dramatic literature studied within political, historical, and cultural contexts, and examined from the perspective of the playwright's structure and style. *Prerequisites: ENG101 or ENG107 or equivalent. 3 credits 3 periods*

THE282AA-AC Volunteerism for Theatre: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. May be repeated for a total of six (6) THE282 credit hours; may not repeat specific agency assignment for more than four (4) credit hours. Standard grading available according to procedures outlined in catalog. *Prerequisites: Permission of instructor. 1-3 credits 1-3 periods*

THP-Theater Performance/ Production

THP112 Acting I
Fundamental techniques and terminology of acting through physical and vocal expression, improvisation, and monologue and scene work. Emphasis on characterization. *Prerequisites: None. 3 credits 4 periods*

THP115 Theatre Makeup
Purposes, materials, and techniques of theatrical makeup. *Prerequisites: None. 3 credits 4 periods*

THP130 Stage Combat
Analysis and practice of physical movement, including basic techniques in staged personal combat with and without weapons. Emphasis on stunt fighting and fencing. *Prerequisites: None. 3 credits 4 periods*

THP201AA Theatre Production I
Designed to give college credit to the cast and technical production crews of college theatre productions. May be repeated for up to a maximum of four (4) credit hours. *Prerequisites: None. 1 credit 2 periods*

THP201AB Theatre Production II
Designed to give college credit to the cast and technical production crews of college theatre productions. May be repeated for up to a maximum of four (4) credit hours. *Prerequisites: None. 2 credits 4 periods*

THP210 Acting: TV/Film
Special technical aspects of acting before a camera. *Prerequisites: THP112 or permission of instructor. 3 credits 4 periods*

THP211AA Creative Drama: Improvisation
Theory and practice of creative drama, including improvisation. Covers improvisation theatre-based activities. Emphasis on application in elementary and secondary school levels. *Prerequisites: None. 1 credit 1 period*

THP211AC Creative Drama: Script Development
Theory and practice of creative drama in script development. Covers creation and adaptation of dramatic materials from a variety of sources. Emphasis on application in elementary and secondary school levels. *Prerequisites: None. 1 credit 1 period*

THP212 Acting II
Fundamental techniques of acting through script analysis, rehearsal, and performance. *Prerequisites: THP112 or departmental approval. 3 credits 4 periods*

THP213 Introduction to Technical Theatre
Procedures of technical theatre production and demonstration. Topics include design and construction of scenery, lighting, and properties. *Prerequisites: None. 3 credits 5 periods*

THP215 Advanced Makeup Techniques
Advanced character analysis and makeup design. Technical application of makeup. *Prerequisites: THP115. 3 credits 4 periods*

THP216 Beginning Stage Lighting
Basic theories and methods of stage lighting for all production types. Emphasis on technical/theoretical facts, artistic/design concept development, and teamwork structure of theatre. Examines stage lighting optics, instrument selection and application, color theory, circuiting and control systems, and basic design. *Prerequisites: THP213 or permission of instructor. 3 credits 4 periods*

THP217 Introduction to Design Scenography
The role of the theatre designer in creating scenic, lighting, costume, sound, and multimedia effects for stage productions. Elements of the design process and communication of dramatic themes and visions to the audience. *Prerequisites: THP213 or permission of instructor. 3 credits 4 periods*

THP271 Voice and Diction
Exercises and techniques to free the voice and improve projection, resonance, and articulation. Covers international phonetic alphabet and standard stage speech. *Prerequisites: None. 3 credits 3 periods*

THP281 Production and Acting I
Provides the continuing acting student with opportunities to expand the versatility of characterization skills. Emphasis on relating the actor's work to the total production process. Performance of monologues, scenes, and one-act plays. *Prerequisites: Departmental approval. 3 credits 4 periods*

THP282 Production and Acting II
Provides the continuing acting student with opportunities to expand the versatility of characterization skills. Emphasis on relating the actor's work to the total production process. Performance of monologues, scenes, and one-act plays. *Prerequisites: THP281 or departmental approval. 3 credits 4 periods*

TQM-Total Quality Management

TQM101 Quality Customer Service
Examines the nature of quality customer service and the attitudes, knowledge, and skill needed to work effectively in a quality customer service environment. Foundation skills for quality customer services are taught, applied, and practiced. *Prerequisites: None. 3 credits 3 periods*

TQM220 Leadership and Empowerment Strategies
Methods for facilitating teams and empowering employees which effectively enable all employees to act upon a shared vision. *Prerequisites: None. TQM201 is recommended. 2 credits 2 periods*

TQM230 Teamwork Dynamics
Theory and practice of how team members and team leaders use listening, negotiating, and interpersonal skills for the enhancement of team process. Included are concepts of team development and team problem-solving techniques. *Prerequisites: None. TQM201 is recommended. 2 credits 2 periods*

TQM235 Motivation, Evaluation, and Recognition Systems
Presents methods for benchmarking, assessing team performance, linking recognition to team performance, and valuing victories and mistakes with all personnel. *Prerequisites: None. TQM201 is recommended. 2 credits 2 periods*

TQM240 Project Management in Quality Organizations

Presents methods for quality organizations in how to plan and schedule a project in use of Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT) techniques and software to monitor and control projects. *Prerequisites: None. TQM201 is recommended. 3 credits 3 periods*

WED-Wellness Education

WED100 Personal Wellness

Overview of wellness and its relationship to personal health. Understanding of personal wellness through lifestyle assessments. Introduction to wellness and health-related topics, including fitness, relationships, nutrition, self care, abusive behaviors, mind/body connection, and other current issues in health. *Prerequisites: None. 2 credits 2 periods*

WED105 Minimizing Workplace Stress

Introduction of the application of practical relaxation techniques for reducing workplace stress. Defines the characteristics, process and signs of workplace stress. Includes discussions of the physiology of stress and how these responses impact daily living. Use of biofeedback instruments to monitor the relaxation techniques such as self-hypnosis, visualization, guided imagery, and meditation. *Prerequisites: None. .5 credit .5 period*

WED110 Principles of Physical Fitness and Wellness

Stress basic, lifetime health and skill-related components of fitness to achieve total wellness. Topics include nutrition, weight control, exercise and aging, cardiovascular and cancer risk reduction, stress management, prevention of sexually transmitted diseases, substance abuse control, and overall management of personal health and lifestyle habits to achieve the highest potential for well-being. *Prerequisites: None. 3 credits 3 periods*

WED151 Introduction to Alternative Medicine

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. *Prerequisites: None. 3 credits 3 periods*

WED152 Comparative Healing Techniques

Comparative approaches to healing, including allopathy, homeopathy, chiropractic, osteopathy, Chinese medicine, Ayurveda, Shamanism, and therapeutic touch. Contrast explanations for causation of disease, diagnostic procedures and healing methodology. *Prerequisites: None. 3 credits 3 periods*

WED155 Introduction to Chinese Medicine

Basic theories, principles and methods that constitute the backbone of Chinese Medicine. Explores concepts of Yin, Yang, the Five Elements (Wood, Fire, Earth, Metal, and Water), and the Five Vital substances (Qi, Blood, Body Fluids, Jing, and Shen). Overview of the physiology of the major internal organs (Five Zang and Six Fu) with a focus on their various interrelationships. *Prerequisites: None. 3 credits 3 periods*

WED162 Meditation and Wellness

Physiology of meditation and its effects on physical and mental health; scholastic abilities and interpersonal relationships; differentiation between meditation and other relaxation techniques. *Prerequisites: None. 1 credit 1 period*

WED215 Self-Care for Health Care Providers

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. *Prerequisites: None. 2 credits 5 periods*

WLD-Welding Technology

WLD101 Welding I

Principles and techniques of electric arc and oxyacetylene welding and cutting. Provides technical theory and basic skill training in these welding processes. *Prerequisites: None. 3 credits 6 periods*

WLD102 Basic Welding Metal Sculpture

Practical training for welders in artistic welding and metal sculptor with emphasis on oxy-ace welding, arc welding, and MIG welding. *Prerequisites: None. 3 credits 6 periods*

WLD103 Basic Blacksmithing and Metal Shaping

Selection and safe use of blacksmithing and metal shaping tools and equipment. Material selection and conditioning, practical forging techniques, metal shaping experience, and finishing processes. *Prerequisites: None. 3 credits 8 periods*

WLD106 Arc Welding

Electric welding with emphasis on metallic arc welding in out-of-position practice and procedures. P*rerequisites: None. 5 credits 8 periods*

WLD206 Advanced Welding: Heliarc and Wire Feed

Instruction in theory and practice on tungsten inert gas and wire feed welding. Welding procedures on ferrous and nonferrous metals. Setup and operation of all types of machines used in tig and mig welding. *Prerequisites: WLD106 or departmental permission. 5 credits 8 periods*

WLD208 Advanced Arc Welding: Certification
Advanced metallic arc welding emphasizing out-of-position welding in preparation for certification. Includes various test methods. Provides training on machine flame cutting and gouging, and arc air cutting and gouging. *Prerequisites: WLD106 or permission of instructor. 5 credits 8 periods*

WLD209 Shielded Metal Arc Welding (SMAW)(Arc) Gas Metal Arc Welding (GMAW)(Mig)
Provides skill development in Gas Metal Arc Welding (GMAW/mig) and Shielded Metal Arc Welding (SMAW). Classes are conducted in laboratories that are equipped with modern industrial welding equipment and emphasize skill development with advanced welding techniques utilizing tig and mig machines. *Prerequisites: WLD101 or WLD102 or permission of instructor. 3 credits 8 periods*

WLD215 Welding Fabrication
Utilize welding skills to produce a major product. Design, plans, procedure sheet, and selected fabrication processes required. Purchase of necessary materials, and completion of a finished usable product. *Prerequisites: WLD101 and WLD206. 3 credits 6 periods*

WLD225 Welding Inspection and Quality Control
Welding inspection and quality control standards and practices in the construction and fabrication industries. Welding inspector certification requirements and functions performed in industry. *Prerequisites: WLD206, or WLD208, or AWS certificate, or permission of instructor. 3 credits 3 periods*

WST-Women's Studies

WST100 Women and Society
Introduction to critical issues in women's studies. *Prerequisites: None. 3 credits 3 periods*

WST120 Gender, Class, and Race
A feminist discussion of gender, class, and race as basic and central social categories that determine how we see ourselves and others, and how they circumscribe our opportunities and privileges in American society. *Prerequisites: None. 3 credits 3 periods*

WST209 Women and Films
Analysis of images of women in films from both historical and contemporary perspectives. *Prerequisites: None. 3 credits 3 periods*

WST282AA-AC Volunteerism for Women's Studies: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. Students will develop writing skills, analysis, and synthesis in an on-site volunteer experience. *Prerequisites: WST100 and permission of instructor. May be repeated for a total of six (6) WST282 credit hours. Standard grading available according to procedures outlined in catalog. 1-3 credits 1-3 periods*

WST284 19th Century Women Writers
Investigates major themes in literature by women writing in the 19th century, including the nature of women's lives in the family, in work situations, and in society. Poetry, prose, essays, and drama are examined with an emphasis on common themes. *Prerequisites: None. 3 credits 3 periods*

WST285 Contemporary Women Writers
Explores twentieth century literature (short stories, essays, plays, and poetry) written by women and about women. Focus on themes relevant to women's lives regardless of age, creed, or ethnic background. *Prerequisites: None. 3 credits 3 periods*

WST286 Women and Health: Body/Mind/Spirit/ Connection
Economic, sociopolitical, and demographic factors affecting women's health. Methods for optimizing physical, emotional, and spiritual health. Specific health concerns of women throughout the lifespan. Activism for health promotion. *Prerequisites: None. 3 credits 3 periods*

WST290 Women and Religion
The role of women in several organized religions and/or religious sects, including a study of myth and symbols as they are used to establish, maintain, and enforce sex roles within specific religions. *Prerequisites: None. 3 credits 3 periods*

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MARICOPA COUNTY COMMUNITY COLLEGE DISTRICT

The following is a portion of the Administrative Regulations used in managing the day-to-day operations of the Maricopa County Community College District (MCCCD) and is subject to change. Administrative Regulations are amended, adopted, or deleted as necessary and are subject to a formal approval process. Administrative Regulations are referenced as "AR" followed by a regulation number, which corresponds with the regulations on the MCCCD web site: **http://www.dist.maricopa.edu/gvpolicy/adminregs/adminregs_toc.htm**

Some regulations include reference to Arizona Revised Statutes from the State of Arizona and are noted as "A.R.S." followed by a reference number.

A. General Statement (AR 2.4.1)

The Maricopa Community Colleges are dedicated to providing a healthy, comfortable and educationally productive environment for students, employees and visitors.

B. Nondiscrimination Policy (AR 2.4.2)

It is the policy of the Maricopa Community Colleges (consisting of Chandler-Gilbert Community College, the District Office, Estrella Mountain Community College, GateWay Community College, Glendale Community College, Maricopa Skill Center, Southwest Skill Center, Mesa Community College, Paradise Valley Community College, Phoenix College, Rio Salado College, Scottsdale Community College, and South Mountain Community College) to promote equal employment opportunities through a positive continuing program. This means that Maricopa will not discriminate, nor tolerate discrimination, against any applicant or employee because of race, color, religion, gender, sexual orientation, national origin, age, disability, or veteran status. Additionally, it is the policy of the Maricopa Community Colleges to provide an environment for each job applicant and employee that is free from sexual harassment, as well as harassment and intimidation on account of an individual's race, color, religion, gender, sexual orientation, national origin, age, disability, or veteran status.

This nondiscrimination policy covers all aspects of the employment relationship and admission to, access to, and treatment of students in the Maricopa Community Colleges' programs and activities including vocational education. This policy also prohibits discrimination on the basis of sexual orientation in the admission and treatment of students in the Maricopa Community Colleges' programs and activities and in the hiring, treatment, promotion, evaluation, and termination of employees.

C. Equal Opportunity Statement (AR 2.4.3)

It is the policy of the Maricopa Community Colleges to promote equal employment opportunities through a positive continuing program. This means that Maricopa will not discriminate, nor tolerate discrimination, against any applicant or employee because of race, color, religion, gender, sexual orientation, national origin, age, disability, or veteran status. Additionally, it is the policy of the Maricopa Community Colleges to provide an environment for each job applicant and employee that is free from sexual harassment, as well as harassment and intimidation on account of an individual's race, color, religion, gender, sexual orientation, national origin, age, disability, or veteran status.

Affirmative Action Statements

A. Affirmative Action Policy Statement for Individuals with Disabilities

In conformance with the provisions of Section 503 of the Rehabilitation Act of 1973, as amended, and the implementing regulations, 41 CFR 60-741.5 (a), as amended, Maricopa Community College District will not discriminate, or tolerate discrimination, against any applicant or employee because of physical or mental disability in regard to any position for which the known applicant or employee is qualified. Maricopa agrees to take affirmative action to employ, advance in employment and otherwise treat known qualified individuals with disabilities without regard to their physical or mental disability in all human resources selection and decision practices, such as the following: advertising, benefits, compensation, discipline (including probation, suspension, and/or termination for cause or layoff), employee facilities, performance evaluation, recruitment, social/recreational programs, and training. Maricopa will also continue to administer these practices without regard to race, color, religion, gender, sexual orientation, national origin, age, disability, or veteran status.

Additionally, all applicants and employees are protected from coercion, intimidation, interference, or discrimination for filing a complaint or assisting in an investigation under the Act.

B. Affirmative Action Policy Statement for Other Eligible Veterans, Special Disabled Veterans, and Vietnam Era Veterans

In conformation with the Vietnam Era Veterans Readjustment Assistance Act of 1974, the Veterans Employment Opportunities Act of 1998, and the implementing regulations, 41 CFR 60-250(k), Maricopa County Community College District will not discriminate, or tolerate discrimination, against any applicant or employee because he or she is a special disabled veteran or Vietnam era veteran in regard to any position for which the known applicant or employee is qualified. Maricopa agrees to take affirmative action to employ, advance in employment, and otherwise treat known qualified special disabled veterans and Vietnam era veterans without discrimination based upon their disability or veteran status in all human resources section and decision practices, such as the following: advertising, benefits, compensation, discipline (including probation, suspension, and/or termination for cause or layoff), employee facilities, performance evaluation, recruitment, social/recreational programs, and training. Maricopa will continue to administer these practices without regard to race, color, religion, gender, sexual orientation, national origin, age, disability, or veteran status. Additionally, Maricopa agrees to post all suitable job openings at the local office of the State employment service where the job opening occurs. This includes full-time, temporary greater than 3 days' duration, and part-time employment. Finally, all applicants and employees are protected from coercion, intimidation, interference, or discrimination for filing a complaint or assisting in an investigation under the Act.

C. Notice of Americans with Disabilities Act (ADA)/Section 504 of the Rehabilitation Act/Title IX Coordinator

Dr. Sonya Pearson, Dean of Student Affairs, ADA/504/ Title IX Coordinator, Mesa Community College, 1833 W. Southern Ave., Mesa, AZ 85202, 480-461-7651

Under the ADA and Section 504, the District and its colleges recognize the obligation to provide overall program accessibility throughout its locations for persons with disabilities. The designated ADA/504/Title IX Coordinator at each college will provide information as to the existence and location of services, activities and facilities that are accessible to and usable by persons with disabilities. Requests for accommodation should be addressed to the coordinator. Likewise, under Title IX, there is an obligation to provide services and program accessibility in a gender-neutral manner.

Students with disabilities may request catalog information in an alternative format from the college ADA/504 Coordinator.

Declaraciónes de Acción Afirmativa

A. Póliza de No Descriminación

Es la póliza de los Colegios Comunitarios del Condado de Maricopa (The Maricopa Community Colleges) que consisten del Centro de Apoyo del Distrito, los colegios comunitarios de Chandler-Gilbert, Estrella Mountain, Gateway, Glendale, Mesa, Paradise Valley, Phoenix, Rio Salado, Scottsdale, South Mountain y el Centro de Capacitación de Maricopa, proveer igualdad en las oportunidades de empleo mediante un programa continuo positivo. Esto significa que Maricopa no descriminará o tolerará descriminación en contra de ningún aplicante o empleado debido a su raza, color, religión, sexo, orientación sexual, nacionalidad, edad, incapacitación o por ser veterano incapacitado. Asi mismo, es la póliza de los Colegios Comunitarios proveer para cada aplicante y empleado un ambiente libre de acoso sexual como también de acoso intimidación referente a raza, color, religión, sexo, orientación sexual, nacionalidad, edad o estado de veterano de cualquier individuo.

Esta póliza de no descriminación cubre todos los aspectos de contratación del empleado, ingreso, acceso a, y tratamiento de alumnos en los Colegios Comunitarios de Maricopa los cuáles incluyen también programas de educación vocacional. Esta póliza también prohibe descriminación en base de orientación sexual en la admisión y tratamiento de estudiantes, en sus programas y actividades y en la contratación, tratamiento, promoción/ascensos, evaluación y despido de empleados.

B. Declaración de Igualdad de Oportunidad

Es la póliza de los Colegios Comunitarios del Condado de Maricopa proveer igualdad en las oportunidades de empleo mediante un programa continuo positivo. Esto significa que Maricopa no descriminará o tolerará descriminación en contra de ningún aplicante o empleado debido a su raza, color, religión, sexo, orientación sexual, nacionalidad, edad, incapacidad o por ser veterano incapacitado. Agregando, es la póliza de los Colegios Comunitarios proveer para cada aplicante y empleado un ambiente libre de acoso sexual como también de acoso e intimidación referente a la raza, color, religión, sexo, orientación sexual, nacionalidad, edad y condición de veterano de cualquier individuo.

C. Declaración de Acción Afirmativa

Póliza y Declaración de Acción Afirmativa para Individuos con Incapacidades De acuerdo a lo que provee la Sección 503 de la Ley de Rehabilitación de 1973, como enmienda, y las leyes de implementación, 41 CFR 60-741.5 (a), declara que el Distrito de Colegios Comunitarios de Maricopa no descriminarán o tolerarán descriminación en contra ningún aplicante o empleado debido a su desabilidad/incapacitación física o mental referente a cualquier posición para la cuál el aplicante o empleado ha calificado. Maricopa promete tomar acción afirmativa para emplear, dar ascenso en empleo y tratar a dichos individuos con incapacidades sin hacer incapie en sus incapacidades físicas o mentales en la selección de recursos humanos y prácticas decisivas como son las siguientes: anuncios, beneficios, compensación, disciplina (incluyendo período de prueba, suspensión, y/o terminación de empleo por causa de paro forzoso), facilidades para empleados, evaluación de trabajo, recrutamiento, programas sociales/recreacionales y entrenamiento. Maricopa continuará llevando a cabo éstas prácticas de no descriminar por razones de raza, color, religión, sexo, orientación sexual, nacionalidad, edad, incapacidad o estado de veterano. Asi mismo, todo los aplicantes y empleados estan protegidos en contra de coacción, intimidación, interferencia o descriminación por quejas o por ayudar en una investigación cubierta bajo éste Acto.

D. Declaración de Póliza de Acción Afirmativa para Otros Veteranos Elegibles, Veteranos con Incapacitación Especial y Veteranos de la Era Vietnamita

Conforme a la ley de Reajuste y Asistencia para los Veteranos de la Era Vietnamita de 1974, acta de Oportunidades de Empleo para Veteranos de 1998 y reglamentos de implementación, 41 CFR 60-250(k), el Distrito de Colegios Comunitarios del Condado de Maricopa no descriminará ni tolerará descriminación en contra de ningún aplicante o empleado veterano o veterano de la Era Vietnamita con desabilidad/incapacitación especial referente a cualquier posición la cual dicho aplicante o empleado califique. Maricopa promete aplicar acción afirmativa para emplear, ascender en empleo y tratar a dichos veteranos incapacitados y de la Era Vietnamita que califiquen sin descriminar base a su desabilidad/incapacitación o condición de veterano en todas las áreas de recursos humanos y decisiones como son las siguientes: anuncios, beneficios, compensación, disciplina (incluyendo período de prueba, suspensión, y/o despido por causa o paro forzoso), facilidades para empleados, evaluación de trabajo, recrutamiento, programas sociales/recreacionales y entrenamiento. Maricopa continuará llevando a cabo estas prácticas sin descriminar por razones de raza, color, religión, sexo, orientación sexual, nacionalidad, edad, incapacidad o condición de veterano. Maricopa promete anunciar todas las oportunidades de empleo disponibles en la oficina local del servicio de empleo del Estado donde el empleo esté disponible. Esto incluye empleo de tiempo completo, temporal de más de tres días de duración y empleo de tiempo medio. Finalmente, todos los aplicantes y empleados están protegidos en contra de coacción, intimidación, interferencia o descriminación por quejas o por ayudar en una investigación cubierta sobre este Acto.

E. Notificación del Acta de Americanos con Impedimentos (ADA)/Sección 504 del Acta de Rehabilitación/Coordinador del Título IX

Dr. Sonya Pearson, Dean of Student Affairs, ADA/504/ Coordinador del Título IX, Mesa Community College, 1833 W. Southern Ave., Mesa, AZ 85202, 480-461-7651

De acuerdo a ADA y a la sección 504, el distrito y sus colegios reconocen la obligación de proveer acceso a programas en todas sus localidades a personas incapacitadas. El coordinador designado de ADA/504/ Título IX proveerá información tocante a la existencia y localidad de servicios, actividades y facilidades que son accesibles y de utilidad a personas incapacitadas. Solicitudes para acomodación deben ser dirigidas al coordinador. Del mismo modo, bajo el Título IX, hay obligación de proveer acceso a servicios y programas de una manera imparcial segun el género.

Estudiantes incapacitados pueden solicitar información de catálogo en una forma diferente por medio del Coordinador designado por ADA/504 en cada colegio.

VISION

A Community of Colleges…Colleges for the Community working collectively and responsibly to meet the life-long learning needs of our diverse students and communities.

MISSION

The Maricopa Community Colleges provide access to higher education for diverse students and communities. We focus on learning through:
University Transfer Education
General Education
Developmental Education
Workforce Development
Student Development Services
Continuing Education
Community Education
Civic Responsibility
Global Engagement

VALUES

The Maricopa Community Colleges are committed to:

Community

We value all people – our students, our employees, their families, and the communities in which they live and work. We value our global community of which we are an integral part.

Excellence
We value excellence and encourage our internal and external communities to strive for their academic, professional and personal best.

Honesty and Integrity
We value academic and personal honesty and integrity and believe these elements are essential in our learning environment. We strive to treat each other with respect, civility and fairness.

Inclusiveness
We value inclusiveness and respect for one another. We believe that team work is critical, that each team member is important and we depend on each other to accomplish our mission.

Innovation
We value and embrace an innovative and risk-taking approach so that we remain at the forefront of global educational excellence.

Learning
We value lifelong learning opportunities that respond to the needs of our communities and are accessible, affordable, and of the highest quality. We encourage dialogue and the freedom to have an open exchange of ideas for the common good.

Responsibility
We value responsibility and believe that we are each accountable for our personal and professional actions. We are responsible for making our learning experiences significant and meaningful.

Stewardship
We value stewardship and honor the trust placed in us by the community. We are accountable to our communities for the efficient and effective use of resources as we prepare our students for their role as productive world citizens.

GENERAL REGULATION (AR 2.1)

A. Compliance with Policies, Rules, Regulations
Every student is expected to know and comply with all current published policies, rules and regulations as printed in the college catalog, class schedule, and/or student handbook. Copies are available at each college.

Policies, courses, programs, fees and requirements may be suspended, deleted, restricted, supplemented or changed through action of the Governing Board of the Maricopa Community Colleges.

The Maricopa Community Colleges reserve the right to change, without notice, any materials, information, curriculum, requirements and regulations.

Note: *The regulations that comprise the student section contain language that appears in various sources such as the Catalog Common Pages and the Student Handbook. All areas became Administrative Regulations with the 1996 adoption of the Governance Model. Changes are made annually either through the Administrative Regulations approval process, or by Board approval for those items that fall under its statutory duty, such as Tuition and Fees. In an effort to prevent duplication, topics in this section may be incorporated by reference, as they are featured in other areas of the manual and are noted accordingly.*

The Maricopa Community Colleges Vision, Mission and Values that are featured in the Common Pages are a part of approved Governing Board Policy and are located in the policy section of the manual. As such, the following statement related to Outcomes Assessment that appears in the Common Pages is presented here as a general statement.

B. Outcomes Assessment
The mission of the Maricopa Community Colleges is to create and continuously improve affordable, accessible, and effective learning environments for the lifelong educational needs of the diverse communities we serve. In order to evaluate how successfully Maricopa Community Colleges accomplish this mission, student outcomes will be assessed as part of the continuous improvement process.

Students may be asked to participate in a variety of assessment activities at each college. Assessment results will be used to improve educational programs, services and student learning.

Admission/Registration/ Enrollment

ADMISSION POLICY (AR 2.2.1)
Persons meeting the admissions criteria may attend any Maricopa Community College of their choice. Falsification of any admission materials or official college records may be cause for denial or cancellation of admission. Exceptions to the admissions policies may be requested through the Admissions and Standards Committee. Admission is determined in accordance with state law (A.R.S. §15-1805.01, 15-1821) and regulations of the Maricopa Community Colleges Governing Board.

ADMISSION CLASSIFICATIONS

A. Admission of Regular Students
Admission to the community college in Arizona may be granted to any person who meets at least one of the following criteria:

1. Is a graduate of a high school, which is accredited by a regional accrediting association as defined by the United States Office of Education or approved by a State Department of Education or other appropriate state educational agency.
2. Has a high school certificate of equivalency.
3. Is at least 18 years of age and demonstrates evidence of potential success in the community college.
4. Is a transfer student in good standing from another college or university.

B. Admission of Students Under 18 Years of Age

1. Admission to the community colleges in Arizona shall be granted to any student who is under age 18 and who completes any one of the following requirements:
   a. a composite score of 93 or more on the Preliminary Scholastic Aptitude Test (PSAT).
   b. a composite score of 930 or more on the Scholastic Aptitude Test (SAT).
   c. a composite score of twenty-two or more on the American College Test (ACT).
   d. a passing score on the relevant portions of the Arizona Instrument to Measure Standards test (AIMS).
   e. 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.
   f. is a graduate of a private or public high school or has a high school certificate of equivalency.
2. A community college may limit the number of semester hours in which the student may enroll to not more than six (6) credit hours.
3. Home schooled students are exempt from this sub-section.
4. A student shall not be denied admission because of age, lack of a high school diploma or high school certificate of equivalency, grade in school, lack of permission of school officials or lack of concurrent enrollment in a public or private school, if the student has achieved at least a specified score on a college entrance examination.
5. The colleges reserve the right to enroll students in courses. The final decision for admission to any class for students admitted under section B will be determined by the designated college administrator in consultation with the department chairperson and/or faculty.

C. Specialized Vocational / Training Program

Students who enroll in Vocational Courses may be admitted on an individual basis with the approval of college officials if the student meets the established requirements of the courses for which the student enrolls and the college officials determine that the student's admission is in the best interest of the student.

D. Western Undergraduate Exchange Program

The Western Undergraduate Exchange (WUE) program is a student exchange program coordinated by the Western Interstate Commission for Higher Education (WICHE) and administered by the Arizona Board of Regents. Through WUE, students who reside in western states (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming) and meet the eligibility requirements pay 150 percent of the regular resident tuition plus fees. Students must mark prominently on the Student Information Form that they seek admission as WUE students. Students may not apply as out-of-state students and expect to receive the WUE tuition rate after admitted. Once admitted as WUE students, students may not petition for in-state residency. Further information may be obtained from the Admissions and Records Office/Office of Student Enrollment Services.

E. Admission of F-1 Nonimmigrant Students

Prospective students should contact the Admissions and Records Office/Office of Student Enrollment Services or designated office for the necessary student information form(s). When completed, the form(s) should be returned to the Admissions and Records Office/Office of Student Enrollment Services or designated office with all requested supporting documents. After the file has been reviewed, a notice will be sent indicating either acceptance or denial of admission.

To be guaranteed consideration for admission, all application materials must be received by July 1 for the fall semester and November 1 for the spring semester.

Prospective students seeking admission based on F-1 nonimmigrant status must provide proof of secondary school with documentation comparable to a United States high school diploma or higher degree. It is recommended that F-1 nonimmigrant students have graduated in the upper 50% of their secondary school (high school or equivalent) in order to ensure success in academic classes at this college. Applicants for admission to the college must have high school and college (if applicable) transcripts sent directly from the high school or college to the Admissions and Records Office/Office of Student Enrollment Services or designated office. In addition, it is the applicant's responsibility to have all transcripts translated into English and evaluated by a foreign credential evaluation service if necessary.

1. Admission to Academic Programs

Applicants who wish to enroll in an academic program at the college must present evidence of English language proficiency. If the Test of English as a Foreign Language (TOEFL) is used to satisfy this requirement, the applicant must attain a score of at least 500 (on the traditional TOEFL) or 173 (on the computer-based test) or 61 (on the internet-based TOEFL, known as the iBT). If the International Language Testing System (IELTS) is used to satisfy this requirement, an IELTS overall Band Score of 5.5 or better is required, and a minimum IELTS individual Band Score of 5.0 on each module is recommended. The dean or director of admission and records of the college may accept other proof of English language proficiency for admission purposes, such as the ASSET test, COMPASS or CELSA tests. Questions about the TOEFL should be directed to the Educational Testing Services at the following address: TOEFL Services, P.O. Box 6151, Princeton, NJ 08543-6151

2. **Admission to an Intensive English Program**
   Applicants for admission to an Intensive English Program are advised to check with individual colleges for their respective admission requirements.
   Applicants must provide evidence of at least an intermediate command of English by way of one or more of the following criteria:
   a. At least six years of English language instruction as shown by the applicant's school transcript(s);
   b. A minimum TOEFL score of 400 (on the traditional TOEFL) or 97 (on the computer-based test) or 23 (on the internet-based TOEFL, known as the IBT);
   c. An original letter of recommendation from a teacher, school principal or headmaster/ headmistress, or the director of an English language institute attesting to the applicant's proficiency at the intermediate level;
   d. Other credentials, test scores, interview results, or evidence accepted by the coordinator of an intensive English program or the college's responsible designee. Students admitted to an Intensive English Program will not be allowed to enroll in courses outside those officially designated as part of the program unless and until they have met all of the prerequisites or other course requirements.
   e. Foreign students under certain types of visas may need special permission to enroll and should contact the appropriate college official.

3. **Financial Support**
   Evidence of financial support will be required prior to issuance of the I-20 form. The colleges have no scholarship or financial aid provisions for foreign students; therefore, students must be fully prepared to meet the necessary financial obligations for the full time they will be in the United States.

   The colleges estimate a student's average expenses for 10 months to be:

Tuition and Fees:	$ 6,900 [1]
Living Expenses:	8,700 [2]
Books:	800 [3]
Health Insurance:	1,000 [4]
Total	$ 17,400 [5]

4. **Dependent Financial Guarantee**
   Evidence of financial support for dependents of F-1 students (spouse and dependent children) is also required: $5,000 for the first dependent and $2,500 for each additional dependent.

5. **Health Insurance**
   All F-1 students who have an I-20 issued by one of the Maricopa Community Colleges are required to purchase the Maricopa Community College's international student health insurance plan. Health insurance coverage for dependents of F-1 students is highly recommended. The Maricopa Community Colleges contract with an insurance provider annually to offer a health insurance plan for F-1 students. For more information contact the college Admissions and Records Office/Office of Student Enrollment Services or designated international student office.

Footnotes:
(1) Based on 2008-2009 tuition and fee schedule.
(2) Based on estimated living expenses for two (2) semesters (10 months).
(3) Based on average new and used textbook prices. Assumes books are sold at the end of the semester.
(4) Based on 2008-2009 insurance premium for the mandatory Maricopa Community Colleges' International Student Health Plan.
(5) Applicants must provide evidence of this minimum amount of financial support before an I-20 is issued.

ADMISSION INFORMATION (AR 2.2.2)

Students must file a Student Information Form with the Admissions and Records Office/Office of Student Enrollment Services at the college of attendance. There is no charge for this service.

A. Student Status

1. Freshman - A student who has completed fewer than 30 credit hours in 100-level courses and above.
2. Sophomore - A student who has completed 30 credit hours or more in 100-level courses and above.
3. Unclassified - A student who has earned an associate degree or higher.

B. Student Identification Number

Disclosure of the social security number is voluntary (A.R.S. §15-1823). However, students must use social security numbers for reporting information pertaining to potential educational tax credits and for processing federal financial aid applications and Veterans Administration benefits.

C. Declaration of Previous College Attendance

Students who have attended other colleges are required to give the names of those colleges when they apply for admission to one of the Maricopa Community Colleges. If this is not done, enrollment in the college may be canceled.

Transfer students who do not meet the minimum grade point averages listed under Scholastic Standards may be admitted on academic probation.

D. Residency for Tuition Purposes (Appendix S-1)

All students are classified for tuition purposes under one of the following residency classifications:
1. Maricopa County resident
2. Out-of-County resident
3. Out-of-State resident (including F-1 non-immigrant students)
4. Unclassified, Out-of-County, Out-of-State (1-6 credit hours systemwide)

Residency for tuition purposes is determined in accordance with state law (A.R.S. §15-1801, 15-1802, 151802.01, 15-1803, et. seq.) and regulations of the Maricopa Community Colleges Governing Board. All of the Maricopa Community Colleges are subject to the above statutes and regulations. Students who have questions about their residency should contact the Admissions and Records Office/Office of Student Enrollment Services for clarification.

1. Implementation

a. Domicile status must be established before the student registers and pays fees. It is the student's responsibility to register under the correct domicile status.

b. Enforcement of domicile requirements shall be the responsibility of the Chancellor of the Maricopa Community Colleges. The Chancellor has charged the Director of Admissions and Records or other designee at each college to make the initial domicile classification. In determining a student's classification, the college may consider all evidence, written or oral, presented by the student and any other information received from any source which is relevant to determining classification. The college may request written sworn statements or sworn testimony of the student.

c. A request for review of the initial classification may be made to a District review committee. The request must be in writing, signed by the student and accompanied by a sworn statement of all facts relevant to the matter. The request must be filed with the admissions officer of the college within ten days of receipt of notification of classification as a non-resident. Failure to properly file a request for review within the prescribed time limit constitutes a waiver of review for the current enrollment period. The decision of the review committee shall be final.

2. Definitions

a. "Armed Forces of the United States" means the Army, the Navy, the Air Force, the Marine Corps, the Coast Guard, the commissioned corps of the United States Public Health Services, the National Oceanographic and Atmospheric Administration, the National Guard, or any military reserve unit of any branch of the Armed Forces of the United States.

b. "Continuous attendance" means enrollment at one of the Maricopa Community Colleges as a full-time or part-time student for a normal academic year since the beginning of the period for which continuous attendance is claimed. Students need not attend summer sessions or other such intersessions beyond the normal academic year in order to maintain continuous attendance.

c. "County resident" means an individual who has lived in the county for at least fifty (50) days before the first day of classes of the semester.

d. "Domicile" means a person's true, fixed, and permanent home and place of habitation. It is the place where he or she intends to remain and to which he or she expects to return when he or she leaves without intending to establish a new domicile elsewhere.

e. "Emancipated person" means a person who is neither under a legal duty of service to his parent nor entitled to the support of such parent under the laws of this state.

f. "Full-time student" means one who registers for at least twelve (12) credit hours per semester.

g. "Part-time student" means one who registers for fewer than twelve (12) credit hours per semester.

h. "Parent" means a person's father, or mother, or if one parent has custody, that parent, or if there is no surviving parent or the whereabouts of the parents are unknown, then a guardian of an unemancipated person if there are not circumstances indicating that such guardianship was created primarily for the purpose of conferring the status of an in-state student on such unemancipated person.

3. Criteria for Determining Residency

a. In-State Student Status

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 preceding the official starting day of the semester, except that a person whose domicile is in this state is entitled to classification as an in-state student if the person meets one of the following requirements:

i. The person's parent's/legal guardian's domicile is in this state and the parent/guardian is entitled to claim the person as an exemption for state and federal tax purposes.

ii. The person is an employee of an employer that transferred the person to this state for employment purposes, or the person is the spouse of such an employee.

iii. 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 non-certified 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, unless the family member is otherwise eligible for classification as an in-state student pursuant to this section.

iv. The person's spouse has established domicile in this state for at least one year and 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. An 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 of a person who is a member of the armed forces of the United States and who is stationed in this state pursuant to military orders is entitled to classification as an in-state student. The student does not lose in-state student classification while in continuous attendance toward the degree for which he or she is currently enrolled.
6. A person who is a member of the Armed Forces of the United States or the spouse or a dependent 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 home record 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 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 all of the following requirements:
   i. Declared Arizona as the person's legal residence with the person's branch of service at least one year prior to discharge from the Armed Forces.
   ii. Demonstrated objective evidence of intent to be a resident of Arizona which, for the purposes of this section, include at least one of the following:
      a. An Arizona driver's license.
      b. Arizona motor vehicle registration.
      c. Employment history in Arizona.
      d. Arizona voter registration.
      e. Transfer of major banking services to Arizona.
      f. Change of permanent address on all pertinent records.
      g. Other materials of whatever kind or source relevant to domicile or residency status.
   iii. Filed an Arizona income tax return with the Arizona Department of Revenue during the previous tax year.
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 the state and extends into another state and who is a resident of the reservation is entitled to classification as an in-state student.

b. Alien In-State Student Status
   1. An alien is entitled to classification as an in-state refugee student if such person has been granted refugee status in accordance with all applicable laws of the United States and has met all other requirements for domicile.
   2. In accordance with the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (P.L. 104-208; 110 Stat. 3009), a person who was not a citizen or legal resident of the United States or who is without lawful immigration status is not entitled to classification as an in-state student pursuant to A.R.S. §15-1802 or entitled to classification as a county resident pursuant to A.R.S. §15-1802.01.

3. In establishing domicile, the alien must not hold a visa that prohibits establishing domicile in this state. After meeting other domicile requirements, students holding valid, unexpired visas in the following categories may be classified as in-state students:
   - A Foreign Government Official or Adopted Child of a Permanent Resident
   - E Treaty Trader G Principal Resident Representative of Recognized Foreign Member Government to International Staff
   - K Spouse or Child of Spouse of a U.S. Citizen, Fiancé or Child of Fiancé of U.S. Citizen
   - L Intracompany Transferee, or Spouse or Child
   - N6 NATO-6
   - V Spouses and Dependent Children of Lawful Permanent Residents
4. Students who hold visas as listed in section 3 above, or who were issued a visa of a type other than those listed in section 3 above and have submitted an I-485 to Citizenship and Immigration Services (CIS), may establish residency if other domicile requirements have been met. Residency eligibility for I-485 applicants may be considered one year after the date on the CIS Notice of Action letter (I-797) confirming the applicant's approval of permanent resident status. Students must provide required residency documentation in addition to the notice of action for residency consideration. In establishing domicile, the alien must be in a status that does not prohibit establishing domicile in this state for at least one year immediately preceding the official starting date of the semester. In the event that an alien student's parent is domiciled in this state and is allowed to claim the student as an exemption for state or federal tax purposes (B.1), the student's parent, in order to establish domicile, must hold a valid, unexpired visa in one of the categories listed in paragraph 3 above.

c. Presumptions Relating to Student Status
Unless there is evidence to the contrary, the registering authority of the community college or university at which a student is registering will presume that:
1. No emancipated person has established a domicile in this state while attending any educational institution in this state as a full-time student, as such status is defined by the community college district governing board or the Arizona Board of Regents, in the absence of a clear demonstration to the contrary.
2. Once established, a domicile is not lost by mere absence unaccompanied by intention to establish a new domicile.
3. A person who has been domiciled in this state immediately before becoming a member of the Armed Forces of the United States shall not lose in-state status by reason of such person's presence in any other state or country while a member of the Armed Forces of the United States.

d. Proof of Residency
When a student's residency is questioned, the following proof will be required:
1. In-State Residency
   i. An affidavit signed by the student must be filed with the person responsible for verifying residency.
   ii. Any of the following may be used in determining a student's domicile in Arizona:
   - Arizona income tax return
   - Arizona voter registration
   - Arizona motor vehicle registration
   - Arizona driver's license
   - Employment history in Arizona
   - Place of graduation from high school
   - Source of financial support
   - Dependency as indicated on federal income tax return
   - Ownership of real property
   - Notarized statement of landlord and/or employer
   - Transfer of major banking services to Arizona
   - Change of permanent address on all pertinent records
   - Other relevant information
2. County Residency
   i. An affidavit signed by the student must be filed with the person responsible for verifying domicile to prove continuous residency in a county for fifty (50) days, and
   ii. Any of the following may be used to determine a student's county residency:
   - Notarized statements of landlord and/or employer
   - Source of financial support
   - Place of graduation from high school
   - Ownership of real property
   - Bank accounts
   - Arizona income tax return
   - Dependency as indicated on a federal income tax return
   - Other relevant information

E. Concurrent Enrollment in Arizona Public Institutions of Higher Education (A.R.S. §15-1807) (Appendix S-3)

It is unlawful for any non-resident student to register concurrently in two or more public institutions of higher education in this state including any university, college or community college for a combined student credit hour enrollment of more than six (6) credit hours without payment of non-resident tuition at one of such institutions.

Any non-resident student desiring to enroll concurrently in two or more public institutions of higher education in this state including any university or community college for a combined total of more than six (6) credit hours who is not subject to non-resident tuition at any of such institutions shall pay the non-resident tuition at the institution of his choice in an amount equivalent to

non-resident tuition at such institution for the combined total of credit hours for which the non-resident student is concurrently enrolled.

OTHER ADMISSION INFORMATION (AR 2.2.3)

A. Veterans

By Arizona statute, any failing grades from any Arizona university or community college that were received prior to military service will not be used to determine admission to the community college for the honorably discharged veterans with two years' service in the Armed Forces of the United States. Students admitted or re-admitted to the community college under this statute are subject to progression, retention, graduation and other academic regulations and standards. (Also see Withdrawal - Appendix S-7.)

B. Ability to Benefit – Classifications

Federal guidelines require that students without a high school diploma or certificate of equivalency who are applying for financial aid must demonstrate the ability to benefit. Evaluation during the admission process results in the student being admitted to the college with the status of REGULAR, REGULAR WITH PROVISIONAL REQUIREMENTS or SPECIAL.

1. "REGULAR" status, for the purpose of 2.2.3 B, is granted to an individual admitted to the college who is a high school graduate or has a GED certificate. A student without a high school diploma or GED certification and beyond the age of compulsory high school attendance may be a regular status student if the student has been assessed to benefit from college instruction by receiving qualifying scores on approved assessment instruments. All regular status students must be pursuing a degree/certificate or be in an eligible program.
2. "REGULAR WITH PROVISIONAL REQUIREMENTS" status, for the purpose of 2.2.3 B, is granted to a student admitted to the college who is not a high school graduate, does not have a GED certificate, and is beyond the age of compulsory high school attendance but has been assessed to benefit from college instruction requiring developmental/ remedial coursework and is pursuing a degree/ certificate or be in an eligible program.
3. "SPECIAL" status, for the purpose of 2.2.3 B, is granted to a student admitted to the college for concurrent enrollment or pursuing one or more courses of special interest and who meets all the requirements for admission.

C. Transcripts

The Maricopa Community Colleges reserve the right to require transcripts for clarification or admission to specific programs, for verification of course requisites, for determination of academic standing and eligibility, and for participation in official athletic events. When an official transcript is required, the transcript must be sent directly to the college Admissions and Records Office/ Office of Student Enrollment Services. It is the student's responsibility to ensure that transcripts have been received and are complete.

Students entering as high school graduates may be required to submit high school transcripts. Students entering as GED recipients may be required to present a copy of the high school equivalency certificate or official report of qualifying GED scores.

D. Educational Assessment

All students are encouraged to undergo an educational assessment to determine course placement. Prospective students who do not possess a high school diploma or GED equivalence certificate are required to complete an educational assessment to determine their ability to benefit from college instruction. See Student Assessment and Course Placement (AR 2.2.7).

CREDIT FOR PRIOR LEARNING (AR 2.2.4)

The Maricopa Community Colleges recognize that learning takes place in a variety of situations and circumstances. Many students have significant, demonstrable learning from experiences outside the traditional academic environment. Therefore, prior learning, not life experience, is the basis for the award of college credit.

Students may be awarded no more than 30 credit hours, unless required by a specific program of study, within the Maricopa Community Colleges using one or more of the following assessment methods recommended by the Council for Adult and Experiential Learning (CAEL) and the American Council on Education (ACE):

- Articulated Programs
- Credit By Evaluation
- College-Level Equivalency Examinations

Credit awarded for prior learning does not count as hours in residence for graduation requirements. Exceptions may be granted at some MCCCD colleges for their unique programs of study. No more than 20 semester credit hours may be applied to AGEC. Credit received through Prior Learning Assessment is transferable within the Maricopa Community Colleges but is not necessarily transferable to other colleges and universities. Therefore, students are strongly advised to meet with a program advisor or contact the college or university they plan to attend.

For further information on Prior Learning Assessment, contact the Admissions and Records Office/Office of Student Enrollment Services.

A. Credit by Evaluation

The Maricopa Community Colleges offer credit by evaluation. The American Council on Education (ACE) evaluates military training and experiences as well as non-collegiate sponsored training programs and recommends credit awards based on this evaluation.

The numbers of credits listed in the ACE guide are recommendations only. A college is not required to grant a student the number of credits recommended. The credits are included on a student's transcript.

1. **Educational Experiences in the Armed Services**
   The Maricopa Community Colleges may award credit for military experiences based on the ACE Guide to the Evaluation of Educational Experiences in the Armed Services. A student may receive college credit if:
   a. training parallels a discipline area offered through the Maricopa Community Colleges, and
   b. credit meets a program requirement or is used as elective credit.

   Upon request, individuals who have successfully completed Basic Training, four (4) credit hours in Physical Education will be awarded as indicated in the ACE Guide and the Community College of the Air Force Catalog. Official documentation of military training is required.
2. **College Credit Recommendation Service (CREDIT)**
   ACE evaluates training programs offered by business, industry, and government and publishes its credit recommendations in The National Guide to College Credit for Workforce Training. If a student has received training which appears in the guide, he or she may receive college credit if:
   a. training parallels a discipline area offered through the Maricopa Community Colleges, and
   b. credit meets a program requirement or is used as elective credit.
3. **Departmental Credit by Evaluation**
   Students may apply for Departmental Credit by Evaluation in certain courses by obtaining the appropriate form in the Admissions and Records Office/Office of Student Enrollment Services, and completing applicable paperwork and other requirements of the college, including payment of required fee. See fee schedule for appropriate fee. Fees are not refundable if a student fails to obtain credit. Students may not request:
   a. the evaluation of a course a second time;
   b. the evaluation of a course while currently enrolled in the course;
   c. to establish credit in a previously completed course; and
   d. to establish credit for a lower level of a course in which credit has been received. Exceptions may be granted at some MCCCD colleges for their unique programs of study.

   Certain departments have additional requirements which must be met before credit may be granted through departmental credit by evaluation. When credit is granted as outlined above, a notation of "credit by evaluation," and the number of credits will appear on the student's transcript. These credits are not used in computing the grade point average. Credit by evaluation is transferable within the Maricopa Community Colleges, but is not necessarily transferable to other colleges and universities.

B. College-Level Equivalency Examinations

ACE has published credit recommendations for a number of national standardized examinations such as the ones listed below in the Guide to Educational Credit by Examination.

The Maricopa Community Colleges use these recommendations as guidelines to award credit for equivalent Maricopa Community Colleges coursework as well as elective credit. Scores must be sent directly to the Admissions and Records Office/Office of Student Enrollment Services from the specific testing company(s) before credit is awarded.

All equivalency is subject to future review and possible catalog change.

1. **Advanced Placement Examinations**
   Students who have taken an advanced placement course of the College Entrance Examination Board (CEEB) in their secondary school and who have taken an Advanced Placement Examination of the CEEB may receive course credit with a score of 3, 4 or 5. Scores must be received directly from CEEB before credit is awarded.

English AP Recommendation:

EXAM	SCORE	CREDIT HOURS/ EQUIVALENCY
English-Language and Composition	5 or 4	6 credit hrs/ENG101, ENG100, AA, AC, AD eligible for Honors ENG102
English-Literature and Composition	5 or 4	6 credit hrs/ENG101, ENH110, eligible for Honors ENG102

Math AP Recommendation:

EXAM	SCORE	CREDIT HOURS/EQUIVALENCY
Math-Calculus AB	5, 4 or 3	MAT220 or MAT221
Math-Calculus BC	3	MAT220 or MAT221
Math-Calculus BC	5 or 4	MAT220 or MAT221, and MAT230 or MAT231, upon completion of MAT241
Computer Science A and AB	5 or 4	CSC100

2. **College Level Examination Program**
   The Maricopa Community Colleges may award credit to individuals who have received a score of 500 or more for the 1986 version of the College Level Examination Program (CLEP) General Examinations (610 on the 1978 version) and who meet or exceed the American Council on Education (ACE) recommended scores for awarding credit on the CLEP subject examinations. The ACE credit-granting score recommendation will be 50 (on the 20-80 scale) for all CLEP computer-based exams beginning July 1, 2001.

- Credit received through CLEP is transferable within the Maricopa Community Colleges, but is not necessarily transferable to other colleges and universities.
- Rio Salado College and Paradise Valley Community College are national CLEP test sites. For more information on registering for the CLEP examinations, contact Rio Salado College or Paradise Valley Community College.

English Composition:
Students pursuing credit for ENG101 must take the English Composition with Essay. The Maricopa Community Colleges do not award credit for ENG102 through CLEP examination.

Foreign Languages:
Credit earned through CLEP examination for French, German, and Spanish meets the language proficiency requirements of the Maricopa Community Colleges.

For CLEP examinations taken prior to July 1, 2001, the Maricopa Community Colleges will grant credit based on the scaled scores indicated below:

COURSE	SPANISH	FRENCH	GERMAN	CREDIT
101	40-49	39-48	39-45	4 (101)
102	50-54	49-53	46-50	8 (101, 102)
201	55-61	54-62	51-59	12 (101, 102, 201)
202	62-80	63-80	60-80	16 (101, 102, 201, 202)

At the discretion of the individual college, an oral exam at the 202 level may be administered.

3. **Defense Activity for Non-traditional Education Support Examination Program**
   The Maricopa Community Colleges may award credit for the Defense Activity for Non-traditional Education Support (DANTES) Examination Program to individuals who meet or exceed the ACE recommended scores for awarding credit on the DANTES subject examinations. The Maricopa Community Colleges do not award credit for ENG102 through DANTES examination. Credit received through DANTES is transferable within the Maricopa Community Colleges, but is not necessarily transferable to other colleges and universities. The Assessment Center at Rio Salado College is a national test site. For additional information on registering for DANTES examinations, call **480-517-8560.**

4. **American College Testing Proficiency Examination Program**
   The Maricopa Community Colleges may award credit for the American College Testing Proficiency Examination Program (ACT-PEP) based on the scores earned.

5. **Departmental Credit by Examination**
   Students may apply for Departmental Credit by Examination in certain courses by obtaining the appropriate form in the Admissions and Records Office/Office of Student Enrollment Services, paying the required fee, and completing the examination and other requirements of the college. See fee schedule for appropriate fees.

   Students may not request:
   a. to challenge a course a second time;
   b. to challenge a course while currently enrolled in the course;
   c. to establish credit in a previously completed course; and
   d. to establish credit for a lower level of a course in which credit has been received.

   - Exceptions may be granted at some MCCCD colleges for their unique programs of study.
   - Certain departments may have additional requirements which must be met before credit may be granted through departmental credit by examination.
   - Only grades of A, B, C, D, or P earned as a result of this examination will be recorded on the student's transcript. Fees are not refundable after the examination has been administered, regardless of results.
   - When credit is granted as outlined above, a notation of "credit by examination," a grade and the number of credits will appear on the student's transcript. The grade is used in computing the grade point average.

College Level Examination Program (CLEP)

Note: The changes to English Composition CLEP were agreed upon at their respective Articulation Task Force (ATF) meetings this year and were approved by APASC members in April 2008. These cut scores, which represent equivalencies, are to be implemented July 1, 2009.

Examination		MCCCD	
General	**Score**	**Sem. Hrs.**	**Equivalency**
English Composition	60 (Fall 2009 or later), 50 (July 1, 2001), 600 (1986 version), 500 (1978 version)	3	With essay qualifies for ENG101
Humanities	50 (July 1, 2001 or later), 500 (prior to July 1, 2001)	6	Elective Credit
Mathematics	50 (July 1, 2001 or later), 500 (prior to July 1, 2001)	3	MAT122
Natural Sciences	50 (July 1, 2001 or later), 500 (prior to July 1, 2001)	8	Elective Credit*
Social Sciences & History	50 (July 1, 2001 or later), 500 (prior to July 1, 2001)	5	Elective Credit
Subject			
Accounting, Principles of	ACE Score	6	ACC Elective Credit
American Government	ACE Score	3	POS110
American Literature	ACE Score	6	ENG241, 242
Analyzing & Interpreting Literature	ACE Score	3	Elective Credit
Biology	ACE Score	8	BIO Elective Credit*
Calculus (Calculus with Elem Functions)	ACE Score	4	MAT221
Chemistry	ACE Score	9	CHM Elective Credit*
College Algebra (1993) (replaces College Algebra [1979])	ACE Score	3	MAT152
College Algebra – Trigonometry	ACE Score	3	MAT152
English Literature	ACE Score	3	Elective Credit
French Language	50-54	4	FRE101
French Language	55-61	8	FRE101, 102
French Language	62-65	12	FRE101, 102, 201
French Language	66-80	16	FRE101, 102, 201, 202
Freshman College Composition	ACE Score	3	With Essay ENG101
German Language	39-45	4	GER101
German Language	46-50	8	GER101, 102
German Language	51-59	12	GER101, 102, 201
German Language	60-80	16	GER101, 102, 201, 202
Human Growth & Development	ACE Score	0	No Credit
Information Systems & Computer Applications	ACE Score	3	CIS Elective Credit
Intro to Educational Psychology	ACE Score	3	EDU Elective Credit
Introductory Business Law	ACE Score	3	GBS Elective Credit
Introductory Psychology	50	3	PSY101
Introductory Sociology	ACE Score	3	SOC101
Mathematics, College	ACE Score	3	MAT142
Macroeconomics, Principles of (replaces Introductory Macroeconomics)	ACE Score	3	ECN211
Management, Principles of	ACE Score	3	MGT Elective Credit
Marketing, Principles of	ACE Score	3	MKT271
Microeconomics, Principles of (replaces Introductory Microeconomics)	ACE Score	3	ECN212
Spanish Language	50-54	4	SPA101
Spanish Language	55-65	8	SPA101, 102
Spanish Language	66-67	12	SPA101, 102, 201
Spanish Language	68-80	16	SPA101, 102, 201, 202
Trigonometry	ACE Score	3	MAT182
U.S. History I – Early Colonization to 1877	ACE Score	6	HIS103
U.S. History II – 1865 to the Present	ACE Score	3	HIS104
Western Civilization I – Ancient Near East to 1648	ACE Score	6	HIS100, 101
Western Civilization II – 1648 to the Present	ACE Score	3	HIS102

**The general studies requirement in natural sciences (SQ and SG) and Literacy and Critical Inquiry (L) are not satisfied by CLEP*

Advanced Placement Credit

Note: The changes to AP scores to include Japanese were agreed upon at their respective Articulation Task Force (ATF) meetings this year and were approved by APASC members in April 2008. These cut scores, which represent equivalencies, are to be implemented beginning fall 2009.

Examination	Score	MCCCD	Sem. Hrs.
Art–History	5 or 4	ARH101, 102	6
	3	ARH101, 102	3
Art–Studio–Drawing	5	ART111, 112	6
	4	ART111	3
Art–Studio–General	5	ART111, 112	6
	4	ART112	3
Biology	5 or 4	BIO181, 182	8
	3	BIO100 or Equivalent	4
Chemistry	5 or 4	CHM151/151LL & CHM152/152LL or CHM154/154LL	8 or 9
	3	CHM151, 151LL	4
Computer Science A	5 or 4	CSC100	3
Computer Science AB	5 or 4	CSC100	3
Economics – Introductory Macroeconomics	5 or 4	ECN211	3
Economics – Introductory Microeconomics	5 or 4	ECN212	3
English – Language & Composition	5 or 4	ENG100AA, AC, AD and ENG101	6
English – Literature & Composition	5 or 4	ENG101 and ENH110	6
Environmental Science	5 or 4	No credit	3
French–Language	5, 4, or 3	FRE101, 102, 201, 202	16
French–Literature	5, 4, or 3	FRE101, 102, 201, 202	16
German–Language	5, 4, or 3	GER101, 102, 201, 202	16
German–Literature	5, 4, or 3	GER101, 102, 201, 202	16
History–American	5 or 4	HIS103, HIS104	6
History–European	5 or 4	HIS101, HIS102	6
	3		3
Japanese-Language	5	JPN101, 102, 201, and 202	20
	4	JPN101, 102 and 201	15
	3	JPN101 and 102	10
Latin–Language	5	LAT101, 102, 201, 202	16
	4	LAT101, 102, 201	12
	3	LAT101, 102	8
Mathematics–Calculus AB	5, 4, or 3	MAT220 or MAT221	4 or 5
Mathematics–Calculus BC	5 or 4	MAT220 or MAT221 and MAT230 or MAT231 upon completion of MAT241	8 to 10
	3	MAT220 or MAT221	4 or 5
Music	5 or 4	MTC105	3
Physics B	5 or 4	PHY111, PHY112	8
	3	PHY111	4
Physics C – Electricity & Magnetism	5, 4 or 3	PHY112 with laboratory coursework	4
Physics C – Mechanics	5, 4 or 3	PHY111 with laboratory coursework	4
Political Science – American Government	5 or 4	POS110	3
Political Science – Comparative Government and Politics	5 or 4	POS140	3
Psychology	5 or 4	PSY101	3
Spanish–Language	5, 4, or 3	SPA101, 102, 201, 202	16
Spanish–Literature	5, 4, or 3	SPA101, 102, 201, 202	16
Statistics	5, 4, or 3	MAT206	3

6. **International Baccalaureate Diploma/Certificate**
   Students who present an International Baccalaureate Diploma/Certificate may qualify for college credit. MCCCD grants credit for college-level courses only. A grade of 5 qualifies a student to receive credit for one introductory course. No credit is awarded for English B (English as a Second Language). Credit is awarded according to the "International Baccalaureate Diploma/Certificate Credit" table.

International Baccalaureate Diploma/Certificate Credit

Examination	Score	Sem. Hrs.	Equivalency
Art/Design	7, 6 or 5	6	ART111, 112
	4	3	ART112
Biology	7, 6 or 5	8	BIO181, 182
	4	4	BIO181
Chemistry	7, 6 or 5	9	CHM151, 152
	4	4	CHM151
Economics	7, 6 or 5	6	ECN111, 212
	4	3	ECN211
English A	7, 6 or 5	6	ENG101, ENG100AB, AC, AD
	4	3	ENG100AB, AC, AD
English B	No credit		None
Foreign Language A or B*	7, 6 or 5	8	Foreign Language 101, 102
	4	4	Foreign Language 101
History–American	7, 6 or 5	6	HIS103, 104
	4	3	HIS103
History–European	7, 6 or 5	6	HIS101, 102
	4	3	HIS101
Human Geography	5, 4, or 3	3	GCU102
Mathematics	7, 6, 5 or 4	4	MAT221
Physics	7, 6 or 5	8	PHY111, 112
	4	4	PHY111

C. Healthcare Integrated Educational System (HCIES) Credit for Prior Learning

National/Regional Credential Recognition
Students who have recognized credentials related to healthcare may request an evaluation for course competency equivalence on a case-by-case basis through the Integrated Competency Assessment Network (ICAN). For more information contact the ICAN office at **(480) 731-8924** or by email at **ican@domail.maricopa.edu.** Website: **http://healthcare.maricopa.edu/healthcarecourses.php.** When national or regional credentials are determined to be equivalent to the competencies demonstrated in corresponding courses, the recognition of external credentials will fulfill graduation credit requirements for the identified courses through Credit by Evaluation.

Credit by Examination and Credit by Skills Demonstration Assessment
Healthcare students may apply for credit for prior learning in certain courses. Specific information and required forms can be found on **http://healthcare.maricopa.edu/healthcarecourses.php.** Credit by Examination in the HCIES is determined through the use of HCIES Competency Assessment Tests (CATs) and/or Skills Demonstration Assessment under the direction of the HCIES Integrated Competency Assessment Network (ICAN). Students may apply for HCIES Healthcare Pathway/Program Advanced Placement in certain courses by obtaining the appropriate form(s) in the Admissions and Records Office/Office of Student Enrollment Services, paying the required fee(s), and successfully completing the examination and/or skills demonstration and other requirements of the college. See fee schedule for appropriate fee. Fees are not refundable if a student fails to obtain credit.

Students may not request:
a. to challenge a course a second time;
b. to challenge a course while currently enrolled in the course;
c. to establish credit in a previously completed course; or
d. to establish credit for a lower level of a course in which credit has been received.

Certain healthcare pathways/programs have additional requirements which must be met before credit may be granted through HCIES credit by examination and credit by skills demonstration assessment.

Grades of A, B, C, D or P earned as a result of examination or skills assessment will be recorded on the student's transcript. Fees are not refundable after the examination/skills demonstration has been administered, regardless of results. A grade of P/Z is not used in computing the grade point average.

When credit is granted as outlined above, a notation of "CREDIT BY EXAMINATION," "CREDIT BY EVALUATION," or "CREDIT BY SKILLS DEMONSTRATION" and the number of credits will appear on the student's transcript. If a grade is assigned, it will be used in computing the grade point average.

D. Transfer Credit

a. Students who have had official transcripts sent directly to the Admissions and Records Office/Office of Student Enrollment Services may be granted credit for college-level course(s) if:
   - The coursework was completed at a regionally accredited institution. Regionally accredited institutions of higher education are those that are fully accredited by New England Association of Schools and Colleges, Middle States Association of Colleges and Schools, North Central Association of Colleges and Schools, Northwest Association of Schools and Colleges, Southern Association of Colleges and Schools, and/or Western Association of Schools and Colleges. Courses from institutions that have earned candidate status from a regional accrediting association will be reviewed on a case-by-case basis.
   - The student earned a grade of C (2.0 on a 4.0 scale) or higher. On an exception basis, P grades may be allowed in the Arizona General Education Curriculum (AGEC) for credit transferred if documentation collected by the community college indicates that the P grade issued was the only option for the student and the P grade is a C or better. The P grade exception does not apply to credits awarded by AGEC granting/receiving institutions.

b. A course that meets general education requirements at any Arizona public community college district or university will be accepted in transfer to meet comparable general education requirements at any of the Maricopa Community Colleges provided the course was completed with a grade of C or better.

c. Acceptance of courses that fulfill requirements other than general education is determined by individual Maricopa Community Colleges. Credits accepted in transfer do not necessarily apply to all certificates or degree programs.

d. Credits from foreign institutions will be reviewed for acceptance. It is the student's responsibility to have all such transcripts translated into English and evaluated by an International Student Evaluation Service before submitting them to the college.

e. Maricopa has established articulation agreements with baccalaureate degree institutions to help facilitate transfer of credit. To access a list of participating institutions, visit: **http://www.maricopa.edu/academic/ccta/artic/partner_list.php**

E. Servicemen's Opportunity College

The Maricopa Community Colleges recognize the unique educational problems confronting many active duty military personnel in attaining their educational goals. The colleges have, therefore, established themselves as Servicemen's Opportunity Colleges. This means that the colleges recognize the peculiar needs of military personnel in that they provide courses on the various military bases located in Maricopa County and provide opportunities to complete courses through non-traditional means when education is interrupted by military obligations. Maricopa Community Colleges maintain liberal entrance requirements, offer maximum credit for educational experiences obtained in the Military Services, and follow residency statutes applicable to the special needs of servicemen. Maricopa Community Colleges follow the recommendations established by the American Council on Education. If, for any reason, Maricopa Community Colleges' status as a Servicemen's Opportunity College is discontinued, it will nonetheless maintain its commitment to students previously enrolled. In addition, the option to enter into a "contract for a degree" allows the community college, as the college of record, to grant a degree upon completion of twelve (12) credit hours at the college and the satisfaction of graduation requirements.

F. Transfer Articulation Guidelines (Appendix S-2)

Articulation Agreements

The Maricopa Community Colleges are dedicated to creating transfer partnerships with four-year colleges and universities. These partnerships are formalized through district-wide articulation agreements. These articulation agreements are designed to help students make a smooth transition from one of the Maricopa Community Colleges to a four-year institution. To access a list of institutions of higher education with which Maricopa has established an articulation agreement, visit: **http://www.maricopa.edu/academic/ccta/artic/partner_list.php**

Transfer Articulation from Arizona Public Community College Districts and Universities into the Maricopa Community Colleges

Maricopa is a participant in the Arizona statewide transfer system. The aztransfer.com website is the official source of information for the statewide articulation agreements between the Arizona public community colleges and universities (Arizona State University, Northern Arizona University, and University of Arizona).

Transfer Articulation with the Maricopa Skill Center and the Southwest Skill Center

The Maricopa Community Colleges have agreements with the Maricopa Skill Center and the Southwest Skill Center in limited areas of study. Students who have participated in these agreements may be granted Credit for Prior Learning. No fees will be assessed for credits awarded for prior learning. Articulated course/program credit is transferable within the Maricopa Community Colleges, but may not necessarily be transferable to other colleges or universities. Students should contact the Admissions and Records Office/Office of Student Enrollment Services for transfer credit policies and an academic advisor for a program of study.

ACADEMIC ADVISING (AR 2.2.6)

- Academic advising assists students in the formation of educational plans and goals. This is an ongoing process of clarification, evaluation, re-clarification, and re-evaluation.
- The ultimate responsibility for making decisions about life goals and educational plans rests with the student. The academic advisor helps to identify and assess alternatives and consequences.
- The academic advisor also serves as a resource for accurate information. The advisor is knowledgeable about institutional policies, procedures, programs and resources and assists students in making use of printed and online materials.
- Advisors are in a position to help students identify their learning-related needs. Feedback received from advisors could be beneficial and should be used in policy-making decisions at all levels of the institutional administration.

With the help of an academic advisor, students will:

- gain an understanding of their academic abilities and interests.
- be reinforced in their successes.
- be provided information regarding the nature and purpose of higher education.
- be referred to counselors and other resources to explore their interests, skills, abilities, and values.
- define and refine educational goals and objectives and understand the consequences of alternative courses of action.
- consider alternative careers through counselors, workshops, seminars, and other resources.
- make course, certificate, and/or degree selections.
- understand and utilize placement test results.
- be encouraged to be active participants in their educational planning and college life.
- be informed of support services that are available and how to make an appointment, if appropriate.
- be aware of transfer articulation arrangements.
- be informed about research results and general perceptions of student experiences at the institution.
- receive accurate printed materials on academic majors, minors, and other degree and program requirements.
- be encouraged to use the technology which supports the academic advising process.

STUDENT COURSE PLACEMENT PROCESS (AR 2.2.7)

The Maricopa Community Colleges are committed to providing students with opportunities for successful academic experiences. Student academic achievement is directly related to the proper initial course placement. Students are strongly urged to enroll in the courses indicated by their course placement tests. Initial course placement should be discussed with an advisor or counselor who is skilled in assessing the student's needs and factors that affect student success.

A. Testing for Course Placement

1. Students will be required to complete course placement tests under one of the following conditions:
   a. The student is taking his or her first college credit English, reading and/or math course, or any college course for which English, reading or math is a prerequisite.
   b. The student is pursuing a degree and does not have current valid District approved course placement scores on file or does not have previous college credit in English, reading and math.
   c. The student does not have a high school diploma or GED, and is applying for federal financial aid.
   d. The student for whom English is not the primary language and is taking his or her first English as a Second Language class is required to take a test of English proficiency.
   e. College may determine additional conditions under which students would be required to complete course placement testing. Contact the college for additional conditions.
2. Students will be strongly encouraged to complete a course placement test under any one of the following conditions:
   a. The student is taking a math course and has a college-level prerequisite on file that is more than five (5) years old.
   b. The student is taking a college course for which English, reading or math is a prerequisite, and such credit is more than five (5) years old.
3. Students MAY be exempt from a course placement test if at least one of the following conditions apply:
   a. The student has earned an associate or higher degree.
   b. The student has earned college credits from a regionally accredited college in English, reading, and math with a grade of C or higher and such credit is no more than five (5) years old.
   c. The student has currently valid District-approved course placement scores on file.

   Note: *Being exempt from taking a course placement test does not exempt the student from fulfilling the minimum graduation requirements.*

B. Course Placement

1. Students will be advised for specific course enrollment based on highest test or retest scores.
2. Students will be permitted one re-test in English, reading or by math level after at least a 24-hour waiting period. An additional re-test is permitted one year from the date of student's original or re-test at any course placement testing site.
3. The vice president of student affairs or designee may approve re-testing for students with special needs or circumstances. The re-test date will then serve as the date of record.
4. Students may request a Course Placement Waiver from the appropriate department/division chair or college designee. The signed waiver will be noted on the student's record and will be kept on file in the Admissions and Records Office/Office of Student Enrollment Services.

C. Implementation of Policy

To ensure consistency of the course placement process within the Maricopa Community Colleges:

- All colleges shall accept the same approved course placement instruments.
- All colleges shall adhere to the same approved cut-off scores.
- Course placement scores, with the exception of the reading exemption, will be valid for two years from the date of the original or re-test.

D. Evaluation

The Maricopa Community Colleges will provide an ongoing evaluation of the course placement process. An annual report shall be submitted to the Governing Board to indicate the policy's effectiveness noting the number of students assessed, their placement scores and their success in courses. Every three years a thorough review of the policy and procedures shall be implemented, including recommendations from the English, Reading and Math Instructional Councils regarding cut-off scores.

REGISTRATION (AR 2.2.8)

Students must register according to the dates indicated and in the manner described in the college class schedule. To be eligible for registration, students must have completed the appropriate steps listed under the Admissions section. The college may allow early or priority registration. Tuition and fees must be paid or payment arrangements made by the due date to secure class enrollment. Students may not attend a class for which they are not registered.

TUITION AND FEES (AR 2.2.9)

Tuition and fees are public monies within the jurisdiction and responsibility of the Maricopa Community Colleges Governing Board under the laws and regulations of the State of Arizona and must be administered by the Governing Board. The Governing Board reserves the right to change tuition and fee charges when necessary without notice.

All students are classified for tuition purposes under one of the following residency classifications:

1. Maricopa County resident
2. Out-of-County resident
3. Out-of-State resident (including F-1 non-immigrant students)
4. Unclassified, Out-of-County, Out-of-State (1-6 credit hours systemwide)

Residency for tuition purposes is determined in accordance with state law (A.R.S. §15-1801, 15-1802, 15-1802.01, 15-1803, et. seq.) and regulations of the Maricopa Community Colleges Governing Board. All of the Maricopa Community Colleges are subject to the above statutes and regulations. Students who have questions about their residency should contact the Admissions and Records Office/Office of Student Enrollment Services for clarification.

Students attending more than one Maricopa Community College will be assessed fees for their enrollment at each of the Maricopa Community colleges/centers. (Students who are considered to be out-of-state residents for tuition and fees purposes should refer to the Concurrent Enrollment in Arizona Public Institutions of Higher Education policy under the Residency section of this publication.)

A. Time of Payment

All tuition, fees, assessments and deposits must be paid at the time of registration or by the specified deadline date and in accordance with the fee schedule approved by the Maricopa Community Colleges Governing Board.

B. Tuition and Fees Schedule (Appendix S-4) (effective July 1, 2009 for fall, spring and summer sessions)

Current information can be found at:
www.maricopa.edu/publicstewardship/governance/adminregs/appendices/S-4.php

The following is a tuition and fees schedule for 2009-2010 and is provided for reference. **These tuition and fees are subject to change.** Consult the college's Admissions and Records Office/Office of Student Enrollment Services for course fees in effect during the semester/term in which you intend to register.

2009-2010	Maricopa County Resident	Apache, Santa Cruz or Greenlee County Resident w/o "Out-of-County Residence Affidavit"	Non-Resident Living in Ariziona	Non-Resident Living in Another State/Country	Western Undergraduate Exchange (WUE)
	IN-STATE		OUT-OF-STATE		
CREDIT HOURS	A	B*	C**	D***	E
1	$71.00	$96.00	$96.00	$147.00	$106.50
2	$142.00	$192.00	$192.00	$348.00	$213.00
3	$213.00	$288.00	$288.00	$522.00	$319.50
4	$284.00	$384.00	$384.00	$696.00	$426.00
5	$355.00	$480.00	$480.00	$870.00	$532.50
6	$426.00	$576.00	$576.00	$1,044.00	$639.00
7	$497.00	$2,093.00	$2,002.00	$1,218.00	$745.00
8	$568.00	$2,392.00	$2,288.00	$1,392.00	$852.00
9	$639.00	$2,691.00	$2,574.00	$1,566.00	$958.50
10	$710.00	$2,990.00	$2,860.00	$1,740.00	$1,065.00
11	$781.00	$3,289.00	$3,146.00	$1,914.00	$1,171.50
12	$852.00	$3,588.00	$3,432.00	$2,088.00	$1,278.00
13	$923.00	$3,887.00	$3,718.00	$2,262.00	$1,384.50
14	$994.00	$4,186.00	$4,004.00	$2,436.00	$1,491.00
15	$1,065.00	$4,485.00	$4,290.00	$2,610.00	$1,597.50
16	$1,136.00	$4,784.00	$4,576.00	$2,784.00	$1,704.00
17	$1,207.00	$5,083.00	$4,862.00	$2,958.00	$1,810.50
18	$1,278.00	$5,382.00	$5,148.00	$3,132.00	$1917.00

* Students from any other county in Arizona are considered in-county due to a reciprocal arrangement with that county.

** According to ARS §15-1802F, "A person who is a member of an Indian tribe recognized by the US Department of the Interior whose reservation 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." Therefore, unclassified and out-of-state surcharges do not apply to such students.

*** According to ARS §15-1470, community college districts may offer credit and noncredit courses and services outside of this state. A district is not entitled to state aid payments for students who are provided courses and services outside of this state.

1. **Determine Student Residency Status**
   Refer to admissions information (AR 2.2.2) of the college catalog for residency information and to review the requirements for classification as a Maricopa county resident. Contact the Admissions and Records Office/ Office of Student Enrollment Services if you have questions about residency requirements.

2. **Use the Chart to Locate Tuition Charges**
   Determine the correct column based on your residency status and then select the number of credit hours. The general tuition chart is provided for reference only.

3. **Add Any Additional Fees**
   a. A one-time, per semester $15 registration fee is due by the official start of the term (semester) or by the specified due date or at time of registration.

b. There may also be additional course fees for classes. Please refer to the college schedule for course fees.
c. If you choose to audit a class, add an additional fee of $25 per credit hour.
d. Additional course fees may apply for specific courses. Check with the college's Admissions and Records Office/Office of Student Enrollment Services for a current listing of course fees.

4. **Pay Your Fees**
Payment of fees may be made by cash, check, money order, VISA, MasterCard, Discover or American Express. Payment Plan options are also available.

Note : *If you do not pay your tuition and fees at the time of registration or by the specified due date, you may be dropped from your classes and may be responsible for the tuition and fees based on the refund schedule which outlines the refund deadlines for each course.*

Corporate Tuition Rate – Out-of-State*
Training delivered inside the boundaries of Arizona to out-of-state employees of companies which have contracts with the Maricopa Community Colleges . . . . . $147.00 per credit hour

Training delivered outside the boundaries of Arizona to out-of-state employees of companies which have contracts with the Maricopa Community Colleges . . . . . $125.00 per credit hour

Skill Center Tuition Rates
Regular . . . . . .$4.60 per contact hour
Nursing Assistant . . . . . .$5.60 per contact hour
Practical Nursing. . . . . .$5.60 per contact hour

Credit by Examination & Credit by Evaluation
(excludes Allied Health courses)
Regular Rate . . . . . .$69.00 per credit hour
Contract Rate. . . . . .$34.50 per credit hour

C. Outstanding Debts

Any debt or returned check may revoke a student's current enrollment and the student's right to register in subsequent semesters at all Maricopa Community Colleges. Delinquent debts may require penalties, late charges, collection costs, and/or legal fees to be paid before good standing is restored to the student.

The following procedure will be used for the collection of returned checks and other outstanding debts:

1. The designated college official or fiscal officer is responsible for:
   a. verifying the student's District-wide debt,
   b. attempting to notify the student of the debt, and
   c. attempting to collect the debt.
2. All Maricopa Community College services will be withheld pending payment of debt (at designated college office) with cash, certified check or money order or online with debit or credit card, or in person with credit card. Student may be withdrawn from classes.
3. If other collection attempts fail, the Maricopa Community Colleges District Office will either collect or use other means available, including:
   a. collection agency, requiring payment of collection fees by the student;
   b. the Tax Refund Setoff Programs as stated in A.R.S. §42-133;
   c. litigation, requiring payment of court costs and legal fees by the student.
4. Debt holds may be lifted by the appropriate College or District business services designee for the extension of services provided that at least one of the following conditions are met:
   a. MCCCD staff verify that full payment has been made to another College;
   b. The College can deduct payment from a financial aid award made to the student (referring to student authorization guidelines for regulations on applying federal financial aid to debt balances);
   c. A third party not related to the student, such as an employer or state agency, makes a verified payment directly to the College; or
   d. It is determined and verified with the appropriate MCCCD office that the hold resulted from a system error and the error is due to an activity that requires correction by the appropriate College or District personnel.

D. Discounted Fees and Waivers

1. **Citizens 62 years of age and older** shall be issued ID cards that allow them the privilege of attending events at no cost and that allow them to use the library facilities.
2. **Employees, Dependents and Mandated Groups**
The Maricopa Community Colleges waive tuition and student activity fees for employees and their dependents, and for legislative mandated groups. Special fees and fees for Non-Credit/Special Interest Community Services courses are not waived.
3. **Tuition and Registration Fee Waiver for Members of the Pima-Maricopa Indian Community**
Tuition and fee waivers shall be funded through Auxiliary Fund Monies for college credit courses for the enrolled members of the Pima-Maricopa Indian Community who live on the Pima-Maricopa Reservation.

All other guidelines and procedures established for the purpose of administering waivers, affidavits and exemptions are outlined in the Maricopa Community Colleges tuition waiver manual.

REFUND POLICY (AR 2.2.10)

A. Refund Policy for Credit Classes

Students who officially withdraw from credit classes (in fall, spring, or summer) within the withdrawal deadlines listed below will receive a 100% refund for tuition, class and registration processing fees. Deadlines that fall on a weekend or a college holiday will advance to the next college workday except for classes fewer than 10 calendar days in length or as specified by the college. Calendar days include weekdays and weekends. Refer to individual colleges for withdrawal and refund processes.

LENGTH OF CLASS	OFFICIAL WITHDRAWAL DEADLINES FOR 100% REFUND*
1-9 calendar days	Prior to the class start date
10-19 calendar days	1 calendar day including the class start date
20-29 calendar days	2 calendar days including the class start date
30-39 calendar days	3 calendar days including the class start date
40-49 calendar days	4 calendar days including the class start date
50-59 calendar days	5 calendar days including the class start date
60-69 calendar days	6 calendar days including the class start date
70+ calendar days	7 calendar days including the class start date

** Course fees and registration processing fees will be refunded only if the student qualifies for a 100% refund. Debts owed to any MCCCD college must be satisfied before any refunds are paid to the student. Refunds for students receiving federal financial assistance are subject to federal guidelines. Requests for exceptions to the refund policy must be filed within one year from the semester in which the course was taken.*

B. Refund Policy for Non-Credit Classes

Unless otherwise specified, students must drop non-credit classes prior to the course start date to be eligible for a 100% refund.

C. Canceled Classes

When a class is canceled by the college, a 100% refund will be made.

D. Other Refunds

Students withdrawing from a college or from courses for one of the following reasons must submit a written request for a refund to the Admissions and Records Office/Office of Student Enrollment Services or designated college official:

1. A student with a serious illness, verifiable by a doctor's written statement that the illness prevents the student from attending all classes for the semester. The doctor's statement must be on file with the college before a refund can be given.
2. Serious illness or death of an immediate family member that prevents the student from attending all classes for the semester. Immediate family members include spouse/partner, father, mother, grandfather, grandmother, child, foster child, grandchild, stepchild, sibling, stepsibling, stepfather, stepmother, or spouse's/partner's father, mother, grandfather, grandmother, or in-laws in any one incident. Appropriate documentation must be provided before a refund can be given.
3. Death of a student. Appropriate documentation must be provided before a refund can be given.
4. Requests for a total withdrawal from a college or courses for one of the above reasons may result in a partial prorated refund of tuition, provided courses have not been completed.
5. A student in the Armed Forces or the Arizona National Guard who is called to active duty and assigned to a duty station, verifiable by a copy of the orders, will be allowed to withdraw and receive a 100% refund of tuition, provided courses have not been completed.

STUDENT FINANCIAL ASSISTANCE (AR 2.2.11 & APPENDIX S-5)

The Maricopa Community Colleges provide students financial assistance to enable access to higher education. Student financial assistance shall be awarded on the basis of demonstrated financial need except where funds are specified for recognition of special talents and achievements.

How to Apply for Federal Financial Aid

- New students must complete the Free Application for Federal Student Aid (FAFSA) or FAFSA on the web at **http://www.fafsa.ed.gov/**. Caution: Other web sites may charge a fee. Each academic year, continuing students must reapply by completing a FAFSA, Renewal FAFSA, or FAFSA on the web. Scholarships require separate applications. Specific information regarding financial assistance, including application deadlines or priority dates, may be obtained from the college Office of Student Financial Aid.
- Types of Aid: Grants, loans, student employment, and scholarship funds may be available from federal, state, and/or private sources.
- The Maricopa Community Colleges Foundation offers a variety of scholarship opportunities. Scholarship opportunities are available year round. However, most scholarships are posted mid-January and most deadlines are the last week of March. Options are available by calling **480-731-8400** or at **www.maricopa.edu/resdev/scholarships/apply.php.**
- Distribution of Aid: Criteria by which aid is distributed among eligible financial aid applicants are available on request at the college Office of Student Financial Aid.

Rights and Responsibilities

Students should read all information provided in the process of applying for federal financial aid in order to gain a greater knowledge of all the rights as well as responsibilities involved in receiving that assistance.

Satisfactory Academic Progress

Specific requirements for academic progress for financial aid recipients are applied differently than scholastic standards. In addition to scholastic standards which are explained elsewhere in this catalog, financial aid recipients are also subject to the following Standards of Satisfactory Academic Progress. Specific information is available at the college Office of Student Financial Aid.

Standards of Satisfactory Academic Progress (SAP) for Financial Aid Eligibility

Federal regulations (CFR 668.32(f) and 668.34) require a student to move toward the completion of a degree or certificate within an eligible program when receiving financial aid. Specific requirements for academic progress for financial aid recipients are applied differently than Scholastic Standards. Federal regulations state that Academic Progress Standards must include a review of all periods of enrollment, regardless of whether or not aid was received. The student must meet the following minimum standards in order to receive financial aid.

I. Evaluation of Financial Aid Eligibility

A. Standards of Satisfactory Academic Progress (SAP) are applied at least once per year, beginning on or about June 1st to determine the eligibility for the following academic year.

B. The evaluation period will be based on attendance in the immediate prior Spring, Fall, Summer term (example: for 2008-2009 academic year, academic progress will be evaluated on Spring 2008, Fall 2007, and Summer 2007).

C. Credits evaluated will include credits attempted at the evaluating school and courses funded through consortium agreement.

D. Students who do not meet the SAP will be notified. The student may follow the appeal process or the reinstatement procedures as outlined in V and VI.

II. Eligibility

A. Students must meet the following criteria:

1. Students who have attempted at least 6 credit hours in the last evaluation period must complete with a passing grade 2/3 of all credits attempted within that evaluation period, **OR**
2. Students who have **NOT** attempted at least 6 credit hours in the last evaluation period must complete with passing grades 2/3 of **ALL** credits attempted. **AND**

B. All students must meet the following minimum credit hour/cumulative GPA requirement:

Credits Attempted*	Min GPA
12-15	1.60
16-30	1.75
31-45	1.90
46 +	2.00

**for which grade points are computed.*

***Note:** Grades of F, I, N, W, X, Y, Z and courses not yet graded are considered attempted but not meeting progress standards for the purposes of financial aid.*

III. Maximum Time Frame Eligibility

A. Students who have attempted more than 150% of the credits required for their program of study are not considered to be making Satisfactory Academic Progress and, therefore, are ineligible for financial aid funds.

B. All evaluated transfer credits will be included when determining Maximum Time Frame Eligibility.

C. A student with a Bachelor's degree or higher will be considered to have exhausted Maximum Time Frame Eligibility. An exception to this rule occurs if the student is enrolled in a state-approved teacher certification program.

D. A student may appeal as outlined in V.

E. Reinstatement procedures as outlined in VI are not applicable to Maximum Time Frame Eligibility.

IV. Repeated, Audited, Consortium, Remedial Courses, Summer Sessions

A. Financial aid may be used to cover the cost of repeated courses.

B. Audited courses, non-credit courses, credit by examination, and any credit for prior learning option (as outlined in the catalog) are excluded when determining eligibility for financial aid.

C. Courses funded through a consortium agreement are included in determining academic progress.

D. All attempted remedial credits will be included when evaluating SAP. (A maximum of 30 remedial credit hours, excluding ESL courses, may be funded.)

E. Enrollment in any or all summer sessions within the same calendar year will be considered one term.

V. Appeal Process

A student who has lost financial aid eligibility due to extenuating circumstances may appeal.

A. Extenuating circumstances that may be considered include: personal illness or accident, serious illness or death within immediate family, or other circumstances beyond the reasonable control of the student.

B. All appeals must be in writing to the Financial Aid Office where the student is applying for aid and include appropriate documentation.

C. Examples of documentation could include an obituary notice, divorce decree, or a letter from a physician, attorney, social services agency, parole officer, etc.

D. The condition or situation must be resolved which will allow the student the ability to complete coursework successfully or an appeal will not be granted.
E. The outcome of an appeal may include approval, a probationary period, or denial.
F. A student will be notified in writing of the results of the appeal, and of any restrictions or conditions pertaining to their appeal.

VI. Reinstatement of Financial Aid Eligibility

A. A student who has lost financial aid eligibility may be reinstated after the student has taken (without federal funds) at least six credit hours in a semester, passed all attempted credit hours, and meets minimum cumulative GPA requirements.
B. If the student attempts more than six hours, the student will be evaluated on all attempted credit hours within that term.
C. Classes taken at other colleges will not be taken into consideration for reinstatement purposes.
D. It is the student's responsibility to notify the Office of Student Financial Aid when this condition has been met.

For more information, please contact the Office of Student Financial Aid.

Refunds and Repayments

In accordance with federal regulations (CFR 668.22), a student may be required to repay federal financial aid funds if they completely withdraw, are withdrawn, or fail to earn a passing grade from all classes during a semester. Further information is available at the college Office of Student Financial Aid. This could affect a student's ability to receive Financial Aid in the future at any school. For a student receiving Financial Aid, also see Appendix S-7 for Withdrawal procedures.

Award Amount and level of Enrollment Award amount is determined, in part, on the level of enrollment. Federal student aid recipients are advised to register at the same time for all classes they intend to take during a semester to maximize award. Some federal aid may not be awarded for classes added at a later date. Contact the college Office of Student Financial Aid for more information.

If you are receiving federal financial aid it is important to read the information below prior to making a decision to withdraw.

Treatment of Title IV Aid When a Student Withdraws

The law specifies how your school must determine the amount of Title IV program assistance that you earn if you withdraw from school. The Title IV programs that are covered by this law are: Federal Pell Grants, Academic Competitiveness Grants, National SMART Grants, TEACH Grants, Stafford Loans, PLUS Loans, Federal Supplemental Educational Opportunity Grants (FSEOGs), and Federal Perkins Loans.

When you withdraw during your payment period or period of enrollment (you may contact the Financial Aid office to define these for you and tell you which one applies) the amount of Title IV program assistance that you have earned up to that point is determined by a specific formula. If you received (or your school or parent received on your behalf) less assistance than the amount that you earned, you may be able to receive those additional funds. If you received more assistance than you earned, the excess funds must be returned by the school and/or you.

The amount of assistance that you have earned is determined on a pro-rata basis. For example, if you completed 30% of your payment period or period of enrollment, you earn 30% of the assistance you were originally scheduled to receive. Once you have completed more than 60% of the payment period or period of enrollment, you earn all the assistance that you were scheduled to receive for that period.

If you did not receive all of the funds that you earned, you may be due a post-withdrawal disbursement. If your post-withdrawal disbursement includes loan funds, your school must get your permission before it can disburse them. You may choose to decline some or all of the loan funds so that you don't incur additional debt. Your school may automatically use all or a portion of your post-withdrawal disbursement of grant funds for tuition, fees, and room and board charges (as contracted with the school). The school needs your permission to use the post-withdrawal grant disbursement for all other school charges. If you do not give your permission, you will be offered the funds. However, it may be in your best interest to allow the school to keep the funds to reduce your debt at the school.

There are some Title IV funds that you were scheduled to receive that cannot be disbursed to you once you withdraw because of other eligibility requirements. For example, if you are a first-time, first-year undergraduate student and you have not completed the first 30 days of your program before you withdraw, you will not receive any FFEL or Direct loan funds that you would have received had you remained enrolled past the 30th day.

If you receive (or your school or parent receives on your behalf) excess Title IV program funds that must be returned, your school must return a portion of the excess equal to the lesser of:

1. your institutional charges multiplied by the unearned percentage of your funds, or
2. the entire amount of excess funds. The school must return this amount even if it didn't keep this amount of your Title IV program funds.

If your school is not required to return all of the excess funds, you must return the remaining amount. Any loan funds that you must return, you (or your parent for a PLUS Loan) repay in accordance with the terms of the promissory note; that is, you make scheduled payments to the holder of the loan over a period of time. Any amount of unearned

grant funds that you must return is called an overpayment. The maximum amount of a grant overpayment that you must repay is half of the grant funds you received or were scheduled to receive. You must make arrangements with your school or the Department of Education to return the unearned grant funds.

The requirements for Title IV program funds when you withdraw are separate from any refund policy that your school may have. Therefore, you may still owe funds to the school to cover unpaid institutional charges. Your school may also charge you for any Title IV program funds that the school was required to return. You can view the tuition refund policy and requirements and procedures for withdrawing from school at **www.maricopa.edu/publicstewardship/governance/adminregs/students/2_2.php**

Veterans Services (AR 2.9)

The Maricopa Community Colleges' veterans services offices act as liaisons with the Department of Veterans Affairs. Each program must be approved by the State of Arizona Department of Veterans' Services. Students may be eligible to receive educational benefits if they are registered in courses that apply to the student's approved program. Application forms, counseling, advisement and tutoring are available for students who are eligible for veteran's educational benefits. Students applying for veteran's educational benefits should allow eight to ten weeks before receiving benefits. The amount of benefits awarded is determined by the Department of Veterans Affairs, and is based on the number of credit hours or clock hours for which a student is enrolled and the length of the enrollment period for each course.

Veteran's benefits available:

- Chapter 30 - Montgomery GI Bill
- Chapter 31 - Vocational Rehabilitation (separately served through the local VA office)
- Chapter 32 - VEAP Program
- Chapter 35 - Survivors and dependents of deceased/100% disabled veterans
- Chapter 1606 - Montgomery GI Bill, Selected Reserve

It is the student's responsibility to notify the office that serves veterans at their campus regarding any change in enrollment, address, program of study, enrollment at another institution, or any other change that may impact their veteran's educational benefits.

Those students receiving benefits must follow the VA academic progress policy to continue to receive benefits.

ACADEMIC PROGRESS POLICY FOR STUDENTS RECEIVING VETERAN'S EDUCATIONAL BENEFITS

Credit Hours for which Grade Points are Computed at Resident Maricopa Community College (A, B, C, D, F, and Y)	Minimum Grade Point Average Required
12-15	1.60
16-30	1.75
31-45	1.90
46+	2.00

Department of Veterans Affairs regulations require that all persons using any type of veteran educational assistance program be making satisfactory academic progress toward achievement of their educational objective (program of study). A student who does not meet the minimum standards (see above) will be placed on probation for a maximum of two (2) consecutive semesters. At this point, if satisfactory academic progress has not been demonstrated, veteran educational benefits will be terminated. **Benefits may be resumed when the student raises the cumulative grade point average to the required minimum standards or demonstrates the ability to meet these standards through the approval of a written appeal. For appeal procedures, contact the office that serves veterans at your campus.**

For additional details and information regarding veteran's educational benefits, contact the office that serves veterans at your campus.

Scholastic Standards

ACADEMIC LOAD (AR 2.3.1)

The following guidelines are for institutional purposes. Rules regarding academic load for financial aid eligibility, veteran benefits and athletic eligibility may be defined differently.

- Students carrying at least twelve (12) credit hours will be considered full-time students for the fall and spring semesters. Three-quarter-time is 9-11.9 credit hours. Half-time is 6-8.9 credit hours. Fewer than six (6) credit hours is considered less than half-time. Academic load for summer and special terms may be defined differently. Contact the Admissions and Records Office/Office of Student Enrollment Services for clarification.
- Courses may vary in length, and begin and end throughout the year. A credit hour indicates the value of an academic credit. Standards for the awarding of credit hours may be time based or competency based. To obtain credit, a student must be properly registered and must pay fees for the course. The fall and spring semesters are typically sixteen (16) weeks in length. Summer sessions are typically five or eight weeks in length.

- Students desiring to take more than eighteen (18) credit hours must obtain approval from the designated college official. Ordinarily, only students with a grade point average of 3.0 or higher for the preceding semester or first semester students who were in the upper quarter of their high school graduating class are permitted to carry more than eighteen (18) credit hours.
- Students participating in extra-curricular or co-curricular activities or receiving financial assistance may be required to maintain a specified minimum academic load.
- Students who are working, have considerable extra-curricular or co-curricular activities, or have been reinstated from academic suspension/probation should plan their academic load accordingly.

SCHEDULE CHANGES

Students may change their schedule by following the designated procedures at their college of enrollment. It is the student's responsibility to notify the college if he/she will no longer be attending class (see Appendix S-7 for Withdrawal Procedures).

ATTENDANCE (AR 2.3.2)

- Only persons who are registered for a class at any of the Maricopa Community Colleges may attend that class.
- Attendance requirements are determined by the course instructor. Students who do not meet the attendance requirement as determined by the course instructor may be withdrawn.
- Students who fail to attend the first scheduled class meeting, or to contact the instructor regarding absence before the first scheduled class meeting may, at the option of the instructor, be withdrawn.
- At the beginning of each course, each faculty member will provide students with written attendance requirements. It is the student's responsibility to consult with the instructor regarding official or unofficial absences. Absences begin to accumulate with the first scheduled class meeting.
- Students bear the responsibility of notifying the Admissions and Records Office/Office of Student Enrollment Services when they discontinue studies in a course or at the college. Please refer to Appendix S-7 for Withdrawal Procedures.

A. Official Absences

1. Official absences are those which occur when students are involved in an official activity of the college (e.g., field trips, tournaments, athletic events) and present an official absence excuse form. Absences for such events shall not count against the number of absences allowed by an instructor or department. Students who must miss a class for an official reason must obtain an official absence verification card from the appropriate vice president or designee, and present it to the appropriate instructor(s) before the absence. Prior arrangements must be made with each instructor for make-up work. If prior arrangements have been made, the student will not be penalized.
2. Other official absences include jury duty and subpoenas. Appropriate documentation will be required. Prior arrangements must be made with each instructor for makeup work. If prior arrangements have been made, the student will not be penalized.
3. In the event of the death of an immediate family member, absences for periods of up to one week will not be counted against the number of absences allowed by an instructor or department. Students should contact instructor(s) as soon as possible to arrange for make-up work. Appropriate documentation will be required (for example, a copy of the obituary or funeral program). In specialized programs that require clinical rotations, this regulation may not apply.

B. Religious Holidays

Students shall have the right to observe major religious holidays without penalty or reprisal by any administrator, faculty member or employee of the Maricopa Community Colleges. Absences for such holidays shall not count against the number of absences allowed by an instructor or department. At least one week before the holiday, students shall submit to their instructor(s) a written statement which includes both the date of the holiday and the reason why class attendance is impossible. Prior arrangements must be made with each instructor for make-up work. If prior arrangements have been made, the student will not be penalized.

GRADING (AR 2.3.3)

A. Policy

It is the policy of the Maricopa Community Colleges that a grade will be assigned at the conclusion of the course. Official grades are available on designated college web sites.

Grade Key

A	Excellent	4 grade points per credit hour
B	Above Average	3 grade points per credit hour
C	Average	2 grade points per credit hour
D	Passing	1 grade point per credit hour
F	Failure	0 grade point per credit hour
I	Incomplete	Not computed in grade point average
IP	Course In Progress	Not computed in grade point average
N	Audit	Not computed in grade point average
P*	Credit	Not computed in grade point average
W	Withdrawn, passing	Not computed in grade point average
Y	Withdrawn, failing (effective Fall 2000)	0 grade point per credit hour
Z	No Credit	Not computed in grade point average

* A "P" is judged to be equivalent to a grade of C or higher.

B. Incomplete Grade

- Students who are doing acceptable work may request an incomplete grade "I" if they are unable to complete the course requirements by the end of the term because of illness or other extenuating circumstances. If the request is approved by the instructor, he or she shall define, in a written contract, how the course will be completed. The contract will be filed with the Admissions and Records Office/Office of Student Enrollment Services.
- Students must complete the requirements within the time period agreed to—maximum time allowed is seven (7) months from the last date of class in which the grade of incomplete was assigned. Students who do not complete the requirements within seven (7) months will have their grade recorded in accordance with the written contract. Students should NOT reregister for the course to complete the contract.

C. Repeating a Course/Improving a Grade

To improve a previously earned grade, students may repeat the course up to three times after the initial attempt to improve a grade. (A "W" or "Y" is not considered an attempt.) Students planning to repeat a course should seek advisement prior to enrolling. The lower grade(s) for repeated courses will automatically be excluded from the grade point calculation. All enrollments in a course will appear on the transcript. Check individual courses and programs for exceptions.

D. Credit/No Credit Courses (P/Z)

- Some courses may be taken under a credit/no credit grading system. These courses carry grades of P (credit, equivalent to a grade of C or higher) or Z (no credit) and are not computed in the student's grade point average. Credits earned with a grade of P may be counted toward graduation with the exception of AGEC (Arizona General Education Curriculum).
- The prescribed time limits are for full semester classes. Time limits for classes which meet fewer than sixteen (16) weeks are adjusted accordingly. See "Important Deadlines for Students."
- In courses with credit/no credit (P/Z) grading, the student may request standard grading (A, B, C, D, F), within fourteen (14) days including the date of the first class meeting. The instructor must immediately notify the Admissions and Records Office/Office of Student Enrollment Services.
- In courses with standard grading (A, B, C, D, F), the instructor determines if the credit/no credit option is available. If the option is available, the student must obtain the permission of the instructor. The instructor must notify the Admissions and Records Office/Office of Student Enrollment Services within fourteen (14) days including the day of the first class meeting.
- It is the student's responsibility to verify the transferability of credit/no credit courses. Some universities place a limitation on the number of credit/no credit courses that can be transferred.

Advisory Note: *Some institutions outside the Maricopa Community Colleges may translate the Z grade as failing.*

E. Audit Courses

- Auditors are those who enroll in a course for the sole purpose of obtaining information; they receive no credit, grades, homework, or tests. If an auditor wishes to earn credit, he or she must change from audit status to credit status within the first week. If a student wishes to audit a course for which he or she is enrolled for credit, the change must be made within the first five (5) weeks of a semester. Auditors are subject to the same attendance policies as other students and must meet the same prerequisite requirements or obtain approval of the instructor. See the fee schedule for charges. Financial aid is not available for audited courses.
- The prescribed time limits are for full semester classes. Time limits for classes which meet fewer than sixteen (16) weeks are adjusted accordingly. See "Important Deadlines for Students."

F. Important Deadlines for Students

Class Length	Deadline for Students to Withdraw with Guaranteed Grade of W	Deadline for Students to Withdraw from a Course (Instructor Signature Required)	Deadline for Students to Request Complete Withdrawal from the College	Deadline to Change Type of Grading (A-F to P/Z or P/Z to A-F)	Deadline to Change from Audit Grade to Credit Grade	Deadline to Change from Credit Grade to Audit Grade
ONE WEEK OR LESS (1-7 days)	1st Day of Class	1st Day of Class or Prior to the Last Day of Class	1st Day of Class or Prior to the Last Day of Class	1st Day of Class	1st Day of Class	1st Day of Class
TWO WEEKS (8-14 days)	3rd Calendar Day	6th Calendar Day	6th Calendar Day	1st Day of Class	1st Day of Class	3rd Calendar Day
THREE WEEKS (15-21 days)	6th Calendar Day	12th Calendar Day	12th Calendar Day	2nd Calendar Day	1st Day of Class	5th Calendar Day
FOUR WEEKS (22-28 days)	9th Calendar Day	17th Calendar Day	17th Calendar Day	3rd Calendar Day	2nd Calendar Day	7th Calendar Day
FIVE WEEKS (29-35 days)	12th Calendar Day	23rd Calendar Day	23rd Calendar Day	4th Calendar Day	2nd Calendar Day	9th Calendar Day
SIX WEEKS (36-42 days)	14th Calendar Day	29th Calendar Day	29th Calendar Day	5th Calendar Day	3rd Calendar Day	11th Calendar Day
SEVEN WEEKS (43-49 days)	17th Calendar Day	35th Calendar Day	35th Calendar Day	5th Calendar Day	3rd Calendar Day	12th Calendar Day
EIGHT WEEKS (50-56 days)	20th Calendar Day	41st Calendar Day	41st Calendar Day	6th Calendar Day	3rd Calendar Day	15th Calendar Day
NINE WEEKS (57-63 days)	23rd Calendar Day	46th Calendar Day	46th Calendar Day	7th Calendar Day	4th Calendar Day	17th Calendar Day
TEN WEEKS (64-70 days)	26th Calendar Day	52nd Calendar Day	52nd Calendar Day	8th Calendar Day	4th Calendar Day	19th Calendar Day
ELEVEN WEEKS (71-77 days)	29th Calendar Day	58th Calendar Day	58th Calendar Day	9th Calendar Day	5th Calendar Day	21st Calendar Day
TWELVE WEEKS (78-84 days)	32nd Calendar Day	63rd Calendar Day	63rd Calendar Day	10th Calendar Day	5th Calendar Day	23rd Calendar Day
THIRTEEN WEEKS (85-91 days)	35th Calendar Day	70th Calendar Day	70th Calendar Day	10th Calendar Day	5th Calendar Day	25th Calendar Day
FOURTEEN WEEKS (92-98 days)	38th Calendar Day	76th Calendar Day	76th Calendar Day	11th Calendar Day	6th Calendar Day	27th Calendar Day
FIFTEEN WEEKS (99-105 days)	41st Calendar Day	82nd Calendar Day	82nd Calendar Day	12th Calendar Day	6th Calendar Day	28th Calendar Day
SIXTEEN WEEKS OR MORE (106 or more days)	End of the Seventh Week	2 Weeks Before the Last Class Period	2 Weeks Before the Last Class Period	Within 14 Days, Including the First Class Period	Within First Week of Class	Within First Five Weeks

Deadlines are based on calendar days and begin with the first day of class. Deadlines that fall on a weekend or holiday advance to the next college work day.

ACADEMIC PROBATION (PROGRESS) (AR 2.3.4)

A. Probation

A student will be placed on academic probation under the following conditions:

1. If, after completion of twelve (12) or more credit hours, the student's cumulative grade point average is less than:

Credit Hours for which Grade Points are Computed at Resident Maricopa Community College (A, B, C, D, F, and Y)	Minimum Grade Point Average Required
12-15	1.60
16-30	1.75
31-45	1.90
46 +	2.00

(Students should also be aware that graduation requires a cumulative minimum grade point average of 2.00).

2. If, in transferring from any accredited institution of higher education, the student's cumulative grade point average from other colleges and universities does not meet the requirements listed above. Students on academic probation may take no more than twelve (12) credit hours per semester unless approved by the Admissions and Standards Committee.

B. Continued Probation

A student on academic probation who fails to raise the cumulative grade point average to the required minimum standards (see above) will be placed on continued probation and may be limited to taking six (6) credit hours. Regulations regarding continued probation do not apply to the summer session. Credit hours earned in summer sessions will be included in the cumulative grade point average.

C. Admission of Suspended Students

Transfer students who do not meet the minimum grade point average listed under Scholastic Standards may be admitted on academic probation.

INSTRUCTIONAL GRIEVANCE PROCESS (AR 2.3.5 & APPENDIX S-6)

A student who feels that he or she has been treated unfairly or unjustly by a faculty member with regard to an academic process such as grading, testing, or assignments, has the right to appeal according to the approved procedures. The appeal process for grades expires one year from the date the grade was issued.

Steps for students to take:

1. Discuss the issue with the faculty member involved. This conference should be requested by the student within fifteen (15) working days from the time the student knew or reasonably should have known about the unfair or unjust treatment.
2. If, within ten (10) working days of the request for the conference with the faculty member, the problem is not resolved or the faculty member has been unable to meet with the student, the student may continue the process by filing a written complaint with the department/division chairperson and appropriate administrative officer at the college/center. This written complaint must be filed within ten (10) working days following the previous deadline. The written complaint will be given to the faculty member five (5) days before any official meetings are convened.
3. Upon receipt of a written complaint, the department/division chair or appropriate college administrative officer will work with the parties in an attempt to resolve the conflict. The faculty member may ask that the college faculty senate president be in attendance. Every attempt will be made to maintain confidentiality during this process. A faculty member will not be required to respond to a complaint which is not in writing and which, when appropriate, did not have specific documentation including dates, times, materials, etc. The written complaint will be made available to the faculty member.
4. If the grievance is not resolved at this level within ten working days, the student should forward to vice president of academic affairs or designee, a copy of the original written complaint with an explanation regarding action taken at each prior level. The vice president of academic affairs or designee will meet with the student, faculty member, the college faculty senate president if requested by the faculty member, and department/division chairperson and attempt to resolve the issues. This level will be the final step in any grievance process regarding grades.
5. If the grievance, other than those concerning grades, is not resolved by the vice president of academic affairs or designee, it may be forwarded in writing by the student to the college president for final resolution. The college president or designee will expedite a timely examination of the issues and will issue a final written determination in the grievance process.

NON-INSTRUCTIONAL (OUTSIDE THE CLASSROOM) COMPLAINT RESOLUTION PROCESS

A student who feels that he or she has been treated unfairly or unjustly by any employee with regard to a non-instructional process, such as administrative services, has the right to file a formal and written complaint according to the approved procedures.

Steps for students to take:

1. Discuss the issue with the employee involved. The student should request this conference within fifteen (15) working days from the time the student knew or reasonably should have known about the unfair or unjust treatment.
2. If, within ten (10) working days of the request for the conference with the employee, the problem is not resolved or the employee has been unable to meet with the student, the student may continue the process by filing a written complaint with the appropriate supervisor of the employee where authority exists to take corrective action. This written complaint must be filed within ten (10) working days following the previous deadline. The written complaint will be given to the employee five (5) working days before any official meetings are convened.
3. Upon receipt of a written complaint, the appropriate supervisor will work with the parties in an attempt to resolve the conflict. Every attempt will be made to maintain confidentiality during this process. An employee will not be required to respond to a complaint which is not in writing and which, when appropriate, does not have specific documentation including dates, times, actions, supporting documents, etc. The written complaint will be made available to the employee.
4. If the complaint is not resolved at this level within ten (10) working days, the student should forward to the appropriate college/center vice president or designee, a copy of the original written complaint with an explanation regarding action taken at each prior level. The vice president or designee will meet with the student, the employee, and the relevant supervisor and attempt to resolve the issues.
5. If the vice president or designee does not resolve the complaint, the student may forward it in writing to the college president for final resolution. The college president or designee will issue a final written determination in the complaint process.

WITHDRAWAL (AR 2.3.6)

- To withdraw from a course or courses from the college, students must follow approved procedures. The Admissions and Records Office/Office of Student Enrollment Services provides information about the withdrawal process.
- The official date of withdrawal is the date the withdrawal is received in the Admissions and Records Office/Office of Student Enrollment Services.
- Never attending is not an allowable refund exception or an excuse of the debt incurred through registration. Please see the refund policy.

STUDENT WITHDRAWAL PROCEDURES (APPENDIX S-7)

A. Withdrawal from Specific Courses

A student may officially withdraw from specific courses in the following ways:

1. Through the 7th week*, a student may initiate an official withdrawal from any course by completing the withdrawal process online using the student self service system or by submitting a course withdrawal form to Admissions and Records Office/Office of Student Enrollment Services in accordance with the published deadlines. A grade of W (withdrawn, passing –not computed in the grade point average) will be assigned.
2. After the 7th week*, a student must initiate a withdrawal request with the faculty member. If after consultation with the student, the faculty member approves the request, a grade of W (withdrawn, passing – not computed in the grade point average) or Y (withdrawn, failing – computed in the grade point average as a failing grade) will be assigned. If the request is not approved, the student will remain enrolled in the course.
3. A student has the right to appeal a withdrawal decision according to the approved procedures. Steps outlining the process are available in Appendix S-6.

The prescribed time limits are for full semester classes. Time limits for classes which meet fewer than sixteen (16) weeks are adjusted accordingly. See "Important Deadlines for Students" (www.maricopa.edu/publicstewardship/governance/adminregs/students/print/deadlines.pdf**). Failure to file an official withdrawal form may result in failing grades and responsibility for course tuition and fees. Refunds will only be processed within the Refund Period.*

B. Complete Withdrawal from College

Students electing to withdraw from the college must contact the Admissions and Records Office/Office of Student Enrollment Services no later than two weeks* before the end of the last class meeting and may be required to file a written request. A grade of W will be assigned in all courses for students who withdraw by the end of the 7th week* of classes. Withdrawals completed after this time will result in a grade of W (withdrawn, passing – not computed in the grade point average) or Y (withdrawn, failing – computed in the GPA as a failing grade).

The prescribed time limits are for full semester classes. Time limits for classes which meet fewer than sixteen (16) weeks are adjusted accordingly. See "Important Deadlines for Students"(**www.maricopa.edu/publicstewardship/governance/adminregs/students/print/deadlines.pdf). Failure to file an official withdrawal form may result in failing grades and responsibility for course tuition and fees. Refunds will only be processed within the Refund Period.*

C. Withdrawal of Financial Aid Students

In accordance with federal regulations (CFR 668.22), a student may be required to repay federal financial aid funds if they completely withdraw or are withdrawn, or fail to earn a passing grade from all classes during a semester. Further information is available at the college Office of Student Financial Aid. This could affect a student's ability to receive financial aid in the future at any school.

FACULTY WITHDRAWAL PROCEDURES (APPENDIX S-7)

A faculty member has the option of withdrawing a student who has accumulated unofficial absences in excess of the number of times a class meets per week. Students withdrawn for excessive absences may be reinstated only with the approval of the faculty member. A grade of W will be assigned through the 7th week*. After the 7th week*, a grade of W or Y will be assigned. Faculty members electing to withdraw students must record the withdrawal through the online system, including last date of attendance and withdrawal code.

The prescribed time limits are for full semester classes. Time limits for classes which meet fewer than sixteen (16) weeks are adjusted accordingly. See "Important Deadlines for Students"(**www.maricopa.edu/publicstewardship/governance/adminregs/students/print/deadlines.pdf). Failure to file an official withdrawal form may result in failing grades and responsibility for course tuition and fees. Refunds will only be processed within the Refund Period.*

ACADEMIC RENEWAL (AR 2.3.7)

Students who are returning after a separation of five (5) years or more from the Maricopa Community College District may petition for academic renewal. The request must be in writing and submitted to the Admissions and Records Office/Office of Student Enrollment Services at the college where the grades were earned.

Academic renewal at one of the Maricopa Community Colleges does not guarantee that colleges outside the Maricopa Colleges will accept this action. Acceptance of academic renewal is at the discretion of the receiving institution.

A. Prior to petitioning for academic renewal, the student must demonstrate renewed academic performance by earning a minimum of twelve (12) credit hours and a cumulative grade point average of 2.5 or higher within Maricopa Colleges after reenrollment.

B. Upon approval, all courses taken prior to reenrollment with a grade of "A," "B," "C," "D," "F," and "Y" will be annotated as academic renewal on the student's permanent record. All coursework affected by academic renewal will not be computed in the grade point average. Courses with grades "A," "B," or "C" will have the associated credit hours counted in the total credit hours earned. Such credit will not be computed in the grade point average.

C. All coursework will remain on the student's permanent academic record, ensuring a true and accurate academic history.

D. The academic renewal policy may be used only once at each college and cannot be revoked once approved.
E. Students who have been granted Academic Renewal must also meet the Financial Aid Standards of Academic Progress if they wish to receive financial aid.

HONORS PROGRAM (AR 2.3.8)

Each of the Maricopa Community Colleges has an honors program. Interested students should contact the college honors coordinator for information about the program and available scholarships, including the Chancellor's, Foundation's, and President's Scholarships.

PRESIDENT'S HONOR LIST

The President's Honor List for each college consists of all students who complete twelve (12) or more credit hours in residence in courses numbered 100 or higher in a given semester with a college semester grade point average of 3.75 or higher.

GENERAL GRADUATION REQUIREMENTS (AR 2.3.9)

Note: *Also see "Catalog Under Which a Student Graduates (AR 2.2.5)"*

All students are required to complete the degree and/or certificate requirements as approved by the Maricopa Community Colleges Governing Board. The college reserves the right to make necessary course and program changes in order to meet current educational standards. In addition, students must:

1. Be credited in the Admissions and Records Office/Office of Student Enrollment Services with not fewer than: 60 semester credit units in courses numbered 100 or above for the Associate in Arts degree, Associate in Science degree, Associate in Transfer Partnership degree, and Associate in General Studies degree; 60 semester credit units for the Associate in Applied Science degree; 62 semester credits for the Associate in Business degrees. For specific certificate programs, be credited with not fewer than the minimum total of credit units required for the certificate program.

   Students not continuously enrolled, as outlined in the Catalog Under Which a Student Graduates policy, must satisfy current graduation requirements.

2. Have earned a minimum of 12 semester credit units toward the degree or certificate at the District college granting the degree or certificate. The 12 hours in the AAS degree curricula may be in the Required Courses area and/or Restricted Electives courses. Courses from the General Education Core and Distribution area are excluded. In cases where the certificate requires fewer than 12 credit units, a minimum of six credit units must be completed at the college awarding the certificate. The minimum of six credit hours in the certificate or degree curricula may be in the Required Courses area and/or the Restricted Electives. Courses from the General Education Core and Distribution areas are excluded.
   - Shared Programs are programs offered at multiple colleges but not available at all colleges. The requirements are identical at all the colleges offering the program.
   - A shared program requires a minimum of six credit hours from the total program requirements to be completed with a grade of "C" or better at the college awarding the certificate or degree. The exception is the Nursing program. For those shared programs with less than six credit hours, the total hours for the program must be completed at the college awarding the certificate.
3. Have filed an application for the degree or certificate with the Admissions and Records Office/Office of Student Enrollment Services on the date determined by the college/center. Students must apply for graduation from the college where they have successfully completed Block 4 of the Associate in Applied Science in Nursing.
4. Have a minimum cumulative grade point average of 2.000 at the college granting the degree.
5. Have a minimum cumulative grade point average of 2.000 in all courses used to fulfill degree requirements. Some specific programs have higher grade requirements. It is the student's responsibility to be aware of these program requirements.
6. Have removed, thirty (30) days after the anticipated graduation date, all deficiencies on the record to use those courses toward program completion.
7. Have removed any indebtedness to any MCCCD college/center.
8. Have paid required degree or certificate application fee. See fee schedule for charges.

Graduation with Honors

All courses used to fulfill graduation requirements, including courses from other accredited institutions, will be entered in the grade point average calculation for honors designations.

Students who have the following grade point averages will graduate with the following distinctions:

- to 3.69 "with distinction"
- to 3.89 "with high distinction"
- 3.90 to 4.0 "with highest distinction"

Graduation – Honors Program students who meet all the requirements of the Honors Program at the District. College granting the degree will be designated as Honors Program Graduates.

CERTIFICATES/DEGREES

The Maricopa Community Colleges offer Certificates of Completion as well as Associate Degrees, one of which is conferred on each student who has completed a program of study. These certificates and degrees are as follows:

1. Certificate of Completion (Career Program Specified)
2. Academic Certificate
3. General Education Certificate
4. Associate in Arts
5. Associate in Science
6. Associate in Business

7. Associate in General Studies
8. Associate in Transfer Partnership
9. Associate in Applied Science (Career Program Specified)

All candidates for a degree and/or certificate must complete the General Graduation Requirements as approved by the Maricopa Community Colleges Governing Board.

All students are urged to meet with a faculty advisor, program advisor or counselor as soon as possible to determine which program meets their needs and to plan their course of study.

GRADUATE GUARANTEE POLICY

The Governing Board believes so strongly in the quality of its colleges' occupational training programs that it guarantees graduate competence.

1. Graduation from an Associate in Applied Science (AAS) is designed to prepare a person for entry-level employment in a specific career field. A graduate's ability to perform approved program competencies will be judged by employers. Should the employer of a graduate who has earned an AAS Degree find the employee lacking in the technical skills normally expected of an entry-level employee in the specific career field for which that graduate prepared, the District will provide the graduate with up to the equivalent of twelve (12) credit hours of retraining for no additional tuition.
2. Because technical occupations change rapidly, initial employment in an AAS Degree-related field must occur within one year of graduation from the AAS Degree program in question.

   Retraining needs to occur as cost effectively as possible. The graduate's employer must present a list of the graduate's skill deficiencies to the appropriate vice president or designee at the graduate's alma mater. All retraining will be completed in a reasonable time as agreed to by the employer, the student, and the college.

LICENSURE DISCLAIMER

Maricopa Community Colleges courses and programs prepare students for entry into a variety of professions. Many of these professions require that a person hold an occupational license or certificate in order to work in a particular field. Typically, a person must meet certain legal requirements before obtaining such a license or certificate. These requirements are established by county, state or federal agencies, and often are based on a person's character, or whether the person has been convicted of a criminal offense. It is possible for a student who has obtained a degree or certificate from a community college to be denied the right to work in a particular profession after completing the degree or certificate because of concerns over the student's character or criminal background. Any student preparing to enter a field for which a professional license or certificate is required is strongly advised to consult with the appropriate government agency that issues such credentials. That agency can provide the student complete information about any requirements the law imposes for working in a particular occupation.

MCCCD GENERAL EDUCATION STATEMENT

The general education core of the program of study for an associate degree or a certificate helps students develop a greater understanding of themselves, of their relationship with others, and of the richly diverse world in which they live. The general education experience provides students with opportunities to explore broad areas of commonly held knowledge and prepares them to contribute to society through personal, social, and professional interactions with others. General education fosters students' personal development by opening them to new directions, perspectives, and processes.

Through its general education requirements, the Maricopa County Community College District is committed to helping students develop qualities and skills that will serve them throughout their lives. General education opportunities encourage students to:

- Build self-awareness, self-respect, and self-confidence
- Recognize and respect the beliefs, traditions, abilities, and customs of all people and all cultures
- Consider the local, global, and environmental impacts of personal, professional, and social decisions and actions
- Access, evaluate, analyze, synthesize, and use information wisely
- Communicate effectively personally, socially, and professionally
- Think critically, make informed decisions, solve problems, and implement decisions
- Consider the ethical implications of their choices
- Value the learning process throughout their lives
- Integrate and connect ideas and events in a historical perspective, and see relationships among the past, the present, and the future
- Develop a personal sense of aesthetics
- Use technological resources appropriately and productively
- Work cooperatively and respectfully with others to serve their communities

The general education experience at MCCCD is composed of specific elements across the curriculum designed to provide the learner with essential knowledge and skills:

- Communication
- Arts and Humanities
- Numeracy
- Scientific Inquiry in the Natural and Social Sciences
- Information Literacy
- Problem-Solving and Critical Thinking
- Cultural Diversity

GENERAL EDUCATION DESIGNATIONS (EXAMPLE: [FYC], [SB], [HU], ETC.)

Effective Fall 2000 the course evaluation and/or general education designation as listed in the Arizona CEG (Course Equivalency Guide) within the Arizona Course Applicability System (AZCAS) is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change.

Given that curriculum is dynamic at both MCCCD and the institutions to which MCCCD students transfer, students have the option to petition for general education evaluations and/or general education designations.

The college reserves the right to make necessary course and program changes in order to meet current educational standards.

CATALOG UNDER WHICH A STUDENT GRADUATES (AR 2.2.5)

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 single catalog in effect during subsequent terms of continuous enrollment. Students may maintain continuous enrollment whether attending a single public community college or university in Arizona or transferring among public institutions in Arizona while pursuing their degrees.

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

EXAMPLE A:

Admitted & Earned Course Credit at a Public Community College or University . . . . . Fall '93 (Active)

Continued at a Public Community College . . . . Spring '94, Fall '94 (Active)

Transferred to a University. . . Spring '95 (1993 or Any Subsequent Catalog)

EXAMPLE B:

Admitted & Earned Course Credit at a Public Community College or University. . . . . Fall '92 (Active)

Enrolled But Earned All Ws, Zs, or Fs . . . . . Spring '93 (Inactive)

Enrolled in Audit Courses Only . . . . Fall '93 (Inactive)

Nonattendance . . . . . Spring '94 (Inactive)

Transferred to a University. . . . . Fall '94 (1994 or Any Subsequent Catalog)

2. Students who do not meet the minimum enrollment standard stipulated in No. 1 during three consecutive semesters (fall/spring) and the intervening summer term* at any public Arizona community college or university are no longer considered continuously enrolled, and must meet requirements of the public Arizona community college or university catalog in effect at the time they are readmitted or of any single catalog in effect during subsequent terms of continuous enrollment after readmission.

EXAMPLE A:

Admitted & Earned Course Credit at a Public Community College or University. . . . . Fall '92 (Active)

Nonattendance . . . Spring '93, Fall '93, Spring'94 (Inactive)

Readmitted & Earned Course Credit at a Public Community College . . . . . Fall '94 (Active)

Transferred to a University. . . Spring '95 (1994 or Any Subsequent Catalog)

EXAMPLE B:

Admitted & Earned Course Credit at a Public Community College or University . . . Fall '92 (Active)

Nonattendance . . . . . Spring '93 (Inactive)

Readmitted & Earned Course Credit at a Public Community College . . . . . Summer '93 (Active)

Nonattendance . . . . . Fall '93, Spring '94 (Inactive)

Transferred to a University. . . . . Fall '94 (1992 or Any Subsequent Catalog)

**Students are not obligated to enroll and earn course credit during summer terms, but summer enrollment may be used to maintain continuous enrollment status.*

3. Students admitted or readmitted to a public Arizona community college or university during a summer term must follow the requirements of the catalog in effect the following fall semester or of any single catalog in effect during subsequent terms of continuous enrollment.

EXAMPLE:

Admitted & Earned Course Credit at a Public Community College or University. . . . . Summer '94 (Active)

Continued at a Public Community College . . . . Fall '94, Spring '95 (Active)

Nonattendance . . . . . Fall '95 (Inactive)

Readmitted & Earned Course Credit at a Public Community College . . . . . Spring '96 (Active)

Transferred to a University. . Summer '96 (1994 or Any Subsequent Catalog)

4. Students transferring among Arizona public higher education institutions must meet the admission requirements, residency requirements, and all curricular and academic requirements of the degree-granting institution.

Note: University Department Time Limit for Transfer 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 degree requirements at the discretion of the student's major department at the university. University 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 fewer than eight years. University 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.

The college reserves the right to make necessary course and program changes in order to meet current educational standards.

TRANSCRIPTS FOR TRANSFER (AR 2.3.10)

The transcript is issued upon written request only. Those students who want to transfer to other institutions of higher education, including other Maricopa Community Colleges, must request their transcripts be sent from the Admissions and Records Office/Office of Student Enrollment Services. However, transcripts may be shared within the Maricopa Community College District without the written request of the student in compliance with FERPA.

Official transcripts will not be issued to students having outstanding debts to any of the Maricopa Community Colleges. The release of transcripts is governed by the guidance of the Family Education Rights and Privacy Act of 1974 (see Records Policy section). There is no charge for unofficial transcripts, or for official transcripts sent between Maricopa Community Colleges. See the Tuition and Fees Schedule for charges for other official transcripts.

COLLEGE ENVIRONMENT

SEXUAL HARASSMENT POLICY (AR 2.4.4 & 5.1.8-17)

The policy of the Maricopa Community Colleges is to provide an educational, employment, and business environment free of unwelcome sexual advances, requests for sexual favors, and other verbal and/or physical conduct or communications constituting sexual harassment as defined and otherwise prohibited by local, state, and federal law.

Sexual harassment by and between employees, students, employees and students, and campus visitors and students or employees is prohibited by this policy.

Violations of this policy may result in disciplinary action up to and including termination of employees, sanctions up to and including suspension or expulsion of students, and appropriate sanctions against campus visitors.

This policy is subject to constitutionally protected speech rights and principles of academic freedom. Questions about this policy may be directed to the Maricopa Community Colleges Equal Employment Opportunity/Affirmative Action (EEO/AA) Office.

Examples of Policy Violations (AR 5.1.9)

It shall be a violation of Maricopa Community College's Sexual Harassment Policy for any employee, student or campus visitor to:

A. Make unwelcome sexual advances to another employee, student or campus visitor;
B. Make unwelcome requests for sexual favors, whether or not accompanied by promises or threats with regard to the employment or academic relationship;
C. Engage in verbal or physical conduct of a sexual nature with another employee, student or campus visitor, that may threaten or insinuate, either explicitly or implicitly, that the individual's submission to, or rejection of, the sexual advances will in any way:
    1. Influence any personnel decision regarding that person's employment, evaluation, wages, advancement, assigned duties, shifts or any other condition of employment or career development; or
    2. Influence his or her grades, participation in or access to academic programs, class standing or other educational opportunities;
D. Engage in verbal or physical conduct of a sexual nature that:
    1. Has the purpose or effect of substantially interfering with an employee's ability to do his or her job; or with a student's ability to learn or participate in a class; or
    2. Which creates an intimidating, hostile or offensive work or academic environment;
E. Commit any act of sexual assault or public sexual indecency against any employee or student whether on Maricopa Community Colleges' property or in connection with any Maricopa Community Colleges-sponsored activity;
F. Continue to express sexual interest in another employee, student or campus visitor after being informed or on notice that the interest is unwelcome (reciprocal attraction is not considered sexual harassment);
G. Engage in other sexually harassing conduct in the workplace or academic environment, whether physical or verbal, including, but not limited to, commentary about an individual's body (or body parts), sexually degrading words to describe an individual, sexually offensive comments, sexually suggestive language or jokes, innuendoes, and sexually suggestive objects, books, magazines, computer software, photographs, cartoons or pictures.

Additional Policy Violations (AR 5.1.10)

Supervisors, managers, administrators and faculty who disregard or fail to report allegations of sexual harassment (whether reported by the person who is the subject of the sexual harassment or a witness) are in violation of this policy.

Responsibility for Policy Enforcement (AR 5.1.11)

- Every Maricopa Community Colleges employee and student must avoid offensive or inappropriate sexual and/or sexually harassing behavior at work or in the academic environment.
- Employees and students are encouraged (but not required) to inform perceived offenders of this policy that the commentary/conduct is offensive and unwelcome.

Complaints (AR 5.1.12)

A. Employees

Employees who experience sexual harassment at work (by a supervisor, co-employee, student or visitor) are urged to report such conduct to the direct attention of their supervisor, their college president or to the Maricopa Community Colleges Equal Employment Opportunity/Affirmative Action Office (480-731-8885). If the complaint involves the employee's supervisor or someone in the direct line of supervision, or if the employee for any reason is uncomfortable in dealing with his or her immediate supervisor, the employee may go directly to the Maricopa Community Colleges EEO/AA Office.

B. Students

Students who experience sexual harassment in the academic environment (by a faculty member, administrator, campus visitor or other student) are urged to report such conduct to the vice president of student affairs or designee at each individual campus. A student may also contact the Maricopa Community Colleges EEO/AA Office to obtain the name and phone number of the college official designated to respond to sexual harassment complaints.

C. General - Applicable to Both Employees and Students

- Complaints will be investigated according to procedures established by the Maricopa Community Colleges EEO/AA Office. Copies of these procedures may be obtained in the college president's office, Office of the Vice President of Student Affairs and the Maricopa Community Colleges EEO/AA Office.
- The college/center/MCCCD will investigate all complaints as professionally and expeditiously as possible.
- Where investigation confirms the allegations, appropriate responsive action will be taken by the college/center/MCCCD.

Confidentiality (AR 5.1.13)

Records will be maintained in a confidential manner to the extent permitted by law and insofar as they do not interfere with Maricopa Community Colleges' legal obligation to investigate and resolve issues of sexual harassment.

Violations of Law (AR 5.1.14)

An employee or student may be accountable for sexual harassment under applicable local, state, and/or federal law, as well as under Maricopa Community Colleges policy. Disciplinary action by Maricopa Community Colleges may proceed while criminal proceedings are pending and will not be subject to challenge on the grounds that criminal charges involving the same incident have been dismissed or reduced.

False Statements Prohibited (AR 5.1.15)

Any individual who knowingly provides false information pursuant to filing a discrimination charge or during the investigation of a discrimination charge will be subject to appropriate disciplinary action, up to and including employment termination or academic dismissal.

Retaliation Prohibited (AR 5.1.16)

Retaliation against an employee or student for filing a sexual harassment complaint, or participating in the investigation of a complaint, is strictly prohibited. Maricopa Community Colleges will take appropriate disciplinary action, up to and including employment termination or academic dismissal if retaliation occurs.

EMISSIONS CONTROL COMPLIANCE (AR 2.4.6)

Pursuant to A.R.S. §15-1444 C no vehicle shall be allowed to park in any college parking lot unless it complies with A.R.S. §49-542 (the vehicle emissions inspection program). At the time of course registration, every out-of-county and out-of-state student will be required to sign an affidavit stating that the student's vehicle meets the requirements of A.R.S. §49-542. Vehicles which are not in compliance are subject to being towed at the owner's expense.

PETITION SIGNATURE SOLICITATION (AR 2.4.8)

A. This regulation shall govern access to college premises by representatives who wish to solicit signatures on petitions for the purpose of submission of a ballot proposition to voters, or nomination of a candidate for elective office, in a city-, county-, or state-wide election.

B. Each college president shall designate general hours of accessibility for solicitation and a location on college premises where all representatives on behalf of any candidate or ballot proposition may solicit signatures. The location shall be in a common area where the solicitation will not serve as an obstruction to student activities or otherwise disrupt the college environment.

C. All solicitation must take place in designated areas. Standard space may include one or two tables and chairs. Campus restrictions regarding amplification will apply. Representatives may not distribute or make available to students, employees, or college visitors any tangible item, except for informational literature about the proposed candidate or ballot initiative.

D. Representatives shall notify the designated official at each college or center of their intent to be present on college premises no fewer than three working days prior to soliciting signatures. Upon obtaining authorization, representatives shall be provided a written version of this regulation.

SOLICITATION (AR 2.4.9)

A. Definitions

A "solicitor" is any non-Maricopa Community Colleges-affiliated entity that would, on the premises of any Maricopa Community College or Center, purport to sell or promote any product, service, or idea, but does not include such an entity that would enter the premises for the purposes of promoting, opposing, or soliciting petition signatures in connection with any political candidate or initiative, or referendum ballot.

A "special event" is a college-sponsored event conducted on college premises for the benefit of students that is based on a particular theme, and for which the college has deemed it essential to invite the participation of solicitors whose products, services or ideas are pertinent to the special event's theme.

B. Requirements

1. A solicitor must notify the designated official at each college or center of their intent to solicit on college or center premises. A solicitor who would purport to sell any product or service is responsible for obtaining any necessary tax licenses and must submit to the designated official a certificate of commercial liability insurance and pay to the college or center, in consideration for the opportunity for solicitation, a fee in the amount of $50 per day or $125 per full week.
2. Campus restrictions regarding location, time, date, and use of amplification may apply. All requests for space shall be granted on a first-come, first-served basis only upon completion of the requirements contained in this regulation.
3. All solicitation must take place at tables in designated areas. Standard space will be one or two tables and chairs. Solicitors may be limited to no more than fifty (50) hours of solicitation activity per semester at each college or center.

   By requesting the opportunity for solicitation on the premises of a college or center, a solicitor warrants that it may lawfully sell or promote its product, service or idea and that such activity does not violate any law, and does not violate any trademark, copyright, or similar proprietary interest. The activity of any solicitor may not violate any existing Maricopa contract.

   The president of every college or center shall establish for such location restrictions governing the activities of solicitors. Such restrictions shall supplement, but shall not replace or waive, this regulation.

   A college may waive the fee prescribed in this regulation for any solicitor's participation in a special event if the college determines that such participation will be of particular educational benefit to the interests of that college's students; the participation is sponsored by a club, organization, or academic division; and the participation is approved by the college's Student Life and Leadership department. A college may waive both the fee and the insurance certificate requirements prescribed in this regulation for a student purporting to sell or promote a product or service at a special event, provided that:
   a. Such product or service presents low risk of harm to a potential user;
   b. The product or service is not food or food-related and;
   c. The student is soliciting solely on his or her own behalf and not pursuant to any sales agreement, commission agreement, or similar affiliation or contractual relationship with another entity.
4. Any solicitor who violates this regulation may be deemed a trespasser on college or center premises, and therefore subject to appropriate prosecution within the discretion of the College Safety department and other responsible officials at the college or center. The Maricopa County Community College District, its colleges and centers assume no responsibility - financial or otherwise - for the acts or omissions of any vendor whose presence on college premises pursuant to this regulation is approved by any college official.

CHILDREN ON CAMPUS (AR 2.4.10)

- Children (younger than 18) may not attend any class unless they are officially registered for the class.
- Children will not be allowed on campus unless participating in an authorized college program or under the supervision of an adult.

CRIME AWARENESS AND CAMPUS SECURITY ACT (AR 2.4.11)

Federal legislation requires the college to maintain data on the types and number of crimes on college property as well as policies dealing with campus security. To obtain additional information on this subject, contact the college Safety and Security Department.

WORKPLACE VIOLENCE PREVENTION (AR 2.4.12)

It is the policy of the Maricopa Community Colleges to promote a safe environment for its employees, students, and visitors. The Maricopa Community Colleges are committed to working with its employees to maintain an environment free from violence, threats of violence, harassment, intimidation, and other disruptive behavior.

Violence, threats, harassment, intimidation, and other disruptive behavior in our facilities will not be tolerated, and it is the responsibility of all members of the Maricopa Community Colleges to report any occurrence of such conduct. Every employee, student and visitor on Maricopa Community College District property is encouraged to report threats or acts of physical violence of which he/she is aware. All reports will be taken seriously and will be dealt with appropriately. Such behavior can include oral or written statements, gestures, or expressions that communicate a direct or indirect threat of physical harm.

This policy applies to employees and students as well as independent contractors and other non-employees doing business with the Maricopa Community Colleges. Individuals who commit such acts may be removed from the premises and may be subject to disciplinary action, criminal penalties, or both. The Chancellor is hereby instructed to enact all administrative regulations necessary to implement this policy.

STUDENT RIGHT TO KNOW (AR 2.4.13)

Under the terms of the Student Right To Know Act, the college must maintain and report statistics on the number of students receiving athletically related student aid reported by race and sex, the graduation rate for athletes participating in specific sports reported by race and sex, the graduation rate for students in general reported by race and sex and other similar statistics. To obtain copies of these reports, contact the Admissions and Records Office/Office of Student Enrollment Services.

Student Rights and Responsibilities

COPYRIGHT ACT COMPLIANCE (AR 2.4.5)

Students are expected to comply with the provisions of the Copyright Act of 1976 pertaining to photocopying of printed materials, copying of computer software and videotaping. In order to assist students in complying with the Copyright Law, appropriate notices shall be placed on or near all equipment capable of duplicating copyrighted materials.

COPYRIGHT REGULATION (AR 3.2)

A. It is the intent of the Governing Board of the Maricopa County Community College District to adhere to the provisions of the U.S. Copyright Law (Title 17, United States Code, Section 101, et seq.). Though there continues to be controversy regarding interpretation of the Copyright Law, this policy represents a sincere effort by the Board to operate legally within the District.

B. The Governing Board directs the Chancellor or his designee(s) to develop and distribute to employees guidelines that (1) clearly discourage violation of the Copyright Law and (2) inform employees of their rights and responsibilities under the Copyright Law.

C. Each college president or provost and the Chancellor shall name an individual(s) at each District location who will assume the responsibilities of distributing copyright guidelines, act as a resource person regarding copyright matter and provide training programs on current copyright laws.

D. Employees are prohibited from copying materials not specifically allowed by the (1) Copyright Law, (2) fair use guidelines, (3) licenses or contractual agreements, or (4) other permission.

E. The Governing Board disapproves of unauthorized duplication in any form. Employees who willfully disregard this Board policy and/or the aforementioned copyright guidelines do so at their own risk and assume all liability for their actions.

F. In order to assist employees and students in complying with the Copyright Law, appropriate notices shall be placed on or near all equipment capable of duplicating copyrighted materials.

WHAT STUDENTS SHOULD KNOW ABOUT COPYRIGHT

What is copyright?

- Copyright is a protection afforded under federal law for various types of creative works. A work is copyrightable if it is an original work of authorship fixed in a tangible medium of expression. Copyrightable works include literary, musical or dramatic works; motion pictures and other audiovisual works; choreographic works and pantomimes; sound recordings; and architectural works.
- The owner of a copyright in a particular work has the exclusive right to copy, display, perform, distribute, and create a derivative version of the work. Generally, this means that you may not duplicate, show or perform a copyrighted work unless it is expressly allowed under the Copyright Act or you have the prior permission of the copyright holder.
- A copyright exists in a work at the time it becomes fixed in some tangible medium of expression. Neither registration of the copyright with the federal government nor a copyright notice on the work itself is required for copyright protection.

What is copyright infringement?

Generally, copyright infringement occurs when you copy, display, perform, distribute or create a derivative version of a copyrightable work either without the permission of the copyright holder or when such activity is not otherwise allowed under an exception provided by federal copyright law. The penalties for infringement include significant damages—potentially in excess of $100,000 for each work infringed.

How does copyright law affect information I obtain off the Internet?

Copyright law covers works in both traditional and new media, including digital media. Copyrightable materials are often available on the Internet without any indication of their copyrighted status. As a rule of thumb, you should assume that everything you find on the Internet is copyrighted unless otherwise labeled. Even popular activities, such as file swapping or copying software or pictures from the Internet, may be copyright infringement and should be avoided.

The Digital Millennium Copyright Act, which Congress enacted in 2000, affords greater protection for copyright holders of digital works. Generally, even if a work appears solely in a digital form, it is likely subject to copyright law protections.

New technology has made many creative works widely available through the Internet. For example, the technology known as Peer to Peer (P2P) allows for the transmission of music, videos, movies, software, video games and other materials—most of which is subject to copyright protection.

Remember that a copyright exists in a work at the time it becomes fixed in some tangible medium of expression. That means that an image you have downloaded from the Internet, as well as a video or musical performance, is almost certainly subject to copyright protection. When you download these works, transfer them to a disk or other medium, or send them to a friend, you are infringing on the rights of the copyright holder. Trafficking in such material without the permission of the copyright holder, then, violates copyright law. This includes unauthorized music file sharing over the Internet.

According to a statement recently issued by representatives of the motion picture, recording and songwriting industries, uploading and downloading copyrighted works over the Internet is theft: "It is no different from walking into the campus bookstore and in a clandestine manner walking out with a textbook without paying for it."

Why is it important for a student to be aware of copyright law?

Copyright infringement is expressly prohibited by the U.S. Copyright Act. Anyone who infringes another's copyright in a creative work is subject to liability, and could be required to pay large sums in damages.

In addition, as the law clearly prohibits copyright infringement, using any college resources—such as photocopiers, desktop and laptop computers, printers, central computing facilities, local-area or college-wide networks, Internet access, or electronic mail—for the purpose of infringing a copyright in any work may be grounds for student discipline. According to Maricopa Community College District administrative regulation, "Students are expected to comply with the provisions of the Copyright Act of 1976 pertaining to photocopying of printed materials, copying of computer software and videotaping."

Moreover, under the Maricopa Community Colleges Computing Resource Standards, a student is prohibited from the xuse of software, graphics, photographs, or any other tangible form of expression that would violate or infringe any copyright or similar legally-recognized protection of intellectual property rights. The Standards also prohibit transmitting, storing, or receiving data, or otherwise using computing resources in a manner that would constitute a violation of state or federal law.

A student who violates these policies, then, can be disciplined at any of the Maricopa Community Colleges. This discipline could include suspension or even expulsion.

Does copyright law allow me to download files from a college web site?

Thanks to recent changes to copyright law, colleges and universities are allowed to transmit copyrighted images, recordings, and other materials over the Internet in connection with distance-learning offerings. These changes allow for the performance of non-dramatic literary works or musical works, as well as the display of "reasonable and limited portions" of any work in an amount comparable to that typically displayed in a live classroom setting. Use of the works must, however, be "an integral part" of the distance-learning class session, and available solely to students enrolled in the class. In addition, the transmission of the copyrighted works must be under the direction or actual supervision of a faculty member.

Even though the college does not hold the copyright to these works, or even have the express permission of the copyright holder, they may be delivered over the Internet to students in distance learning classes.

The fact that the law authorizes such use of copyrighted materials, though, does not allow a student in these classes to freely download, copy, or re-transmit the works. They are intended solely for use by the institution in connection with distance instruction; any other use would likely constitute a violation of copyright law.

To learn more about copyright, go to: http://www.dist.maricopa.edu/legal/ and click on "Intellectual Property." While you're there, you should read the Maricopa Community Colleges' Copyright Guidelines. You should also review the complete text of the Computer Resource Standards which can be found under the "Information Technology" link. The Standards also appear in college catalogs and student handbooks.

TAPING OF FACULTY LECTURES (AR 3.4)

The Maricopa Community Colleges acknowledge that faculty members are, by law, afforded copyright protection in their classroom lectures and, therefore, may limit the circumstances under which students may tape (audio/visual) their classes.

Each faculty member shall inform his/her students within the first week of classes to his/her policy with regard to taping. Failure to do so will accord students the right to tape lectures.

Students with disabilities that render them unable to take adequate lecture notes are entitled to reasonable accommodation to remedy this inability. Accommodation may require a faculty member to exempt a student from his/her taping policy.

TECHNOLOGY RESOURCE STANDARDS (AR 4.4) INTRODUCTION

The Maricopa County Community Colleges District (MCCCD) provides its students and employees access to information resources and technologies. Maricopa recognizes that the free exchange of opinions and ideas is essential to academic freedom, and the advancement of educational, research, service, operational and management purposes is furthered by making these resources accessible to its employees and students.

At Maricopa, technological resources are shared by its users; misuse of these resources by some users infringes upon the opportunities of all the rest. As Maricopa is a public institution of higher education, the proper use of these resources is all the more important. Maricopa requires users to observe constitutional and other legal mandates whose aims are to safeguard and appropriately utilize technology resources that are acquired and maintained with public funds.

General Responsibilities

Technology resources (including, but not limited to, desktop and laptop systems, printers, central computing facilities, District-wide or college-wide networks, local-area networks, access to the Internet, electronic mail and similar electronic information) of the Maricopa County Community Colleges District are available only to authorized users, and any use of these resources is subject to these Standards. All users of Maricopa's technology resources are presumed to have read and understood the Standards. While the Standards govern use of technology resources District-wide, an individual community college or center may establish guidelines for technology resource usage that supplement but do not replace or waive these Standards.

Acceptable Use

Use of Maricopa's technology resources, including websites created by employees and students, is limited to educational, research, service, operational, and management purposes of the Maricopa County Community Colleges District and its member institutions. Likewise, images and links to external sites posted on or transmitted via Maricopa's technology resources are limited to the same purposes.

It is not Maricopa's practice to monitor the content of electronic mail transmissions, files, images, links or other data stored on or transmitted through Maricopa's technology resources. The maintenance, operation and security of Maricopa's technology resources, however, require that network administrators and other authorized personnel have access to those resources and, on occasion, review the content of data and communications stored on or transmitted through those resources. A review may be performed exclusively by persons expressly authorized for such purpose and only for cause. To the extent possible in the electronic environment and in a public setting, a user's privacy will be honored. Nevertheless, that privacy is subject to Arizona's public records laws and other applicable state and federal laws, as well as policies of Maricopa's Governing Board, all of which may supersede a user's interests in maintaining privacy in information contained in Maricopa's technology resources.

Frequently, access to Maricopa's technology resources can be obtained only through use of a password known exclusively to the user. It is the user's responsibility to keep a password confidential. While Maricopa takes reasonable measures to ensure network security, it cannot be held accountable for unauthorized access to its technology resources by other users, both within and outside the Maricopa community. Moreover, it cannot guarantee users protection against loss due to system failure, fire, etc.

Much of the data contained in Maricopa records that are accessible through use of technology resources is confidential under state and federal law. That a user may have the technical capability to access confidential records does not necessarily mean that such access is authorized. A user of Maricopa's technology resources is prohibited from the unauthorized access to, or dissemination of, confidential records.

Violation of any provision of the Standards could result in immediate termination of a user's access to Maricopa's technology resources, as well as appropriate disciplinary action. A violation of the Standards should be reported immediately to the appropriate administrator.

Prohibited Conduct

The following is prohibited conduct in the use of Maricopa's technology resources:

1. Posting to the network, downloading or transporting any material that would constitute a violation of Maricopa County Community College District contracts.
2. Unauthorized attempts to monitor another user's password protected data or electronic communication, or delete another user's password protected data, electronic communications or software without that person's permission.
3. Installing or running on any system a program that is intended to or is likely to result in eventual damage to a file or computer system.

4. Performing acts that would unfairly monopolize technology resources to the exclusion of other users, including (but not limited to) unauthorized installation of server system software.
5. Hosting a website that violates the .EDU domain request.
6. Use of technology resources for non-Maricopa commercial purposes, including advertising personal services, whether or not for financial gain.
7. Use of software, graphics, photographs, or any other tangible form of expression that would violate or infringe any copyright or similar legally-recognized protection of intellectual property rights.
8. Activities that would constitute a violation of any policy of Maricopa's Governing Board, including, but not limited to, Maricopa's non-discrimination policy and its policy against sexual harassment.
9. Transmitting, storing, or receiving data, or otherwise using technology resources in a manner that would constitute a violation of state or federal law, or MCCCD policy or administrative regulation including, but not limited to, obscenity, defamation, threats, harassment, and theft.
10. Attempting to gain unauthorized access to a remote network or remote computer system.
11. Exploiting any technology resources system by attempting to prevent or circumvent access, or using unauthorized data protection schemes.
12. Performing any act that would disrupt normal operations of computers, workstations, terminals, peripherals, or networks.
13. Using technology resources in such a way as to wrongfully hide the identity of the user or pose as another person.
14. Allowing any unauthorized access to Maricopa's technology resources.

Disclaimer

The home page of a website must display, or link to, the following disclaimer in a conspicuous manner:

All information published online by MCCCD is subject to change without notice. MCCCD is not responsible for errors or damages of any kind resulting from access to its Internet resources or use of the information contained therein. Every effort has been made to ensure the accuracy of information presented as factual; however errors may exist. Users are directed to countercheck facts when considering their use in other applications. MCCCD is not responsible for the content or functionality of any technology resource not owned by the institution.

The statements, comments, or opinions expressed by users through use of Maricopa's technology resources are those of their respective authors, who are solely responsible for them, and do not necessarily represent the views of the Maricopa County Community College District.

Complaints and Violations

Complaints or allegations of a violation of these standards will be processed through Maricopa's articulated grievance procedures or resolution of controversy.

Upon determination of a violation of these standards, Maricopa may unilaterally delete any violative content and terminate the user's access to Maricopa's technology resources. It is the user's responsibility to demonstrate and/or establish the relevance of content in the event that a content complaint is made official. Users retain the right to appeal through Maricopa's grievance procedures or resolution of controversy.

HAZING PREVENTION REGULATION (AR 2.6)

The Maricopa County Community College District (MCCCD) strives to exceed the changing expectations of our many communities for effective, innovative, student-centered, flexible and lifelong educational opportunities. Our employees are committed to respecting diversity, continuous quality improvement and the efficient use of resources. We are a learning organization guided by our shared values of: education, students, employees, excellence, diversity, honesty and integrity, freedom, fairness, responsibility and public trust.

Central to the vitality and dignity of our community of learners is an environment that produces broadly educated responsible citizens, who are prepared to serve and lead in a free society. Academic instruction, co-curricular activities and community involvement come together to meet this goal. All members of the Maricopa Community Colleges' community, through the best of their abilities, must be provided the opportunity to contribute in a safe, orderly, civil and positive learning environment. One factor that inhibits the achievement of the above stated purpose is the practice of hazing.

1. Hazing by any student, employee or other person affiliated with the Maricopa Community Colleges is prohibited.
2. "Hazing" is defined as any intentional, knowing or reckless act committed by a student or other person in any MCCCD college or affiliated educational setting, whether individually or in concert with other persons, against another student, and in which both of the following apply:
   a. The act was committed in connection with an initiation into, an affiliation with or the maintenance of membership in any club/organization that is affiliated with Maricopa Community Colleges; and,
   b. The act contributes to a substantial risk of potential physical injury, mental harm or personal degradation, or causes physical injury, mental harm or personal degradation.
3. Any solicitation to engage in hazing is prohibited.
4. Aiding and abetting another person who is engaged in hazing is prohibited.
5. Victim consent is not a defense for violation of the Maricopa Community Colleges Hazing Prevention Regulation.

6. All students, faculty and staff must take reasonable measures within the scope of their individual authority to prevent violations of the Maricopa Community Colleges Hazing Prevention Regulation.
7. Hazing activities and situations include, but are not limited to, the following:
   a. Pre-pledging, illegal pledging or underground activities.
   b. Acts of mental and physical abuse, including, but not limited to: paddling, slapping, kicking, pushing, yelling, biting, duck-walking, line-ups, tuck-ins, belittling, excessive exercise, beating or physical abuse of any kind, and the potentially forced consumption of any food or beverage that contributes to or causes physical injury, mental harm or personal degradation.
   c. Sleep deprivation (activities that deprive prospective and/or current students and/or members of the opportunity of a minimum of six hours sufficient sleep each day).
   d. Encouraging or forcing use of alcohol or drugs.
   e. Any type of student club/organization scavenger hunt, quest, road trip or activity that would physically or psychologically endanger prospective and/or current students and/or members or others.
   f. Stroking or physically touching in an indecent or inappropriate manner. See Sexual Harassment policy 5.1.8.
   g. Student club/organization activities that subject prospective and/or current students and/or members or others to public nuisance or spectacle.
   h. Aiding or abetting theft, fraud, embezzlement of funds, destruction of public, personal or private property, or academic misconduct.
   i. Being required to wear odd or look-alike apparel that contributes to or causes physical injury, mental harm or personal degradation.
   j. Personal services that contribute to or cause physical injury, mental harm or personal degradation.
8. Alleged violations of this regulation by students or student organizations can be reported to the vice president of student affairs' office for investigation by any member of the college community. The vice president of student affairs' office will investigate the complaint in accordance with the student disciplinary code, all other college and Maricopa Community Colleges policies, and local and state laws. Alleged violations of the Maricopa Community Colleges hazing prevention regulation or interference with an investigation under this regulation by students or student organizations are subject to sanctions under the student disciplinary code. The student disciplinary code shall govern all proceedings involving such a complaint. Decisions arrived at as outcomes of the proceedings shall be final, pending the normal appeal process.
9. Alleged violations of the Maricopa Community Colleges hazing prevention regulation by any faculty or staff member can be reported to the vice president of student affairs' office for investigation by any member of the college community. The vice president of student affairs' office will investigate the complaint in accordance with college and Maricopa Community Colleges policies, and local and state laws. Any Maricopa Community Colleges faculty or staff member who knowingly permitted, authorized or condoned the alleged hazing activity is subject to disciplinary action in accordance with college and Maricopa Community Colleges policies, and local and state laws.
10. If the vice president of student affairs' office receives a report or complaint of an alleged hazing activity involving physical injury, threats of physical injury, intimidation, harassment or property damage, or any other conduct that appears to violate Arizona state law, the college will report such conduct to the appropriate college safety office. The said college safety office will investigate, respond to and report on the alleged hazing activity in accordance with all college, District, local, state and federal guidelines, policies and laws.
11. Should the proceedings outlined above substantiate an occurrence of hazing activity—where students or student organizations knowingly permitted, authorized or condoned the hazing activity—the college can recommend the following sanctions against student clubs/organizations:
    a. Censure: Censure can include the required completion of a program designed with the intent of eliminating the hazing activity. The programs will be devised with the cooperation of all involved parties and monitored by the vice president of student affairs' office.
    b. Probation: The student club(s)/organization(s) will be placed on probation for a specified period of time. Conditions of probation will be determined by the vice president of student affairs' office and outlined in writing to the student club(s)/organization(s). The probationary term will be monitored by the vice president of student affairs' office.
    c. Suspension: The student club(s)/organization(s) will be suspended. The terms of the suspension can be defined in the sanction, including criteria the student club(s)/organization(s) must meet within a specified time to be considered for admission or renewal of college recognition status.
    d. Revocation: The student club(s)/organization(s) will have its status revoked, with the loss of all college associations, recognitions and privileges. The national or international office of an organization, if so affiliated, will be requested to revoke the charter of an organization.

12. The Maricopa Community Colleges hazing prevention regulation is not intended to prohibit or sanction the following conduct:
    a. Customary athletic events, contests or competitions that are sponsored by any of the Maricopa Community Colleges.
    b. Any activity or conduct that furthers the goals of a legitimate educational curriculum, a legitimate co-curricular experience or a legitimate military training program.
13. For the purposes of the Maricopa Community Colleges hazing prevention regulation: "Organization" is defined as an athletic team, association, order, society, corps, cooperative, club or other similar group that is affiliated with Maricopa Community Colleges, whose membership consists primarily of students enrolled at Maricopa Community Colleges and that may also be classroom-related or co-curricular in nature.

ABUSE-FREE ENVIRONMENT (AR 2.4.7)

A. Substance Abuse/Misuse Statement

Drug abuse and misuse has become a national issue and is receiving national attention, particularly in the academic community. The insidious effects of the abuse of these agents are also felt by all walks of life and economic levels. Therefore, as an education-providing institution, we are responsible to provide knowledge and guidelines about prevention, control, and treatment of the abuse/misuse of alcohol, illegal and legal drug uses and misuses.

This policy statement has been constructed on the belief that higher education has a responsibility to face safety and health factors of substance abuse/misuse issues forthrightly and innovatively. We believe that the community college needs to adapt programs applicable to their community as well as to our individual student's needs. The policy statements should be comprehensive, understood by those expected to comply, realistic and enforceable, consistently applied, and cover foreseeable dangers.

Construction of this statement has been founded on concerns of individual safety, educational quality, and legal liability. It is recognized that each individual is responsible for his/her actions and must be afforded an opportunity to develop knowledge, skills and talent, and be willing to share community responsibilities. The Maricopa Community College District has an equal "duty to care" responsibility and a commitment to substance abuse/misuse education for all students and employees.

The Maricopa Community College District shall:

1. Visibly demonstrate a performance of the Maricopa Community College District "duty to care."
2. Comply with requirements for federal funds.
3. Describe what the college does about substance abuse/misuse (alcohol, drugs, anabolic steroids).
4. Inform/educate members of the academic community of adverse effects of these substances.
5. Inform/educate the academic community about the policies concerning substance misuse and abuse.
6. Discourage illegal drug abuse and legal substance misuse.
7. Provide individual and group counseling.
8. Provide assistance and guidance to obtain treatment and rehabilitation of any identified problem. To achieve these objectives, the program must provide an environment capable of:
    a. Developing and implementing substance misuse/abuse prevention programs.
    b. Providing educational training and prevention programs for the college and community it serves.
    c. Providing timely and accurate information dissemination.
    d. Establishing supportive counseling programs as needed.
    e. Establishing a strong ongoing evaluation of services.
    f. Providing assistance to obtain treatment and rehabilitation of substance abuse/misuse.
    g. Clarifying the college regulations for control of alcohol and drug use.
    h. Providing procedures that the college will follow to correct and stabilize emergency situations.

Each college will identify key people to provide emergency services and to contact and work with outside agencies.

The Maricopa Community College District is committed to establishing a preventative substance abuse program at each college designed to affect positively the problems of irresponsible use of alcohol and the use and abuse of illegal substances. A main focus of the program will be on education of the campus community and assistance to individuals.

The Maricopa Community College District fully supports disciplinary action for misconduct and the enforcement of state laws governing the use of alcohol and the use, abuse, possession or distribution of controlled substances or illegal drugs.

B. Student Program to Prevent Illicit Use of Drugs and Abuse of Alcohol

1. Introduction and Purpose

The recent adoption by Congress of the Drug-Free Schools and Communities Act amendments of 1989 (Public Law 101-226) requires federal contractors and grantees to certify that they will provide a drug-free school. As a recipient of federal grants, the District must adopt a program toward accomplishing this goal. While federal legislation has been the impetus for creation of the program, the administration and Governing Board recognize that substance abuse is a problem of national proportions that also affect students at Maricopa Community Colleges. Based upon that concern, it is intended that this program on prevention of alcohol and drug abuse on college campuses will go beyond the strict dictates of the law and will serve as a comprehensive educational and resource tool.

The Maricopa Community Colleges are committed to maintaining learning environments that enhance the full benefits of a student's educational experience. The Maricopa Community College District will make every effort to provide students with optimal conditions for learning that are free of the problems associated with the unauthorized use and abuse of alcohol and drugs. Part of the educational mission of Maricopa Community Colleges, in conjunction with this program, is to educate students about positive self-development, the benefits of a healthy lifestyle and the health risks associated with substance abuse.

The purpose of this program is to:

a. Ensure that the Maricopa Community Colleges working and learning environment for students and the public is safe, orderly and free of illegal activity.
b. Comply with the Drug-Free School and Communities Act of 1989, and other relevant substance abuse laws.
c. Provide students with access to appropriate treatment and rehabilitation assistance for problems associated with substance use or abuse.

2. Standards of Conduct

In the student handbooks of the Maricopa Community Colleges under codes of conduct, the following are examples of behavior that is prohibited by law and/or college rules and policies:

a. Drinking or possession of alcoholic beverages on the college campus.
b. Misuse of narcotics or drugs.

3. Sanctions for Violation of Standards of Conduct

Disciplinary actions include, but are not limited to:

a. Warning,
b. Loss of privileges,
c. Suspension, or
d. Expulsion.

4. Legal Consequences of Alcohol and Other Drugs

a. Laws Governing Alcohol

The State of Arizona sets twenty-one as the "legal drinking age." An underage person who buys, receives, possesses or consumes alcoholic beverages is guilty of a misdemeanor and may be subject to a fine and imprisonment for up to six months.

The Uniform Act Regulating Traffic on Highways prohibits driving while under the influence of intoxicating liquor or drugs (DWI). Drivers charged with DWI who refuse to be tested face suspension of their licenses or permits to drive for twelve months. A driver whose test results show a blood or breath alcohol concentration of 0.08 or more will have his/her license or permit to drive suspended or denied for not less than ninety consecutive days. The punishment for DWI ranges from not less than twenty-four consecutive hours in jail and a fine of not less than $250 for a first offense to a minimum of six months in jail and revocation of the driver's license for three years upon a third offense.

b. Federal Penalties and Sanctions for Illegal Possession of a Controlled Substance

1. First conviction: Up to one year imprisonment and fined at least $1,000 but not more than $100,000, or both.
2. After one prior drug conviction: At least fifteen days in prison, not to exceed two years and fined at least $2,500 but not more than $250,000, or both.
3. After two or more prior drug convictions: At least ninety days in prison, not to exceed three years and fined at least $5,000 but not more than $250,000, or both.

Special sentencing provisions for possession of crack cocaine:

1. Mandatory at least five years in prison, not to exceed twenty years and fined up to $250,000, or both, if:
   i. First conviction and the amount of crack possessed exceeds five grams.
   ii. Second conviction and the amount of crack possessed exceeds three grams.
   iii. Third or subsequent crack conviction and the amount of crack possessed exceeds one gram.
2. Forfeiture of personal and real property used to possess or to facilitate possession of a controlled substance if that offense is punishable by more than one year imprisonment. (See special sentencing provisions re: crack.)
3. Forfeiture of vehicles, boats, aircraft or any other conveyance used to transport or conceal a controlled substance.
4. Civil fine of up to $10,000 (pending adoption of final regulations).
5. Denial of Federal benefits, such as student loans, grants, contracts, and professional and commercial licenses, up to one year for first offense, up to five years for second and subsequent offenses.
6. Ineligible to receive or purchase a firearm.
7. Miscellaneous: Revocation of certain Federal licenses and benefits, e.g., pilot licenses, public housing tenancy, etc., are vested within the authorities of individual Federal agencies.

Note: *These are only Federal penalties and sanctions.*

c. State Penalties and Sanctions Title Thirteen, Chapter 34 of the Arizona Revised Statutes lists drug offenses and their penalties. Following is list of drugs that are frequently misused with a description of the potential penalties attached to a conviction.

1. Marijuana: A first offense for possession or use of marijuana in an amount of less than one pound constitutes a class 6 felony and carries a possible prison term of one and one-half years and a fine of not less than seven hundred fifty dollars. The sale of marijuana in an amount of less than one pound carries a prison sentence of four years and a fine of at least seven hundred fifty dollars.
2. LSD: Possession, use and sale of LSD are felonies carrying sentences from four to five years and fines of not less than one thousand dollars.
3. Heroin and Cocaine: Possession, use and sale of heroin are felonies carrying sentences from four to seven years and a fine of not less than two thousand dollars.

C. Alcoholic Beverages - Usage Regulation (AR 4.13)

This Administrative Regulation prohibits the use of District funds to purchase alcoholic beverages or services related to them except in small amounts to be used in cooking for the District's culinary programs. Additionally, it generally prohibits the presence of alcoholic beverages on premises owned by the District, or those leased or rented by the institution. It permits a few, narrow exceptions to that latter prohibition. The exceptions are not available to the general population of District employees or officials. More importantly, they are established to ensure that the District's actions stay within the boundaries of state law and the District's insurance coverage. Therefore, strict compliance with this regulation is essential.

1. **No Funds**
   No funds under the jurisdiction of the Governing Board of the District may be used to purchase alcoholic beverages, except for the limited purposes of purchasing small amounts of them for use solely as ingredients in food preparation for classes and at the District's culinary institutes. Alcoholic beverages may not be stored on premises owned, leased, or rented by MCCCD except as provided in Paragraph 8.
2. **No Service or Sale of Alcoholic Beverages**
   The law of the state of Arizona strictly regulates the service, sale, distribution and consumption of alcoholic beverages. In light of that law, the District does not permit alcoholic beverages to be served, sold or distributed on or in the premises owned by the District or leased or rented by the Maricopa Community Colleges for District-approved educational, fundraising or other community purposes, except as provided in Paragraphs 3 and 4.
3. **Service at District Events on District-owned Property**
   The Chancellor has the sole authority to approve the service, but not the sale or other distribution, of wine or beer at District events on district-owned property that the Chancellor either sponsors or approves. The only District employees authorized to request the Chancellor's approval are the College Presidents and the Vice Chancellors. Additionally, the law strictly limits the service of wine or beer by the District on District-owned property, and those restrictions are specified in Paragraph 5. Unless approved by the Chancellor in compliance with the law and this regulation, alcoholic beverages may not be served on District-owned property.
4. **Event Form Required**
   A College President or Vice Chancellor who wishes to obtain the Chancellor's approval for the service of wine or beer at a District-sponsored event on District-owned property shall forward a completed written request to the Chancellor no later than 30 days before the event. The request form is available at: **http://www.maricopa.edu/publicstewardship/governance/adminregs/appendices/AS-6.doc.** On signing the form, the Chancellor will provide a copy of it to the requestor and to the MCCCD Risk Manager. For events that the Chancellor sponsors, he or she will complete the form, sign it and provide it to the MCCCD Risk Manager no later than 10 business days before the event. The MCCCD Risk Manager will forward copies of the forms to the Arizona Department of Liquor Licenses and Control.
5. **Service Restrictions Required by Law**
   An event approved under Paragraph D must, by law, comply with the all of the following restrictions:
   a. The only alcoholic beverages that may be served and consumed are wine and beer. Wine consumption is limited to 6 oz. per person, and beer consumption is limited to 24 oz;
   b. The gathering must be by invitation only, and not open to the public;
   c. The gathering may not exceed 300;
   d. Invitees may not be charged any fee for either the event or the beer or wine; and
   e. The consumption may only take place between noon and 10:00 p.m.

   Additionally, beer and wine may only be served by a beverage service contractor whose liquor license with the state of Arizona is in good standing, except as provided in Paragraph 6. The contractor must provide all of the beverages served as well as the servers or bartender. Before the event, the contractor must provide a certificate of insurance that meets the requirements of the District's Risk Manager and that adds the District as an additional insured. The contractor must also agree in writing to indemnify the District regarding the service of the beverages.
6. **Culinary Institutes**
   The Chancellor may sponsor or approve an event at one of the District's culinary institutes. Students may serve wine and beer at the event as part of their class requirements, subject to the limitations of Paragraph 5. Any student serving those beverages must, by law, be 19 years or older.

7. **Third-Party Event**
   The Maricopa County Community College District foundation and the friends of public radio Arizona may, with the approval of the Chancellor, sponsor an event on District-owned property under this regulation. The City of Phoenix and the friends of the Phoenix Public Library may also do so, with the approval of the Chancellor, at the joint library on the campus of South Mountain Community College. These third-party, non-district entities are solely responsible for determining the steps that they are required to take to comply with Arizona's alcoholic beverages laws. Additionally, they must comply with the following steps:
   a. The entity obtains a liquor license from the Arizona Department of Liquor Licenses and control for each event and fully complies with the laws, rules and other requirements applicable to that license;
   b. The entity completes the form available at **http://www.maricopa.edu/publicstewardship/governance/adminregs/appendices/AS-7.doc** and provides it to the Chancellor for approval along with a copy of the liquor license no later than 60 days before the event;
   c. The entity provides a certificate of insurance demonstrating that it has liquor liability coverage and that it adds the District as an additional insured;
   d. The entity agrees in writing to indemnify the District from any claims of any kind arising out of the event;
   e. Beer and wine are the only alcoholic beverages served and only served through a beverage service contractor whose liquor license with the state of Arizona is in good standing;
   f. The contractor provides all of the beverages served as well as the servers or bartenders;
   g. Before the event, the contractor provides a certificate of insurance that meets the requirements of the District's Risk Manager and that adds the District as an additional insured; and
   h. The contractor agrees in writing to indemnify the District regarding the service of the beverages.
8. **Receipt of Beverages; Storage**
   It is not permissible to store wine or beer on premises owned, leased or rented by MCCCD, except as provided in this paragraph. Alcoholic beverages purchased for use in cooking in District culinary courses must be stored in such a way that it is inaccessible to anyone except the Director or designee of the culinary program. For wine and beer to be used for receptions at the District's culinary institutes, as authorized by this administrative regulation, the following storage requirements apply:
   a. Wine and beer to be served may only be brought to MCCCD property no sooner than four hours prior to the event, and remain there no longer than four hours after the event; and
   b. Once the wine and beer arrive on MCCCD property, the Director of the culinary program shall assign an MCCCD employee to ensure that it is not stolen or that it is not opened until ready to be served.
9. **Compliance with Law**
   In compliance with applicable law, any persons planning an event under this administrative regulation are required to familiarize themselves with the pertinent laws and other requirements established by the state of Arizona for the service of alcoholic beverages, particularly those in Arizona Revised Statutes Title 4 (Alcoholic Beverages) Chapters 1 (General Provisions), 2 (Regulations and Prohibitions) and 3 (Civil Liability of Licensees and Other Persons) as well as Arizona Administrative Code Title 19, Articles 1 (State Liquor Board) and 3 (Unlicensed Premises Definitions and Licensing Time-Frames).
10. **Residential Housing**
    Lawful occupants of residential housing under the jurisdiction of the Governing Board, if over the age of 21 years and not otherwise lawfully barred from such practice, may possess and consume alcoholic beverages in the privacy of their respective leased housing facility. Guests of such occupants over the age of 21 years shall have the same privilege. No alcohol is permitted in public areas (nor common areas of a dormitory) at any time.
11. **Personal Responsibility**
    The personal or individual purchase of alcoholic beverages by individuals attending District-approved functions held in places serving alcoholic beverages is a personal and individual responsibility. Administrative discretion shall be exercised in the approval of the location of such activities, as such decision pertains to the nature of the group involved.

D. Other Health Concerns

General Guidelines Concerning AIDS

Neither a diagnosis of AIDS nor a positive HIV antibody test will be part of the initial admission decision for those applying to attend any of the Maricopa Community Colleges. The Maricopa Community Colleges will not require screening of students for antibody to HIV.

Students with AIDS or a positive HIV antibody test will not be restricted from access to student unions, theaters, cafeterias, snack bars, gymnasiums, swimming pools, recreational facilities, restrooms, or other common areas, as there is no current medical justification for doing so.

Where academically and logistically feasible, students who have medical conditions, including AIDS, may seek accommodation in order to remain enrolled. Medical documentation will be needed to support requests for accommodation through the Office of Disabled Resources and Services or the Office of Vice President of Student Affairs.

The Maricopa Community Colleges acknowledge the importance of privacy considerations with regard to persons with AIDS. The number of people who are aware of the existence and/or identity of students who have AIDS or a positive HIV antibody test should be kept to a minimum. When a student confides in a faculty member, knowledge of the condition should be transmitted to the appropriate vice president or designee who will make the determination if the information should be further disseminated. It should be remembered that mere exposure to the person in a classroom does not constitute a need to know the diagnosis. It is therefore unnecessary to document in a student's file the fact that he or she has AIDS unless the information is to be used for accommodation reasons. Sharing confidential information without consent may create legal liability.

Students are encouraged to contact the Office of Disabled Resources and Services and/or the vice president of student affairs or designee for the types of services available in the District or community on matters regarding AIDS or the HIV virus.

DISABILITY RESOURCES & SERVICES - ELIGIBILITY FOR ACCOMMODATIONS & REQUIRED DISABILITY DOCUMENTATION (AR 2.8)

Purpose—to specify the disability documentation requirements that will qualify (i.e., support current and essential needs) Maricopa County Community College District students for reasonable and appropriate accommodations through each college's disability services office or designated professional. This regulation is implemented in accordance with the Americans with Disabilities Act.

GENERAL ELIGIBILITY REQUIREMENTS

Each applicant with a disability must meet MCCCD admissions requirements, or be enrolled as an MCCCD student, and must provide Disability Resource Services (DRS) with required documentation verifying the nature and extent of the disability prior to receiving any accommodation. The disability services office coordinator/ program advisor is responsible for evaluating documentation and determining accommodation eligibility.

SPECIFIC ELIGIBILITY

Physical Disabilities – Required Documentation

The student must submit a written, current diagnostic report of any physical disabilities that are based on appropriate diagnostic evaluations administered by trained and qualified (i.e., certified and/or licensed) professionals (e.g., medical doctors, ophthalmologists, neuropsychologists, audiologists). Disability diagnosis categories include:

1. Orthopedic Disability
2. Blind or Visual Impairment
3. Deaf or Hard-of-Hearing
4. Traumatic Brain Injury
5. Other Health-Related/Systemic Disabilities

The written diagnostic report must include:

a. A clear disability diagnosis, including a clinical history that establishes the date of diagnosis, last contact with the student, and any secondary conditions that might be present.
b. The procedures used to diagnose the disability.
c. A description of any medical and/or behavioral symptoms associated with the disability.
d. A discussion of medications, dosage, frequency, and any adverse side effects attributable to their use that the student has experienced.
e. A clear statement specifying functional manifestations (i.e., substantial limitations to one or more major life activities and degree of severity) due to the disability and/or medications for which the student may require accommodations.
f. A recommendation for accommodation, including rationale. If the accommodation recommendations are specific to limitations in learning (e.g., reading, mathematics, written expression), an appropriate psycho-educational or neuropsychological evaluation must be administered to document ability/achievement discrepancies.

Specific Learning Disabilities — Required Documentation

The student shall submit a written diagnostic report of specific learning disabilities that is based on current appropriate, comprehensive, psycho-educational evaluations using adult normed instruments.

The assessment or evaluation which leads to the diagnosis must be administered by a trained and qualified (i.e., certified and/or licensed) professional (e.g., psychologist, school psychologist, neuropsychologist, or educational diagnostician) who has had direct experience with adolescents and adults with learning disabilities.

Psycho-Educational Evaluation

An appropriate psycho-educational evaluation must include comprehensive measures in each of the following areas:

1. Aptitude (the evaluation must contain a complete intellectual assessment, with all sub-tests and standard scores reported).
2. Academic achievement (the evaluation must contain a comprehensive achievement battery with all sub-tests and standard scores reported); the test battery should include current levels of functioning in the relevant areas, such as reading (decoding and comprehension), mathematics, and oral and written expression.
3. Information processing (the evaluation should assess specific information processing areas such as short- and long-term memory, sequential memory, auditory and visual perception/processing, processing speed, executive function, and motor ability).

Examples of Measures

a. Wechsler Adult Intelligence Scale-Revised (WAIS-R)
b. Wechsler Adult Intelligence Scale-Third Edition
c. Stanford Binet Intelligence Scale-Fourth Edition
d. Woodcock-Johnson Psycho-Educational Battery-Revised: Tests of Cognitive Ability
e. Kaufman Adolescent and Adult Intelligence Test

Achievement

a. Wechsler Individual Achievement Tests (WIAT)
b. Woodcock-Johnson Psycho-Educational Battery-Revised: Tests of Achievement (W-Jr)
c. Stanford Test of Academic Skills (TASK)
d. Scholastic Abilities Test for Adults (SATA)

Information Processing

a. Subtests of the Wais-R or Wais-Third Edition
b. Subtests on The Woodcock-Johnson Psycho-Educational Battery-Revised: Tests of Cognitive Ability

Diagnostic Report

The diagnostic report must include the following information:

1. A diagnostic interview that addresses relevant historical information, past and current academic achievement, instructional foundation, past performance in areas of difficulty, age at initial diagnosis, and history of accommodations used in past educational settings and their effectiveness.
2. A list of all instruments used in the test battery.
3. Discussion of test behavior and specific test results.
4. A diagnostic summary statement with the following information:
   a. A clear and direct statement that a learning disability does or does not exist, including a rule-out of alternative explanations for the learning problems. Terms such as "appears," "suggests," or "probable" used in the diagnostic summary statement do not support a conclusive diagnosis.
   b. A clear statement specifying the substantial limitations to one or more major life activities.
   c. A psychometric summary of scores.
   d. A recommendation for accommodations, including rationale.

   Diagnosis of specific learning disabilities that do not contain psycho-educational measures may not be used for determining eligibility for academic accommodations. For example, school plans such as individualized education plans (IEPS) or 504 plans are not adequate documentation; however, they can be included with the required evaluation. DRS reserves the right to request reassessment when questions regarding previous assessment or previous service provisions arise.

Attention Deficit Hyperactivity Disorder (ADHD)/ Attention Deficit Disorder (ADD) — Required Documentation

The student shall submit a current diagnosis of attention deficit hyperactivity disorder (ADHD)/attention deficit disorder (ADD) that is based on appropriate diagnostic evaluations administered by trained and qualified (i.e., certified or licensed) professionals (e.g., psychiatrists, psychologists, or neuropsychologists).

The diagnostic report must include:

1. A diagnostic interview addressing relevant historical information, past and current academic achievement, age at initial diagnosis, discussion of medication, and history and effectiveness of accommodations in past educational settings.
2. The procedures used to diagnose the disability (including a list of all instruments used in the assessment).
3. Discussion of the testing results and behavior, including the symptoms that meet the criteria diagnosis. If the student was evaluated while on medication, the effect this may have had on performance must be noted.
4. DSM-IV diagnosis (including all five axes).
5. A diagnostic summary statement that includes the following information:
   a. A clear statement that ADHD/ADD does or does not exist, including a rule-out of alternative explanations for behaviors. Terms such as "appears," "suggests," or "has problems with" used in the diagnostic summary statement do not support a conclusive diagnosis.
   b. A clear statement specifying the substantial limitations to one or more major life activities and the degree of severity. If the limitations are in learning (e.g., reading, mathematics, and written expression), an appropriate psycho-educational evaluation must be administered to document ability/achievement discrepancies.
   c. A recommendation regarding medications or medical evaluation(s).
   d. A recommendation for accommodations, including rationale.

Psychological Disabilities — Required Documentation

If the diagnostic report is more than one year old, a letter from a qualified professional that provides an update of the diagnosis with a description of the individual's current level of functioning during the past year, and a rationale for the requested accommodations must be submitted.

The diagnostic report must include the following:

1. A clinical interview, relevant historical information, age at initial diagnosis, duration and severity of the disorder.
2. Discussion of medications, review of past and current academic achievement, and history of disability accommodations and their effectiveness.
3. The procedures used to diagnose the disability (include a list of all instruments used in the assessment and test scores as applicable).
4. Discussion of the assessment results.
5. DSM-IV diagnosis (include all five axes).

6. A diagnostic summary statement that includes the following:
   a. A clear statement that a disability does or does not exist. Terms such as "appears," "probable," and "suggests" used in the diagnostic summary statement do not support a conclusive diagnosis.
   b. A clear statement specifying the substantial limitations to one or more major life activities. If the limitations are in learning (e.g., reading, mathematics, and written expression), an appropriate psycho-educational evaluation must be administered to document ability/achievement discrepancies.
   c. A discussion of medications and their possible impact on academic functioning (e.g., concentration, attention, sedation).
   d. A recommendation for essential accommodations relative to the diagnosed disability, including rationale.
   e. The duration for which these accommodations should be provided based on the current assessment.
   f. A recommendation regarding reevaluation to determine ongoing need for disability accommodations (e.g., one semester, one year, two years).

Temporary Impairments

Some disabilities are temporary and may require accommodations for a limited time. Each case is considered individually. The following documentation is required:

1. Written correspondence on letterhead from a qualified professional stating diagnosis, functional limitations necessitating the accommodation, and the estimated length of time services will be needed.
2. Services may be provided for ten (10) working days pending receipt of documentation. If documentation is not received by that time, services will be cancelled.

Special Considerations

A requirement for documentation prescribed in this regulation may be considered at the discretion of each college's disability services office or designated professional if, in the professional opinion of the responsible college's disability services office or designated professional, such consideration is in the best interest of the student and will neither undermine the integrity of any college offering nor violate any mandate under state or federal law. All situations shall be considered on an individual, case-by-case basis. Reasonable accommodation is required for students with known disabilities. MCCCD will make every attempt to provide "preferred" accommodations, however, "the most effective and reasonable" accommodation may be determined to meet sufficient accessibility needs.

ELIGIBILITY OF STUDENTS TAKING REDUCED COURSE LOADS (AR 2.8.2)

Although any student may register for fewer than twelve credit hours, a student with a disability may request a reduced academic load as a reasonable and appropriate accommodation. A college Disability Resource Services (DRS) professional may certify that a student who is afforded a reduced academic load as an accommodation for a disability shall nevertheless be deemed a full-time student. Such certification shall be solely to enable the student to seek eligibility for health insurance benefits and to seek eligibility to comply with mandates of the National Junior College Athletic Association. The college DRS professional will certify that a student may be deemed a full-time student as provided under this regulation only on a semester-by-semester basis.

The appropriate college offices will receive documentation of the DRS professional's certification from the professional or the student. An incoming student may apply for such certification upon acceptance to the college. Requests for certification must be made prior to the beginning of each semester. Every attempt will be made to accommodate these requests.

The following criteria also apply:

1. Students taking a reduced course load must register for at least 6 credit hours (based on DRS approval) during the regular fall and spring semesters. It is recommended that students register for at least three (3) credit hours during the summer to offset the impact of academic eligibility.
2. Students taking a reduced course load must maintain satisfactory academic progress standards as defined by the college catalog.
3. The reduced credit load may result in an adjusted financial aid package. There may be additional ramifications including, but not limited to, extra time to complete college, insurance coverage, Vocation Rehabilitation funding, etc.
4. Eligibility for Federal Stafford Loans will be reduced according to the total number of credit hours taken in the full academic year. A student taking a reduced course load must be at least half time in a semester (6 credits) in order to receive a Stafford Loan.
5. The amount of federal financial aid (Title V) awarded is based on the actual number of credit hours taken.
6. Requirements for continuation of funding through Vocational Rehabilitation may differ. The student must contact his/her VR counselor to determine how a reduced course load will impact their funding.
7. The National Junior College Athletic Association (NJCAA) has published standards in regard to the designation of Certified Disabled Student-Athlete in Article V Section J of the NJCAA bylaws. This procedure addresses the NJCAA criteria for reduced course loads.

Application Process:

1. Applications for reduced course loads must be submitted to the Disability & Services professional with supporting documentation. Requests must be made prior to the beginning of each semester.
2. Supporting documentation must include a diagnostic evaluation from an appropriate professional. The documentation must meet the guidelines set forth by the Maricopa Community College District's Documentation Policy in order to evaluate the current impact of the disability in regards to the request. Students are required to complete an application form for this status every semester, but do not need to resubmit their documentation. Continuation of this status is not automatic. Each case will be re-evaluated at the end of the semester to determine if this accommodation is still appropriate.
3. Students requesting a reduced course load should consult with their academic advisor regarding the consequences of this status for making progress toward graduation requirements and eligibility for various academic distinctions and designations.
4. Students registered in occupational and/or academic programs that have specific block formats will not be considered for reduced course loads.
5. Students who are approved for a reduced course load will be required to sign the Reduced Course Load Approval Form (see Appendix S-10), which includes a statement acknowledging that he or she has reviewed the consequences that go with reduced load status and accepts them.
6. When a reduced course load status is granted by the Disability Resources & Services professional, a copy of the Reduced Course Load Approval Form will be sent to the appropriate individuals.

ACADEMIC MISCONDUCT (AR 2.3.11)

A. Definitions

1. Academic Misconduct - includes misconduct associated with the classroom, laboratory or clinical learning process. Examples of academic misconduct include, but are not limited to, cheating, plagiarism, excessive absences, use of abusive or profane language, and disruptive and/or threatening behavior.
2. Cheating - includes, but is not limited to, (a) use of any unauthorized assistance in taking quizzes, tests, assessment tests or examinations; (b) dependence upon the aid of sources beyond those authorized by the faculty member in writing papers, preparing reports, solving problems, or carrying out other assignments; or (c) the acquisition, without permission, of tests or other academic material belonging to a member of the college faculty or staff.
3. Plagiarism - includes, but is not limited to, the use of paraphrase or direct quotation of the published or unpublished work of another person without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials. Information gathered from the Internet and not properly identified is also considered plagiarism.

B. Sanctions

Any student found by a faculty member to have committed academic misconduct may be subject to the following sanctions: (Note: sanctions 1, 2, 3 and 4 may be imposed by a faculty member. The faculty member may recommend to the department chairperson and the vice president of academic affairs or designee that sanctions 5, 6 or 7 be imposed. College suspension or expulsion will be imposed only by the vice president of academic affairs or designee.)

1. Warning—A notice in writing to the student that the student has violated the academic code.
2. Grade Adjustment—Lowering of a score on a test or assignment.
3. Discretionary Sanctions—Additional academic assignments determined by the faculty member.
4. Course Failure—Failure of a student in the course where academic misconduct occurs.
5. Disciplinary Probation—Disciplinary probation is for a designated period of time and includes the probability of more severe sanctions if the student commits additional acts of academic misconduct.
6. College Suspension—Separation of the student from the college for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified. (A suspension from one Maricopa Community College will apply to all other colleges/centers in the District.)
7. College Expulsion—Permanent separation of the student from the college. (Expulsion from one Maricopa Community College will apply to all colleges/centers in the District.)

C. Appeal of Sanctions for Academic Misconduct

Students can appeal sanctions imposed for academic misconduct by following the instructional grievance process (AR 2.3.5).

DISCIPLINARY STANDARDS

A. Disciplinary Probation and Suspension (AR 2.5.1)

According to the laws of the state of Arizona, jurisdiction and control over the Maricopa Community Colleges are vested in the District Governing Board. The Governing Board and its agents—the chancellor, administration and faculty—are granted broad legal authority to regulate student life subject to basic standards of reasonableness.

In developing responsible student conduct, the Maricopa Community Colleges prefer mediation, guidance, admonition and example. However, when these means fail to resolve problems of student conduct and responsibility, appropriate disciplinary procedures will be followed.

Misconduct for which students are subject to disciplinary action falls into the general areas of:

1. Cheating on an examination, assessment tests, laboratory work, written work (plagiarism); falsifying, forging or altering college records.
2. Actions or verbal statements which threaten the personal safety of any faculty, staff, students, or others lawfully assembled on the campus, or any conduct which is harmful, obstructive, disruptive to, or interferes with the educational process or institutional functions.
3. Violation of Arizona statutes, and/or college regulations and policies.
4. Use of college computer resources such as the Internet in violation of Technology Resource Standards (AR 4.4) which may result in notification of law enforcement authorities.

B. Disciplinary Removal from Class

A faculty member may remove a student from class meetings for disciplinary reasons. If a faculty member removes a student for more than one class period, the faculty member shall notify the department/division chair and the appropriate vice president or designee in writing of the problem, action taken by the faculty member, and the faculty member's recommendation. If a resolution of the problem is not reached between the faculty member and the student, the student may be removed permanently pursuant to due process procedures.

STUDENT CONDUCT CODE (AR 2.5.2)

The purpose of this code is to help ensure a healthy, comfortable and educationally productive environment for students, employees and visitors.

Article I: Definitions

The following are definitions of terms or phrases contained within this code:

A. "Accused student" means any student accused of violating this Student Conduct Code.
B. "Appellate boards" means any person or persons authorized by the college president to consider an appeal from a Student Conduct Board's determination that a student has violated this Student Conduct Code or from the sanctions imposed by the Student Conduct Administrator. The college president may act as the appellate board.
C. "College" means a Maricopa Community College or center.
D. "College premises" means all land, buildings, facilities and other property in the possession of or owned, used or controlled by the college or District.
E. "College official" means any person employed by the college or District, performing assigned administrative or professional responsibilities pursuant to this Student Conduct Code. The college president shall designate the college or center official to be responsible for the administration of the Student Conduct Code.
F. "Complainant" means any person who submits a charge alleging that a student violated this Student Conduct Code. When a student believes that s/he has been a victim of another student's misconduct, the student who believes s/he has been a victim will have the same rights under this Student Conduct Code as are provided to the complainant, even if another member of the college community submitted the charge itself.
G. "Day" means calendar day at a time when college is in session, and shall exclude weekends and holidays.
H. "Disruptive behavior" means conduct that materially and substantially interferes with or obstructs the teaching or learning process in the context of a classroom or educational setting.
I. "District" means the Maricopa County Community College District.
J. "Faculty member" means any person hired by the college or District to conduct classroom or teaching activities or who is otherwise considered by the college to be a member of faculty.
K. "May" is used in the permissive sense.
L. "Member of the college community" means any person who is a student, faculty member, college official or any other person employed by the college or center. A person's status in a particular situation shall be determined by the college president.
M. "Organization" means any number of persons who have complied with the formal requirements for college recognition.
N. "Policy" is defined as the written regulations of the college and/or District as found in, but not limited to, this Student Conduct Code and Governing Board policy.
O. "Shall" is used in the imperative sense.
P. "Student" means any person taking courses at the college whether full-time or part-time. Persons who are not officially enrolled for a particular term but who have a continuing relationship with the college are considered "students."
Q. "Student Conduct Administrator" means a college official authorized on a case-by-case basis by the college official responsible for administration of the Student Conduct Code to impose sanctions upon students found to have violated this Student Conduct Code. A Student Conduct Administrator may serve simultaneously as a Student Conduct Administrator and the sole member or one of the members of a Student Conduct Board. The college official responsible for administration of the Student Conduct Code may authorize the same Student Conduct Administrator to impose sanctions in all cases.

R. "Student Conduct Board" means any person or persons authorized by the college president to determine whether a student has violated this Student Conduct Code and to recommend sanctions that may be imposed when a violation has been committed.

S. "Threatening behavior" means any written or oral statement, communication, conduct or gesture directed toward any member of the college community, which causes a reasonable apprehension of physical harm to self, others or property. It does not matter whether the person communicating the threat has the ability to carry it out, or whether the threat is made on a present, conditional or future basis.

Article II: Judicial Authority

A. The college official responsible for administration of the Student Conduct Code shall determine the composition of Student Conduct Board and determine which Student Conduct Administrator, Student Conduct Board, and appellate board shall be authorized to hear each case.

B. The college official responsible for administration of the Student Conduct Code shall develop procedures for the administration of the judicial program and rules for the conduct of hearings that are consistent with provisions of this Student Conduct Code.

C. Decisions made by a Student Conduct Board and/or Student Conduct Administrator shall be final, pending the normal appeal process.

Article III: Prohibited Conduct

A. Jurisdiction of the College

The Student Conduct Code shall apply to conduct that occurs on college or District premises, or at college- or District-sponsored activities that adversely affects the college community and/or the pursuit of its objectives. Each student shall be responsible for his/her conduct from the time of admission through the actual awarding of a degree, certificate, or similar indicator of completion of a course of study, even though conduct may occur before classes begin or after classes end, as well as during the academic year and during periods between terms of actual enrollment (and even if their conduct is not discovered until after a degree is awarded). The Student Conduct Code shall apply to a student's conduct even if the student withdraws from school while a disciplinary matter is pending.

B. Temporary Removal of Student

Disruptive behavior includes conduct that distracts or intimidates others in a manner that interferes with instructional activities, fails to adhere to a faculty member's appropriate classroom rules or instructions, or interferes with the normal operations of the college. Students who engage in disruptive behavior or threatening behavior may be directed by the faculty member to leave the classroom or by the college official responsible for administration of the Student Conduct Code to leave the college premises. If the student refuses to leave after being requested to do so, college safety may be summoned. For involuntary removal from more than one class period, the faculty member should invoke the procedures prescribed in the Student Conduct Code.

C. Conduct - Rules and Regulations

Any student found to have committed the following misconduct is subject to the disciplinary sanctions outlined in Article IV:

1. Acts of dishonesty, including but not limited to the following:
   a. Furnishing false information to any college official or office.
   b. Forgery, alteration or misuse of any college document, record or instrument of identification.
   c. Tampering with the election of any college-recognized student organization.
2. Obstruction of teaching, research, administration, disciplinary proceedings or other college activities, including its public service functions on campus, in clinical settings or other authorized non-college activities. When the conduct occurs on college premises a faculty member may remove a student from a class meeting for disciplinary reasons. If a faculty member removes a student for more than one class period, the faculty member shall notify the college official responsible for administration of the Student Conduct Code in writing of the problem, action taken by the faculty member, and the faculty member's recommendation. If a resolution of the problem is not reached, the student may be removed permanently pursuant to appropriate due process procedures.
3. Physical abuse, verbal abuse, threats, intimidation, harassment, coercion, conduct which threatens or endangers the health or safety of any person, and/or disruptive behavior as defined in Article II.B. above.
4. Attempted or actual theft of and/or damage to property of the college or property of a member of the college community or other personal or public property.
5. Failure to comply with direction of college officials or law enforcement officers in the performance of their duties and/or failure to identify oneself to these persons when requested to do so.
6. Unauthorized possession, duplication or use of keys to any college premises, or unauthorized entry to or use of college premises.
7. Violation of any college or District policy, rule or regulation published in hard copy such as a college catalog, handbook, etc. or available electronically on the college's or District's website.
8. Violation of federal, state or local law.
9. Use, possession, manufacturing or distribution of illegal or other controlled substances except as expressly permitted by law.
10. Illegal use, possession, manufacturing or distribution of alcoholic beverages or public intoxication.

11. Illegal or unauthorized possession of firearms, explosives, other weapons, or dangerous chemicals on college premises, or use of any such item, even if legally possessed, in a manner that harms, threatens, or causes fear to others or property damage.
12. Participation in a demonstration, riot or activity that disrupts the normal operations of the college and infringes on the rights of other members of the college community; leading or inciting others to disrupt scheduled and/or normal activities within any college building or area.
13. Obstruction of the free flow of pedestrian or vehicular traffic on college premises or at college-sponsored or supervised functions.
14. Conduct that is disorderly, lewd or indecent; breach of the peace; or aiding, abetting or procuring another person to breach the peace on college premises or at functions sponsored by or participated in by the college or members of the academic community. Disorderly conduct includes but is not limited to: any unauthorized use of electronic or other devices or to make an audio or video record of any person while on college or District premises without his/her prior knowledge, or without his/her effective consent or when such a recording is likely to cause injury or distress. This includes, but is not limited to, secretly taking pictures of another person in a gym, locker room or restroom.
15. Attempted or actual theft or other abuse of technology facilities or resources, including but not limited to:
    a. Unauthorized entry into a file to use, read or change the contents or for any other purpose.
    b. Unauthorized transfer of a file.
    c. Unauthorized use of another individual's identification and/or password.
    d. Use of technology facilities or resources to interfere with the work of another student, faculty member or college official.
    e. Use of technology facilities or resources to send obscene or abusive messages.
    f. Use of technology facilities or resources to interfere with normal operation of the college technology system or network.
    g. Use of technology facilities or resources in violation of copyright laws.
    h. Any violation of the District's technology resource standards.
    i. Use of technology facilities or resources to illegally download files.
16. Abuse of the Student Conduct system, including but not limited to:
    a. Falsification, distortion or misrepresentation of information before a Student Conduct Board.
    b. Disruption or interference with the orderly conduct of a Student Conduct Board proceeding.
    c. Invoking a Student Conduct Code proceeding with malicious intent or under false pretenses.
    d. Attempting to discourage an individual's proper participation in, or use of, the Student Conduct system.
    e. Attempting to influence the impartiality of the member of a judicial body prior to, and/or during the course of, the Student Conduct Board proceeding.
    f. Harassment, either verbal or physical, and/or intimidation of a member of a Student Conduct Board prior to, during and/or after a Student Conduct Board proceeding.
    g. Failure to comply with the sanctions imposed under this Student Conduct Code.
    h. Influence or attempting to influence another person to commit an abuse of the Student Conduct Code system.
    i. Failure to obey the notice from a Student Conduct Board or college official to appear for a meeting or hearing as part of the Student Conduct system.
17. Engaging in irresponsible social conduct.
18. Attempt to bribe a college or District employee.
19. Stalking behavior, which occurs if a student intentionally or knowingly maintains visual or physical proximity toward another person on two or more occasions over a period of time and such conduct would cause a reasonable person to fear for his or her safety.

D. Violation of Law and College Discipline

1. Disciplinary proceedings may be instituted against a student charged with conduct that potentially violates both the criminal law and this Student Conduct Code (that is, if both possible violations result from the same factual situation) without regard to pending of civil or criminal litigation. Proceedings under this Student Conduct Code may be carried out prior to, simultaneously with, or following civil or criminal proceedings off campus at the discretion of the college official responsible for administration of the Student Conduct Code. Determinations made or sanctions imposed under this Student Conduct Code shall not be subject to change because criminal charges arising out of the same facts giving rise to violation of college rules were dismissed, reduced, or resolved in favor of or against the criminal law defendant.
2. When a student is charged by federal, state or local authorities with a violation of law, the college will not request or agree to special consideration for that individual because of his or her status as a student. If the alleged offense is also being processed under this Student Conduct Code, however, the college may advise off campus authorities of the existence of this Student Conduct Code and of how such matters will be handled internally within the college community. The college will cooperate fully with the law enforcement and other agencies in the enforcement of criminal law on campus and in the conditions imposed by criminal courts for the rehabilitation of student violators. Individual students and faculty members, acting within their personal capacities, remain free to interact with governmental representatives as they deem appropriate.

Article IV: Student Conduct Code Procedures

A. Charges and Student Conduct Board Hearings

1. Any member of the college community may file charges against a student for violations of this Student Conduct Code. A charge shall be prepared in writing and directed to the Student Conduct Administrator. Any charge should be submitted as soon as possible after the event takes place, preferably within thirty (30) days following the incident.
2. The Student Conduct Administrator may conduct an investigation to determine if the charges have merit and/or if they can be disposed of administratively by mutual consent of the parties involved on a basis acceptable to the Student Conduct Administrator. Such disposition shall be final and there shall be no subsequent proceedings. If the charges are not admitted and/or cannot be disposed of by mutual consent, the Student Conduct Administrator may later serve in the same matter as the Student Conduct Board or a member thereof. If the student admits violating institutional rules, but sanctions are not agreed to, subsequent process, including a hearing if necessary, shall be limited to determining the appropriate sanction(s).
3. All charges shall be presented to the accused student in written form. A time shall be set for a Student Conduct Board hearing, not less than five (5) nor more than fifteen (15) days after the student has been notified. Maximum time limits for scheduling of Student Conduct Board hearings may be extended at the discretion of the Student Conduct Administrator.
4. Hearings shall be conducted by a Student Conduct Board according to the following guidelines, except as provided by Article IV A.7 below:
   a. Student Conduct Board hearings normally shall be conducted in private.
   b. The complainant, accused student and their advisors, if any, shall be allowed to attend the entire portion of the Student Conduct Board hearing at which information is received (excluding deliberations). Admission of any person to the hearing shall be at the discretion of the Student Conduct Board and/or its Student Conduct Administrator.
   c. In Student Conduct Board hearings involving more than one accused student, the Student Conduct Administrator, in his or her discretion, may permit the Student Conduct Board hearing concerning each student to be conducted either separately or jointly.
   d. The complainant and the accused shall have the right to be assisted by any advisor they choose, at their own expense. The advisor must be a member of the college community and may not be an attorney. Both the complainant and the accused are responsible for presenting their own information and, therefore, advisors are not permitted to speak or participate directly in any Student Conduct Board hearing before a Student Conduct Board.
   e. The complainant, the accused student, and the Student Conduct Board may arrange for witnesses to present pertinent information to the Student Conduct Board. The college will try to arrange the attendance of possible witnesses who are members of the college community, if reasonably possible, and who are identified by the complainant and/or accused student at least two days prior to the Student Conduct Board hearing. Witnesses will provide information to and answer questions from the Student Conduct Board. Questions may be suggested by the accused student and/or complainant to be answered by each other or by other witnesses. This will be conducted by the Student Conduct Board with such questions directed to the chairperson, rather than to the witness directly. This method is used to preserve the educational tone of the hearing and to avoid creation of an adversarial environment. Questions of whether potential information will be received shall be resolved in the discretion of the chairperson of the Student Conduct Board.
   f. Pertinent records, exhibits, and written statements may be accepted as information for consideration by a Student Conduct Board at the discretion of the chairperson.
   g. All procedural questions are subject to the final decision of the chairperson of the Student Conduct Board.
   h. After the portion of the Student Conduct Board hearing concludes in which all pertinent information has been received, the Student Conduct Board shall determine (by majority vote if the Student Conduct Board consists of more than one person) whether the accused student violated the section of this Student Conduct Code which the student is charged with violating.
   i. The Student Conduct Board's determination shall be made on the basis of whether it is more likely than not that the accused student violated this Student Conduct Code.
5. There shall be a single verbatim record, such as a tape recording, of all Student Conduct Board hearings before a Student Conduct Board (not including deliberations). The record shall be the property of the District.
6. No student may be found to have violated this Student Conduct Code because the student failed to appear before a Student Conduct Board. In all cases, the evidence and support of the charges shall be presented and considered.

7. The Student Conduct Board may accommodate concerns for the personal safety, well-being, and/or fears of confrontation of the complainant, accused student, and/or other witness during the hearing by providing separate facilities, by using a visual screen, and/or by permitting participation by telephone, videophone, closed circuit television, video conferencing, videotape, audio tape, written statement, or other means, where and as determined in the sole judgment of the college official responsible for administration of the Student Conduct Code.

B. Sanctions

1. The following sanctions may be imposed upon any student found to have violated the Student Conduct Code:
   a. Warning - a written notice to the student that the student is violating or has violated institutional rules or regulations.
   b. Probation - a written reprimand for violation of specified rules or regulations. Probation is for a designated period of time and includes the probability of more severe disciplinary sanctions if the student is found to violate any institutional rules or regulation(s) during the probationary period.
   c. Loss of Privileges - denial of specified privileges for a designated period of time.
   d. Restitution - compensation for loss, damage or injury. This may take the form of appropriate service and/or monetary or material replacement.
   e. Discretionary Sanctions - work assignments, essays, service to the college, or other related discretionary assignments. (Such assignments must have the prior approval of the Student Conduct Administrator.)
   f. College Suspension - separation of the student from all the colleges in the District for a definite period of time, after which the student is eligible to return. Conditions for readmission may be specified.
   g. College Expulsion - permanent separation of the student from all the colleges in the District.
2. More than one of the sanctions listed above may be imposed for any single violation.
3. Other than college expulsion, disciplinary sanction shall not be made part of the student's academic record, but shall become part of the student's disciplinary record. Upon graduation, the student's disciplinary record may be expunged of disciplinary actions upon the student's application to the Student Conduct Administrator. Cases involving the imposition of sanctions other than suspension or expulsion shall be expunged from the student's confidential record five (5) years after final disposition of the case. In situations involving both an accused student(s) (or group or organization) and a student(s) claiming to be the victim of another student's conduct, the records of the process and of the sanctions imposed, if any, shall be considered to be the education records of both the accused student(s) and the student(s) claiming to be the victim because the educational career and chances of success in the college community of each may be impacted.
4. The following sanctions may be imposed upon groups or organizations:
   a. Those sanctions listed above in Article IV B. 1. a through d.
   b. Loss of selected rights and privileges for a specified period of time.
   c. Deactivation - loss of all privileges, including college recognition for a designated period of time.
5. In each case in which a Student Conduct Board determines that a student and/or group or organization has violated the Student Conduct Code, the sanction(s) shall be determined and imposed by the Student Conduct Administrator. In cases in which persons other than, or in addition to, the Student Conduct Administrator have been authorized to serve as the Student Conduct Board, the recommendation of the Student Conduct Board shall be considered by the Student Conduct Administrator in determining and imposing sanctions. The Student Conduct Administrator is not limited to sanctions recommended by members of the Student Conduct Board. Following the Student Conduct Board hearing, the Student Conduct Board and the Student Conduct Administrator shall advise the accused student, group and/or organization (and a complaining student who believes s/he was the victim of another student's conduct) in writing of its determination and of the sanction(s) imposed, if any.

C. Emergency Suspension

If a student's actions pose an immediate threat or danger to any member of the college community or the educational processes, a college official responsible for administering the Student Conduct Code may immediately suspend or alter the rights of a student pending a Student Conduct Board hearing. Scheduling the hearing shall not preclude resolution of the matter through mediation or any other dispute resolution process. The decision will be based on whether the continued presence of the student on the college campus reasonably poses a threat to the physical or emotional condition and well-being of any individual, including the student, or for reasons relating to the safety and welfare of any college property, or any college function.

In imposing an emergency suspension, the college official responsible for administration of the Student Conduct Code may direct that the student immediately leave the college premises and may further direct the student not to return until contacted by that official. An accused student shall be in violation of this policy regardless of whether the person who is the object of the threat observes or receives it, as long as a reasonable person would interpret the communication, conduct or gesture as a serious expression of intent to harm.

D. Appeals

1. A decision reached by the Student Conduct Board judicial body or a sanction imposed by the Student Conduct Administrator may be appealed by accused students or complainants to an appellate board within five (5) days of receipt of the decision. Such appeals shall be in writing and shall be delivered to the Student Conduct Administrator.
2. Except as required to explain on the basis of new information, an appeal shall be limited to the review of the verbatim record of the Student Conduct Board hearing and supporting documents for one or more of the following purposes:
   a. To determine whether the Student Conduct Board hearing was conducted fairly in light of the charges and information presented, and in conformity with prescribed procedures giving the complainant a reasonable opportunity to prepare and present information that the Student Conduct Code was violated, and giving the accused student a reasonable opportunity to prepare and to present a response to those allegations. Deviations from designated procedures will not be a basis for sustaining an appeal unless significant prejudice results.
   b. To determine whether the decision reached regarding the accused student was based on substantial information; that is, whether there were facts in the case that, if believed by the fact finder, were sufficient to establish that a violation of the Student Conduct Code occurred.
   c. To determine whether the sanction(s) imposed was appropriate to the violation of the Student Conduct Code which the student was found to have committed.
   d. To consider new information, sufficient to alter a decision or other relevant facts not brought out in the original hearing, because such information and/or facts were not known to the person appealing at the time of the original Student Conduct Board hearing.
3. If an appeal is upheld by the appellate board, the matter shall be returned to the original Student Conduct Board and Student Conduct Administrator for reopening of the Student Conduct Board hearing to allow reconsideration of the original determination and/or sanction(s). If an appeal is not upheld, the matter shall be considered final and binding upon all concerned.

Article V: Interpretation and Revision

Any question of interpretation regarding the Student Conduct Code shall be referred to the college official responsible for administration of the Student Conduct Code for final determination.

STUDENT RECORDS (AR 2.5.3)

A. Definitions

For the purposes of this policy, the Maricopa County Community College District has used the following definition of terms.

1. "College" includes all colleges, educational centers, skill centers and District office.
2. "Educational Records" means any record (in handwriting, print, tapes, film, or other media) maintained by the college or an agent of the college which is directly related to a student, except:
   a. A personal record kept by a staff member, if it is kept in the personal possession of the individual who made the record, and information contained in the record has never been revealed or made available to any other person except the maker's temporary substitute.
   b. An employment record of an individual whose employment is not contingent on the fact that s/he is a student, provided the record is used only in relation to the individual's employment.
   c. Records maintained by the college's security unit, if the record is maintained solely for law enforcement purposes, is revealed only to law enforcement agencies of the same jurisdiction and the security unit does not have access to education records maintained by the community college.
   d. Alumni records which contain information about a student after he or she is no longer an attendant of the community college and the records do not relate to the person as a student.

B. Annual Notification

Students will be notified of their further rights annually by publication in the college catalog and/or the student handbook:

Rights of Access to Educational Records

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights are:

1. The right to inspect and review the student's education records within 45 days of the day the college receives a request for access.

   Students should submit to the college admissions and records department written requests that identify the record(s) they wish to inspect. The college official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the college official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education records that the student believes to be inaccurate or misleading.

Students may ask the college to amend a record that they believe is inaccurate or misleading. They should write the college official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading.

If the college decides not to amend the record as requested by the student, the college will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

   One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is defined as a person employed by the college or District in an administrative, supervisory, academic or support staff position (including law enforcement unit and health staff); a person or company with whom the college or District has contracted (such as an attorney, auditor or collection agent); a person serving on the Governing Board; or a person assisting another school official in performing his or her tasks.

   A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

   Upon request, the college discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

4. The right to file a complaint with the US Department of Education concerning alleged failures by the college to comply with the requirements of FERPA.

   The name and address of the office that administers FERPA is:
   Family Policy Compliance Office
   US Department of Education
   400 Maryland Ave., S.W.
   Washington, DC 20202-4605

C. Student Directory

A Maricopa Community College may release directory information about any student who has not specifically requested the withholding of such information. Students who do not want directory information released may so indicate during the admissions process or notify the Admissions and Records Office/Office of Student Enrollment Services.

At any Maricopa Community College, directory information is defined as a student's name, address, telephone number, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, degrees and awards received, dates of attendance, part-time or full-time status, most recent previous educational agency or institution attended by the student, college within the Maricopa Community Colleges where the student has been enrolled, photograph of the student, and electronic mail address.

D. Use of Educational Records for Advisement Purposes

All colleges within the Maricopa Community Colleges have access to the computerized degree audit program. During the advisement process, each student may have his or her academic record reviewed for coursework taken at any of the District's colleges or centers.

The institution retains the right to exercise discretion in determining the release of directory information.

E. Disclosure to Parents

In accordance with federal law, college officials may disclose educational records to parents of minors or to parents of a student who have established the student's status as a dependent according to the Internal Revenue Code of 1986, section 152, without the written consent of the student.

Faculty and Administrators

Residential Faculty and Administrators. 362
Emeritus Faculty and Administrators 374
Retired Faculty and Administrators. 380

Residential Faculty and Administrators

ACHS, Carol J. (1975)
Dean of Instruction
B.S., M.A., Central Michigan University

ADAMS, Heidi-Christa (1992)
Counseling
B.S., University of Wisconsin-Whitewater;
M.S., University of Wisconsin-Milwaukee;
Ed.D., Arizona State University;
Graduate Study: University of Hawaii-Manoa, Northern Arizona University

AHN, Emi Ochiai (2000)
Foreign Language
B.A., Japan Women's University;
M.A., Michigan State University

AL-HASHIMI, Basil (2000)
Social Science/Economics
M.A., University of Wisconsin

AL-SALAH, Mary (2004)
Nursing
B.S.N., Arizona State University;
M.S.N., University of Portland;
D.N.Sc., Widener University
(MCCCD 1991)

ALDRIDGE, Mary E. (2002)
English
B.A., B.A., M.A., University of New Orleans;
Ph.D., University of Tulsa

ALSEN, Elizabeth A. (2006)
Education
B.A., University of California Irvine;
M.A., Northern Arizona University

ALVRUS, Annalisa B. (2006)
Anthropology
B.A., University Tennessee-Knoxville;
M.A., Ph.D., Arizona State University

ANDELORA, Jeffrey (1996)
Chairperson, English
B.A., M.Ed., Ph.D., Arizona State University

ANDERSON, Keith D. (2005)
English
B.A., Government at Oberline College;
M.F.A., University of Alabama;
Ph.D., University of Arizona
(MCCCD 2000)

ANDERSON, Linda K. (2008)
Nursing
B.S.N., University of Virginia;
M.S.N., Arizona State University
(MCCCD 2003)

ANDERSON, Mark R. (2000)
Network Academy
B.A., Pacific Lutheran University;
M.A., Fort Hays State University
(MCCCD 1998)

APPEL, Karen L. (2005)
Mathematics
B.A., Arizona State University;
M.A., Nova Southeastern University

ARBOGAST, Susan D. (2004)
Nursing
B.S.N., M.S.N., Arizona State University
(MCCCD 1933)

ARENSON, Barron R. (1970)
Physical Science/Physics
B.A., St. Olaf College, Minnesota;
M.S., Rensselaer Polytechnic Institute
Graduate Study: University of Oklahoma, Texas A&M University, Arizona State University

ARGERSINGER, Gwen (1990)
English
B.A., M.Phil., University of Kansas
Graduate Study: University of Kansas, University of New Mexico

ASHCRAFT, Matthew P. (2008)
Dean of Institutional Planning and Analysis
B.A., Arizona State University
M.C., University of Phoenix
(MCCCD 2003)

ATENCIA-OLIDEN, Elizabeth (2005)
World Language
B.A., M.A., Arizona State University

AVILA, Alex L. (1990)
Social Science/Political Science
A.B., Occidental College;
M.A., Claremont Graduate University;
M.A., Ph.D., University of California at Los Angeles

AVILEZ, Adam C. (2002)
Mathematics
B.S., University of Southern California;
M.S., Ohio State University

BALDWIN, Andrew S. (2003)
Life Science
B.S., University of North Carolina at Charlotte;
M.S., Appalachian State University;
Ph.D., University of Texas at Arlington

BARON, Robert (1986)
English
B.A., M.L.S., M.A.H., Ph.D., State University of New York at Buffalo

BARTO, Michelle (2005)
World Language
B.A., M.Ed., Arizona State University

BASS, Steve (1994)
Cultural Science/Geography
B.S., Arizona State University;
M.A., Michigan State University

BAYER, Glenna J. (2006)
Nursing
A.S.N., Harper College;
B.S.N., California State University, Hayward;
M.P.A., University of San Francisco

BECKMAN, Christine M. (2000)
Communication
B.S., Northern Arizona University;
M.A., University of California;
Ed.D., Northern Arizona University

BENNETT, Glenn M. (1991)
Music
B.M., Stetson University;
M.M., D.M.A., Southwestern Baptist Theological Seminary

BENSON, Donna (1996)
Physical Science/Geology
B.S.E., M.S., Arizona State University

BENSON, Philip (1990)
Social Science/Economics
B.A., M.A., Mankato State University;
Graduate Study: Arizona State University

BENTLEY, John (1990)
Technology/Electronics
A.A.S., Mesa Community College;
B.S., M.A., Columbia Pacific University

BERNING, Gretchen Mary (2003)
English/Journalism
B.J., University of Missouri;
M.B.A., University of Phoenix

BITTER, Debra (1994)
Chairperson, Nursing
B.S., M.S.N., Arizona State University

BLACK, Bonnie S. (1997)
Social Science/Justice Studies
B.S., M.P.A., Arizona State University

BLEVINS, Karen Evonne (2004)
Cultural Science/Geography
B.A., M.A., Arizona State University

BLITZ, Phebe (2005)
Dental Hygiene
B.S., University of Michigan;
M.S., Columbia University

BONURA, Robert (2008)
Manufacturing
A.A.S., GateWay Community College
(MCCCD 1999)

BORLONGAN, Burton B. (2008)
Computer Information Systems
B.F.A., Arizona State University

BORMAN, Derek G. (2003)
Chairperson, Psychology
B.S., Brigham Young University;
M.A., Humboldt State University;
Ph.D., Utah State University

BOWLING, Evonne M. (2006)
Fashion Merchandising and Design
B.S., California State University-Chico;
M.S., Oklahoma State University

BREED-WILLIAMS, Diana E. (2003)
Nursing
B.S.N., Arizona State University;
M.S.N., University of Phoenix
(MCCCD 1999)

BRENNEMAN, Mark S. (2002)
Mathematics
B.S., University of Wyoming;
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BROWN, Marie C. (2005)
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B.A., Richmond College, England;
M.S.L.I.S., Simmons College

BROWN, Peter (1995)
Life Science
B.S., University of Maine;
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BUDGE, Steven T. (1999)
Chairperson, World Language
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B.S., B.Ed., M.S., Ph.D., Nagpur University-India

CALDWELL, Jennifer A. (2008)
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B.A., M.Ed., Arizona State University

CALL, Wynn (1990)
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B.S., Utah State University;
M.Ed., Brigham Young University;
Ph.D., Arizona State University

CALLAWAY, Michael A. (2008)
English
B.A., Eastern Washington University
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CAMERON, Preston D. (2006)
Business
B.S., Brigham Young University;
M.A., University of Phoenix

CAMPBELL, Debra (1992)
Philosophy/Religious Studies
B.A., University of Texas, Austin;
M.A., Ph.D., Arizona State University

CAPAWANA, Sarah (1989)
Chairperson, Art
B.A., Moravian College;
M.F.A., Arizona State University

CARDENAS, Antonio (1994)
World Language
B.A., M.A., San Francisco State University;
Ph.D., Arizona State University

CARDENAS-ADAME, Patricia (2000)
Vice President of Student Affairs
B.S., Texas A&M-Kingsville;
M.A., Emmanuel College;
Ph.D., Capella University

CARLTON, Bruce F. (2009)
Computer Science/Electrical Engineering
B.S.E.E., Ohio State University;
M.S.E.E., Arizona State University;
M.B.A., University of Phoenix

CARREON, Jesus V. (1976)
Chairperson, Mathematics/Computer Science
A.A., Glendale Community College;
B.A., M.A., Arizona State University

CASE, Jeffrey S. (2005)
Fire Science/Emergency Medical Technology
B.S., Ottawa University

CASTRO, Donald F. (1983)
English
B.A., Loyola University of Los Angeles;
Ph.D., Washington State University;
Graduate Study: The School of Criticism and Theory, Cambridge University, American Film Institute, UCLA

CATALDO, Margie E. (2006)
English
B.A., M.A., Kent State University

CERVENY, Nicole Villa (2001)
Cultural Science/Geography
B.S., M.A., Ph.D., Arizona State University

CHAMBERLAIN, Joanna D. (1985)
Cultural Science/Sociology
B.S., M.A., Arizona State University

CHAVIRA, Maria Romo (1997)
Psychology
B.S., M.A., Ph.D., University of Arizona

CHEROSKE, Alexander G. (2006)
Biology
B.A., University of California-Santa Barbara;
M.S., San Diego State University;
Ph.D., University of Maryland

CHOWDHURY, Madeleine P. (1997)
Mathematics
B.S., M.S., Texas A&M University
(MCCCD 1995)

CHRISTENSEN, Judy (1995)
Philosophy/Religious Studies
B.S., Utah State University;
M.Ed., University of Utah;
M.A., Arizona State University

CLARK, Denise (2000)
Life Science
B.S., Ph.D., Virginia Polytechnic Institute and State University;
Graduate Study: Massachusetts Institute of Technology, Sun Health Research Institute

COLE, George R. (1991)
Mathematics
B.S., Towson State University;
M.S., Michigan State University;
Ph.D., Arizona State University

COLLINS, Alicia (2005)
Mathematics
B.A., Arizona State University;
M.A., Northern Arizona University;
Graduate Study: Northern Arizona University

COLLINS, Linda D. (2000)
Chairperson, Business
A.A., Rio Salado;
B.A., Thomas Edison;
M.S., Walden University;
Ed.D., Northcentral University
(MCCCD 1997)

CONOVER, Kurt W. (1997)
Vice President, Administrative Services (Acting)
B.S., University of South Dakota;
M.Ed., Arizona State University
(MCCCD 1989)

CONWAY, Douglas (1990)
Social Science/Economics
A.A., Mesa Community College;
B.A., M.A., Arizona State University;
M.A., University of Delaware

CRANSWICK, Harold (1989)
Chairperson, Social Science
B.S., M.S., Arizona State University

CRUDUP, Keith (1998)
Chairperson, Philosophy/Religious Studies
B.A., M.A., Ph.D., Arizona State University

D'AMBROSIO, Jon M. (2001)
Chairperson, Technology/Automotive
A.A., Glendale Community College;
B.A., M.Ed., Northern Arizona University

DANIELSON, Robert J. (2004)
Network Academy
B.A., Eastern Washington State College;
M.A., Fort Hays State University

DELMOE, Patricia (2003)
Nursing
A.A.S., Glendale Community College;
B.S.N., M.N., University of Phoenix

DIETZ, Diane P. (2005)
Nursing
B.S.N., Arizona State University;
M.S.N., University of Phoenix
(MCCCD 1999)

DILLE, Brian (2000)
Social Science/Political Science
B.A., Brigham Young University;
M.A., Ph.D., Arizona State University

DINCHAK, Ronald K. (1975)
Life Science
B.S., M.S., Arizona State University;
Graduate Study: Arizona State University, Brigham Young University, University of Arizona, Colorado State University, University of Bridgeport, Western Washington University, University of Vermont, Southern Utah University, Alaska Pacific University

DRAZENOVIC, Anna M. (2005)
Nursing
A.A., George Brown College;
B.A., York University;
M.S.N., University of Phoenix

DRESSLER, Kevin L. (2005)
Communication
B.A., University of Puget Sound;
M.F.A., Washington State

DUGAN, Jeanne M. (2008)
English
B.A., University of Michigan, Ann Arbor;
M.A., Ph.D., Arizona State University

EFFLAND, Richard W. (1989)
Cultural Science/Anthropology
Ph.D., Arizona State University

ELLSWORTH, Barbara Grace (1966)
Business
B.A., M.S., Arizona State University

ESPOSITO, Sonia A. (2004)
Counseling
B.S., Arizona State University;
M.Ed., Northern Arizona University

EVANS, Linda (1991)
English
A.A., Glendale Community College;
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

EWING, Ann T. (1987)
Psychology
B.A., M.A., Occidental College;
Ph.D., Arizona State University

FAY, Carolyn (1992)
Communication
B.A., M.A., Western Michigan University;
Ph.D., Kent State University

FELLS, Debra K. (2001)
Business
A.A.S., Mesa Community College;
B.A., M.A., University of Phoenix

FELNAGLE, Richard H. (1990)
English
B.A., Pomona College;
M.F.A., Carnegie-Mellon University

FIERRO, Marcella (1994)
World Language
B.A., M.A., New Mexico State University
(MCCCD 1992)

FLORSCHUETZ, Timothy J. (1994)
English
B.A., M.A., Arizona State University

FOGEL, Ephram D. (2008)
Art
B.F.A., University of Utah;
M.F.A., Arizona State University

FONSECA, Brenda (2005)
Psychology
B.S., M.A., University of Iowa

FORNEY, Frederick W. (1994)
Music
B.M., University of Arizona;
M.M., Arizona State University

GAHN, Deana C. (1994)
Nursing
B.S., M.S., Ed.D., Arizona State University

GALLOWAY, Robert E. (1984)
Art
B.F.A., Ohio State University;
M.F.A., Arizona State University

GANESAN, Puvana (2004)
Communication
B.A., M.A., Old Dominion University;
Ph.D., Arizona State University

GANESH, Annapurna (2007)
Early Childhood Education
B.A., Bangalore University, India;
M.Ed., Ph.D., Arizona State University

GARDETA-HEALEY, Maria (1987)
World Language
B.A., M.A., Universidad Complutense, Madrid;
M.A., Universite de Sciences Humaines, Strasbourg;
M.A., Ph.D., Arizona State University

GARZON-FORERO, Jorge (1999)
World Language
B.A., Universidad Jorge Tadeo Lozano, Bogota;
M.A., M.Ed., Arizona State University

GAWRONSKI, Donald (1989)
Social Science/History
B.S., M.A., Ph.D., St. Louis University

GAYE, Amadou A. (2003)
Mathematics
B.S., Interafrican Electrical Engineering School, Ivory Coast;
M.S., University of Arizona;
Ph.D., Arizona State University

GILCREASE, DeLaine (1989)
Life Science
B.S., The University of Texas-Pan American;
M.S., Arizona State University

GILES, James W. (1994)
Physical Science/Chemistry
B.S., Ph.D., University of California, Davis
(MCCCD 1990)

GILLETTI, Paul (1999)
Physical Science/Chemistry
B.A., Adams State College; M.S., Wichita State University;
Ph.D., Arizona State University
(MCCCD 1991)

GLASCOE, Susan C. (1997)
Mathematics
B.A.E., Arizona State University;
M.A.T., Northern Arizona University

GONZALEZ, Eliza M. (1998)
World Language
B.A., Arizona State University;
B.A., Northern Arizona University;
M.A., University of Arizona

GOODING, Mark A. (1997)
English
B.A., Valparaiso University;
M.A., Arizona State University

GREEP, Laura A. (2008)
Nursing
B.S.N., University of Arizona

GRIFFITH, John W. (2006)
Physics
B.S., East Texas State University;
M.S., Ph.D., Oregon State University

GROVER, Joan K. (1977)
Dean of Student Affairs
B.A., M.Ed., Northern Arizona University

GROW, Arunee C. (1984)
Social Science/Economics
B.A., Chulalongkorn University;
M.A., Ph.D., University of Cincinnati

GUERIN, Aimee L. (2004)
World Language
B.A., Northern Arizona University;
M.A., Colorado State University

HAMMIL, Rodney (1987)
Technology/Welding
A.A., Arizona Western College
(MCCCD 1981)

HANNEKEN, Kathleen A. (2006)
Nursing
B.S.N., Marquette University;
M.B.A., University of Phoenix

HARASHA, Paul (2001)
Cultural Science/Sociology
B.S., M.A., Arizona State University

HARDIN, Karen (1990)
Chairperson, Counseling
B.S., Southwest Missouri State University;
M.A., Ed.D., Northern Arizona University;
Graduate Study: Arizona State University, Indiana University
(MCCCD 1984)

HARRIS, David G. (2003)
Business
B.A., Ohio Wesleyan University;
M.B.A., Arizona State University

HARRISON, Pamela K. (2008)
Biology
B.A., North Dakota State University,
Ph.D., Arizona State University

HAUAN, Catherine G. (2005)
Music
B.A., Florida State;
M.A., Ph.D., Arizona State University

HAUPTLI, Tawn (2001)
Education
B.A., Sonoma State University;
M.Ed., Arizona State University;
Ed.D., Argosy University

HEALY, Kevin (2008)
Astronomy
B.S., New Mexico Institute of Mining & Technology;
M.S., Ph.D., Arizona State University

HEFFNER, Keith R. (2005)
Music
B.S., M.A., California State University, Dominguez Hills
(MCCCD 2004)

HEFTER, Mary (2001)
Nursing
B.S.N., Azusa Pacific University;
M.S.N., California State University
(MCCCD 1997)

HELD, Christine (2001)
Business
B.S., University of Phoenix;
M.S.Ed., Capella University

HELLNER, Nancy (1992)
English
B.A., M.S., Kearney State College;
Ph.D., Arizona State University

HENDERSON, Sarah (2001)
Learning Enhancement Center
B.A., University of Portland;
M.A.T., Lewis and Clark College

HERRERA, Jaime H. (1992)
English
B.S., University of Texas, El Paso;
M.A., University of Texas, Austin
(MCCCD 1991)

HERTZLER, Betsy (1984)
Social Science/History
B.A., Washington University;
M.A., University of New Mexico;
M.C., Arizona State University;
Ed.D., Northern Arizona University

HEWETT, Michael (1988)
Chairperson (Acting), Reading
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

HIETTER, Paul T. (2005)
Social Science/History
B.S., Northwestern University;
M.A., University of Minnesota;
Ph.D., Arizona State University

HOCUTT, Gregory D. (2001)
Life Science
A.B., Harvard University;
Ph.D., Arizona State University

HOLEXA, Deborah M. (2006)
Dental Hygiene
A.A.S., William Rainey Harper College;
B.S., Northern Arizona University

HOLM, Melissa J. (2006)
Mathematics
B.A., University of California-San Diego;
M.A., Northern Arizona University

HOLMES, Rodney (1995)
Provost, (Acting)
B.A., Marshall University;
M.C., Arizona State University;
Ed.D., Northern Arizona University
(MCCCD 1986)

HOLYCROSS, Andrew T. (2005)
Life Science
B.A., M.S., University of Nebraska;
Ph.D., Arizona State Unversity

HORTON, Mary Susan (1997)
Psychology
B.S., College of St. Teresa;
M.A., Rockford College;
Ph.D., Arizona State University

HUNTER, Robert (2003)
Music
B.M.Ed., B.Ed., University of Western Ontario, Canada;
M.M., Arizona State University

HUSSEIN, Lutfi M. (2006)
English
B.A., Yarmouk University-Irbid Jordan;
M.A., Ph.D., Arizona State University

JACOBSEN, Craig B. (2001)
English
B.A., M.A., Ohio State University;
Ph.D., Arizona State University

JAMES, Aaron (1997)
Life Science
B.S., Grambling State University;
M.S., Ph.D., Arizona State University
(MCCCD 1986)

JOHN, David (2001)
Mathematics
B.S., Fort Lewis College;
M.A., Northern Arizona University

JOHNSON, Kimberly S. (2003)
Mathematics
B.S., Iowa State University;
M.Ed., Northern Arizona University

JONES, Tara C. (2007)
Mathematics
B.S., University of Arizona;
M.Ed., Northern Arizona University

JORANSEN, Janet E. (2003)
Nursing
B.S.N., University of Northern Colorado;
M.S.N., University of Colorado Health Sciences Center
(MCCCD 1984)

JORDAN, Barbara (2000)
English/ESL
A.B., University of California, Berkeley;
M.Ed., Arizona State University
(MCCCD 1998)

JOSHUA, Mangala (1994)
Physical Science/Physics
B.S., University of Sri Lanka;
M.S., Ph.D., University of Pittsburgh

KALISON, Bonnie (1986)
Life Science
B.S., M.S., University of Illinois, Urbana;
Graduate Study: Cornell University, University of Illinois, Medical Center in Chicago;
Doctoral Studies: Arizona State University

KASAPIS, Rita A. (1992)
Counseling
B.S., M.S.Ed., University of Akron;
Graduate Study: Arizona State University;
Doctoral Studies: Nova Southeastern University

KEITHLEY, Walter H. (2003)
English
B.S., B.A., Northern Arizona University;
M.A., Ph.D., Arizona State University

KELLY, Doreen (2000)
Mathematics
B.A., M.Ed., Arizona State University

KHORSANDI, Mehrzad (2002)
Technology/Drafting
B.A., University of Southwestern Louisiana-Lafayette;
M.S., University of New Orleans;
Ph.D., Texas A&M University
(MCCCD 1998)

KIKKERT, Stanley J. (2003)
Life Science
B.S., University of California-Riverside;
Ph.D., University of California-Davis

KILLEBREW, Theresa M. (2007)
Mathematics
B.S., Northern Arizona University;
M.A., Arizona State University

KIM, Kai Y. (2003)
Art
B.F.A., San Francisco Art Institute;
M.F.A., University of Michigan

KISSELL, Loretta L. (1997)
Communication
B.A., M.A., Arizona State University;
Ph.D., Northern Arizona University
Graduate Study: University of California, Berkeley, University of Arizona

KLARE, Tom R. (2006)
Computer Graphics
B.A., Virginia Polytechnic Institute

KRAFT, Katrien (2000)
Physical Science/Geology
B.A., Colby College;
M.S., Arizona State University

KROELINGER, Sally C. (1981)
Interior Design
B.S., M.S., University of Tennessee;
M.F.A., University of Georgia

LATIMORE, Denver L. (1989)
Exercise Science
B.S., Arkansas State University;
M.Ed., Wichita State University

LEE, Carol Suzanne (2003)
Nursing
B.S.N., M.S.N., Arizona State University
(MCCCD 1998)

LEIGHTY, Robert S. (2000)
Physical Science/Geology
B.S., College of William and Mary;
M.S., Northern Arizona University;
Ph.D., Arizona State University

LERMAN, Amy (2005)
English
B.A., University of Illinois;
M.A., Ph.D., University of Kansas

LERNER, Shereen A. (1992)
Dean of Instruction, (Acting)
B.A., Binghamton University;
M.A., Ph.D., Arizona State University

LEVINE, Charles W. (2001)
Social Science/History
A.A., Mesa Community College;
B.A., M.A., Arizona State University

LEWIS, Charles E. (1990)
Business
B.S., M.B.A., Arizona State University;
Certificated Public Accountant, Arizona

LEYENDECKER, Jennifer Lead (2004)
Art
B.F.A., New Mexico State University;
M.F.A., Arizona State University

LIANG, Lori C. (2008)
Fashion Merchandising
B.S., Arizona State University;
M.Ed., Northern Arizona University
(MCCCD 1991)

LIPINSKI, Edmund R. (2000)
Psychology
A.A., B.A., M.A., Oakland, University Rochester;
Ph.D., Capella University

LLOYD, Lillis M. (2001)
Counseling
B.A., University of Akron;
M.A., M.A., Ed.S., Ph.D., University of Michigan

LOPEZLIRA, Enrique A. (2005)
Social Science/Economics
B.S., M.S., Arizona State University;
M.I.M., Thunderbird, The Garvin School of International Management

LOVELADY, Hugh (2001)
Music
B.M., West Virginia University;
M.M., Arizona State University

LUCIUS, Sue Anne (1984)
Chairperson, Music
B.M., M.M., Arizona State University

LUECK, Wade C. (2007)
Psychology
A.A.S., Ricks College;
B.S., M.S., Ph.D., Brigham Young University
(MCCCD 2006)

LUTER, Zoë (2004)
Library
B.S., Northern Arizona University;
M.A., University of Arizona

LYSCAS, Margie L. (2002)
Mathematics
B.S., Stockton State College;
M.S., Arizona State University

MABRY, James C. (2008)
Vice President of Academic Affairs
B.A., M.A., Ph.D., Columbia University;
M.S., London School of Economics and Political Science, London, England

MAINES, Nicki L. (2004)
Business
B.S., Townson University;
M.B.A., University of Baltimore

MAKELELE, Ben-And B. (2002)
English
B.A., Universite Nationale du Zaire, Kinshasa;
M.A., Ph.D., Arizona State University

MARINO, Allie (2002)
World Language
B.A., M.Ed., Arizona State University

MARQUEZ, Juan J. (1999)
Business
A.A.S., Scottsdale Community College;
B.A., Ottawa University;
M.Ed., Northern Arizona University;
Ed.D., Arizona State University
(MCCCD 1983)

MARTELL, Maria Y. (2005)
World Language
B.A., M.A., Montclair State University;
Ph.D., Arizona State University

MARTINEZ, Sam B. (1997)
English
B.A., M.A., Humboldt State University;
Ph.D., Arizona State University

MARTINEZ, Terri D. (1990)
Reading
B.A., M.A., Arizona State University

MASON, Anne (2005)
Life Science
B.S., M.S., Indiana University

MAZZUCCO, Palmerino (1999)
Technology/Electronics
B.S.E.E., M.S.E., California State Polytechnic University
(MCCCD 1997)

McALEAVEY, Sue (1996)
Cultural Science/Social Work
B.A., Sheffield University;
M.Sc., Surrey University

McGAUGHEY, Barbara O. (1996)
Life Science
B.S., Arizona State University;
M.H.S., Texas Wesleyan University
(MCCCD 1994)

MCLAUGHLIN, Sharon A. (2008)
Health, P.E., Recreation
B.S., Indiana University;
M.S., A.T. Still University

MENTE, Jane (2000)
Library
A.A., Mesa Community College;
B.A., Arizona State University;
M.L.S., University of Arizona
(MCCCD 1998)

MERRITT, Sheila (1993)
Communication
A.A., Lubbock Christian College;
B.A., Harding College;
M.A., Arizona State University

MESSER, Jeff (2005)
Exercise Science
B.A., Wesleyan University;
M.B.A., Duke University;
M.S., Ph.D., Arizona State University

MINCKLEY, Saundra (1976)
Chairperson/Life Science
B.S., Southern Illinois University;
M.S., University of Nevada;
Graduate Studies: Northern Arizona University, Arizona State University, University of Northern Colorado, Northeastern University

MINGER, Timothy L. (2005)
Physical Science/Chemistry
B.S., University of California, Los Angeles;
B.A., Ph.D., University of Colorado, Boulder

MOHLER, Kathryn (2001)
English
B.A., Bemidji State University;
M.F.A., Arizona State University
(MCCCD 2000)

MONTEMAYOR, Joaquin J. (1985)
Counseling
A.A., Mesa Community College;
B.A., M.Ed., Oregon State University;
Ph.D., University of Arizona
(MCCCD 1982)

MOORE, Charles T. (1991)
Library
B.A., University of Wisconsin;
M.Ed., Arizona State University;
M.A., University of Arizona;
Graduate Study: University of Wisconsin, Arizona State University
(MCCCD 1989)

MOORE, Jonelle D. (1999)
English
B.A., Adams State College;
M.A., University of Wyoming;
M.A., University of New Mexico

MORALES-JONES, Sonia M. (2007)
Chairperson, Fire Science
A.A.S., Mesa Community College;
B.S., Grand Canyon University

MORGAN, Janet (2001)
Mathematics
B.A., M.A.Ed., Arizona State University

MUEHLENBECK, Kerry L. (2006)
Administration of Justice
B.S., Northwestern University;
LL.M., University of San Diego School of Law;
J.D., Indiana University School of Law

MULLINS, Jack (1998)
Journalism
B.S., Southern Illinois University;
M.Ed., Northern Arizona University

NACHMAN, David F. (2002)
Physical Science/Chemistry
A.S., Mercer County Community College;
B.A., Rutgers College;
Ph.D., Arizona State University
(MCCCD 1990)

NANGO, Patrice (2005)
Philosophy/Religious Studies
B.A., M.A., Arizona State University

NEDELKOVA, Valentina (2007)
Chemistry
B.S., University of St. Cyril & Methodius, Macedonia;
M.S., Arizona State University

NEELEY, Mark F. (2002)
Mathematics
B.S., University of Nebraska;
M.A., Arizona State University

NEGLIA, Joseph D. (1996)
Technology
B.S.E.E., University of Pennsylvania;
M.B.A., Arizona State University;
Graduate Study: Arizona State University

NESS, Ellyn K. (2000)
Chairperson, Justice Studies
B.S., Northern Illinois University;
M.S., Fort Hays State University

NIELSEN, Brenda (1992)
Business
A.A., Triton College;
B.S., Florida Southern College;
M.Ed., Florida Atlantic University
(MCCCD 1989)

NUNEZ, Paul A. (1997)
Mathematics
B.S., Arizona State University;
M.S., Stanford University

OAKES, Duane (2000)
Educational Support
A.A., Mesa Community College;
B.A., M.A., Brigham Young University
(MCCCD 1991)

OBERMILLER, Lewis E. (2002)
Life Science
B.S., M.S., East Carolina University-Greenville;
Ph.D., Arizona State University

O'BRIEN, Patrick (1995)
Mathematics
B.S., B.S.Ed., University of Wisconsin;
M.A.T., Aurora University

OLSON, Susan K. (2003)
Chairperson, Communication
B.A., Ph.D., University of Arizona;
M.A., University of Northern Colorado

ORMISTON, Aileen (1989)
Business
B.A., Michigan State University;
M.S., Texas A&M University;
Certified Public Accountant, Maryland

ORMISTON, Jacquelyn M (2007)
Mathematics
B.S., Michigan State University;
M.Ed., Arizona State University

OSGOOD, Christine M. (2000)
Early Childhood Education
B.S., M.Ed., Pennsylvania State University;
Ph.D., Iowa State University

OUDERKIRK, Bert (2004)
Social Science/Justice Studies
B.S., Park University

PAN, Shouan (2008)
President
B.A., Hefei Polytechnic University;
People's Republic of China,
M.Ed., Colorado State University;
Ph.D., Iowa State University

PARISEK, Betty M. (2007)
Nursing
A.A., Phoenix College;
A.A., Mesa Community College;
B.S.N., Grand Canyon University;
M.S.N., University of Phoenix

PARRISH, Gene L. (1971)
Counseling
B.A., M.A., Ph.D., Arizona State University

PAYNE, John T. (1990)
Mathematics
A.S., Kansas City Junior College;
B.S., M.S.T., University of Missouri, Columbia;
Ed.D., Arizona State University

PEARSON, Sonya D. (2007)
Dean of Student Affairs
B.A., M.S., Northeastern State University;
Ph.D. Walden University

PERALES, Kathleen M. (2001)
Dean of Student Affairs
B.A., University of Arizona;
M.Ed., Northern Arizona University

PERALTA, Jesus (1996)
Social Science/History
B.A., M.Ed., Arizona State University

PERALTA, Lorna M. (2003)
Chairperson, Library
B.Ed., University of Liverpool, England;
M.L.S., University of Arizona

PERDUE, Alexandra (2007)
Music
B.A., University of Michigan, Ann Arbor;
M.F.A., School of the Art Institute of Chicago

PERKINS, Vanessa (1991)
Cultural Science/Sociology
B.S., Winston Salem State University;
M.S.W., Ph.D., Ohio State University

PETERSON, Bruce A. (2000)
Communication
B.A., M.A., Speech;
M.A., University of Texas, Pan American

PETERSON, Craig C. (2007)
Music
B.M., Concordia College;
M.M., D.M.A., Arizona State University

PETERSON, Jack H. (1969)
Cultural Science/Sociology
B.S., M.S., Brigham Young University;
Graduate Study: University of Utah, Arizona State University

PETERSON, Jacqueline (1987)
Mathematics
B.S., M.N.S., Arizona State University

PIERCE, Janell D. (2006)
Library
A.A., Long Beach City College;
B.A., University of California, Riverside;
M.L.S., University of Arizona

PIERSON, Janice S. (2002)
Chairperson, Design
B.S., Miami University;
M.S., Arizona State University

PIKE, Scott (2005)
Mathematics
B.S., Cal Poly San Luis Obispo;
M.Ed., Northern Arizona University
(MCCCD 2000)

POLLARD, Kathleen A. (2004)
Nursing
B.S.N., Michigan State University;
M.S.N., University of Phoenix

POLLOCK, Susan K. (1997)
Psychology
B.Ed., M.A., Ph.D., University of Miami

PONDER, Terry L. (1994)
Life Science
B.S., University of Montevallo;
M.S., Arizona State University
(MCCCD 1979)

PRATT, Gregory B. (2000)
Social Science/Economics
B.A., M.B.A., Arizona State University

PREISSER, Gayla M. (1994)
Psychology
B.S., Colorado State University;
M.A., University Northern Colorado;
Ph.D., University of Arizona

PULLENZA, Patricia (1992)
English/ESL
B.A., M.A., Arizona State University;
Graduate Study: California State University, Dominguez Hills

QUINTRALL, Denise (2004)
Fire Science/Emergency Medical Technology
A.A., Mesa Community College;
B.S., Arizona State University;
M.Ed., Northern Arizona University
(MCCCD 1989)

RANGEL, Tina (2001)
Exercise Science
B.S., Arizona State University;
M.Ed., Northern Arizona University
(MCCCD 1992)

RATHKAMP, Joshua R. (2007)
English
B.A., Western Michigan University;
M.F.A., Arizona State University

RAUSCHER, Joseph (1999)
Technology/Automotive
A.A., Indiana Vocational Technical College
(MCCCD 1989)

RAWSON, Erin K. (1997)
Communication
B.A., M.A., University of Northern Colorado
(MCCCD 1995)

REILLY, Janice (1990)
Counseling
B.A.E., Arizona State University;
M.A., Northern Arizona University;
Graduate Study: Arizona State University, Chapman College, Northern Arizona University
(MCCCD 1974)

REYES, Nora Amavisca (1997)
Education
B.A., M.Ed., Ed.D., Arizona State University

RICE, Linda Lou (2001)
Nursing
B.S.N., University of Nebraska;
M.A., Northern Illinois University
(MCCCD 1993)

RICHARDSON, Danene K. (1996)
Music
A.A., Mesa Community College;
B.A., M.M., Arizona State University

ROBB, Cherise J. (2004)
Design
B.A., University of Arizona

ROBERTS, Patricia T. (2007)
Business
B.A., Arizona State University;
M.B.A., University of Phoenix

RODRIGO, Rochelle L. (2002)
English
B.A., University of California, Riverside;
M.A., Arizona State University

ROSS, Hubert A. (2001)
Counseling
A.A., Phoenix College;
B.A., Arizona State University;
M.A., Northern Arizona University

ROSSITER, Daphne (2000)
Mathematics
B.A., Arizona State University;
M.A., Northern Arizona University

ROZSA, Katalin (1994)
Mathematics
M.S., Eotros Lorand University;
M.N.S., Arizona State University

RUSH, Raye (2000)
Mathematics
B.A., CUNY Hunter;
M.S., CUNY Stony Brook

RUSHING, Derek N. (1997)
Business
B.S., San Jose State University;
M.A., Northern Arizona University;
Graduate Study: California State Polytechnic University, Pomona

RUSSELL, Scott C. (2003)
Cultural Science/Anthropology
B.A., University of New Mexico;
M.A., M.S., Ph.D., Arizona State University

RUTLAND, Yvonne E. (1990)
English
A.A., Miami-Dade Community College;
B.A., M.A., Arizona State University

SAFFELL, Erinanne M. (2007)
Geography
B.S., M.A., Ph.D., Arizona State University

SALAZAR, David (1989-2008)
English
B.A., M.A., Arizona State University;
Ph.D., Washington State University;
Graduate Study: University of California, San Diego

SAMSON, Robert D. (2003)
Network Academy
A.A., Scottsdale Community College
B.S., Capella University

SCHAEFFER, Robin (2008)
Nursing
B.S., Russell Sage College

SCHINELLER, Fred (2000)
Mathematics
B.S., University of California, Santa Barbara;
M.S., Arizona State University

SCHMUCK, Roger (1987)
Exercise Science
B.A., M.A., Arizona State University

SCHULTZ, David (2002)
Mathematics
B.A., Westmont College;
M.Ed., Arizona State University

SCOTT, Michael (2005)
Physical Science
B.S., Northern Arizona University;
M.A., University of California, Santa Barbara

SCOTT, Mona C. (2000)
Cultural Science/Sociology
B.A., University of Southern California;
M.A., Arizona State University

SEAGLE, Andy R. (2003)
Music
A.A., Golden West College;
A.A., Pima Community College

SEIMS, John P. (1996)
Mathematics
A.A., St. Petersburg;
B.S., University of Florida;
M.A., University of South Florida

SERPONE, Enrico J. (1990)
Mathematics
B.A., Southern Illinois University;
M.A., Arizona State University
(MCCCD 1984)

SHAW, Scott D. (1997)
Technology

SHEFFIELD, Alan (1982)
Mathematics
B.S., Columbia University;
M.S., Stanford University;
M.S., S.U.N.Y.;
M.S., Hofstra University

SHEFFIELD, Kathryn (2001)
English/ESL
B.A., M.A., SUNY Stony Brook
(MCCCD 1984)

SHEPORT, Jill L. (2003)
Technology/Vet Tech
B.S., Stanford University;
D.V.M., Colorado State University

SHERRILL, Karin (2005)
Nursing
B.S.N., M.S.N., University of Phoenix
(MCCCD 1992)

SHOEMAKER, Thomas P. (1997)
Philosophy/Religious Studies
B.A., McPherson College;
M.Div., Luther Theological Seminary

SILBERSCHLAG, Hans (2005)
Fire Science/Emergency Medical Technology
A.A.S., Mesa Community College;
M.A., Northern Arizona University

SIMMS, Robert D. (1994)
Mathematics/Computer Science
B.S., Indiana University of Pennsylvania;
M.S., University of Arizona

SIMS, Michael J. (1989)
Chairperson, Physical Science/Engineering
B.S.E., M.S.E., Ph.D., Arizona State University

SOMERS, Mark D. (2005)
Physical Science/Chemistry
B.S., New Mexico Institute of Mining and Technology;
M.S., Ph.D., University of Maryland

SOZA, Robert A. (2008)
English
B.S., Arizona State University;
M.A., Ph.D., University of California, Berkley

SPENCE, Ann-Marie D. (1996)
English
B.A., Knox College;
M.A., Arizona State University

SPERANZA, Linda M. (1996)
Art
B.F.A., New York State College of Ceramics at Alfred University;
M.F.A., Arizona State University

ST. AMAND, Litsa P. (1992)
Mathematics
B.S., M.A.T., Northern Arizona University

ST. PETER, Carolyn J. (2003)
Psychology
B.A., University of Kansas;
M.A., Wichita State University;
Ph.D., Arizona State University

STEIG, Jo M. (1982)
Mathematics
B.A., East Carolina University;
M.S., Brigham Young University;
Ed.D., Arizona State University
(MCCCD 1977)

STEWART, Mary A. (2000)
Education
B.A., M.Ed., Arizona State University
(MCCCD 1992)

STINE, Katherine Ann (1985)
Chairperson, Exercise Science
B.S., Brigham Young University;
M.S., Arizona State University;
Graduate Study: Arizona State University

STORY, Naomi O. (1999)
Center for Teaching and Learning
B.A., Coe College;
M.A., Ph.D., Arizona State University
(MCCCD 1984)

STRICKLAND, Jennifer S. (2008)
Educational Support
A.A., Mohawk Valley Community College;
B.A., Arizona State University;
M.Ed., Lesley University;
Ph.D., Ohio State University
(MCCCD 2004)

SURBER, Angeline Margaret (2003)
Business
A.A.S., Mesa Community College;
B.S., University of Maryland;
M.A., University of Phoenix

SVOBODA, Diane B. (1989)
English
B.A., Queens College;
M.A., State University of New York, Albany

TABAR-GAUL, Lo-An N. (1989)
Business
A.A.S., Cochise College;
B.A.M., University of Phoenix;
Ph.D., Northcentral University;
Graduate Study: Arizona State University

TAGGART, Thomas R. (1996)
Mortuary Science
B.S., Aurora University;
M.S., Northern Illinois University;
Ed.D., Ed.S., Mississippi State University

THACKER, Larry (1985)
Dean of Instruction
A.A.S., Phoenix College;
M.Ed., Northern Arizona University

THOMSON, Kara E. (2003)
Communication/Theatre Arts
A.A., Arizona Western College;
B.F.A., Arizona State University;
M.F.A., University of Nebraska-Lincoln

TIWALD, Catherine G. (2006)
Nursing
B.S.N., Azusa Pacific University;
M.S.N., University of Phoenix

TODD, Christopher G. (2008)
Computer Graphics
B.F.A., Central Washington University;
M.F.A., Arizona State University

TOLER, JR., Richard L. (2006)
General Business
B.S., University of Cincinnati;
M.B.A., Harvard University

TOLZMAN, Ann (2000)
Library
B.A., Marquette University;
M.L.I.S., University of Wisconsin, Milwaukee

TOWNSLEY, Jennifer M. (2008)
Communication
B.A., Wilkes University;
M.A., Ed.D., Arizona State University

TRAN-NGUYEN, Ly T.L. (2000)
Psychology
B.S., University of Arizona;
M.A., Ph.D., Arizona State University;
Graduate Study: Arizona State University

URSIC, Elizabeth M. (2003)
Philosophy/Religious Studies
B.S., M.A., M.B.A., University of Pennsylvania;
M.Div., Yale University

VanTASSELL, Heidi (2001)
Physical Science/Astronomy/Physics
B.A., B.S., University of Rochester;
M.S., Arizona State University

VAUGHAN, Barry F. (1996)
Philosophy/Religious Studies
B.A., Oklahoma Baptist University;
M.A., Baylor University;
Ph.D., University of Oklahoma

VENEMA, Jeremy (2002)
English
B.A., M.A., Ph.D., Arizona State University

VERCH, Todd A. (2000)
Technology/Drafting
B.S.D., M.S.D., Arizona State University

VIGO-ACOSTA, Carmen (1991)
World Language
B.S., M.A., Brigham Young University
(MCCCD 1987)

WACLAWSKI, Phillip P. (2000)
Business
B.S., Michigan State University;
M.S., Rutgers University

WEBB, Eddie D. (2000)
English
B.A., California State University, Chico;
M.F.A., Arizona State University

WEIDE, John O. (1990)
Physical Science/Chemistry
B.S., M.S., Pittsburgh State University;
Ph.D., Arizona State University
(MCCCD 1973)

WELSH, Edward L. (1993)
Business
B.S., B.S., M.B.A., J.D., Arizona State University;
Attorney at Law, Arizona
(MCCCD 1982)

WILSON, Amelia (2002)
Reading
B.A., California State University-Northridge;
M.S., National University

WILSON , Dennis (2001)
Life Science
B.S., University of Durham;
Ph.D., University of Oregon

WILSON, Jo Anne (1970)
Dean of Instruction, Red Mountain
B.S., University of Arizona;
M.A., Arizona State University

WINTZ, Michael D. (2000)
Philosophy/Religious Studies
B.A., University of Dubuque;
M.Div., University of Dubuque Theological Seminary

WOOD, Shawn E. (2000)
Mathematics
B.S., M.Ed., University of Oklahoma

YANDELL, Ruth B. (1976)
Music
B.A., Silliman University;
B.M., Philippine Women's University;
M.M., Western Michigan University

YEE, Donald H. (1989)
Physical Science/Engineering
B.S., M.A., Northern Arizona University;
Graduate Study: Arizona State University

YOUNT, David J. (2000)
Philosophy/Religious Studies
B.A., University of Michigan, Ann Arbor;
M.A., Ph.D., University of Wisconsin, Madison

ZERANGUE, Karl (2002)
Mathematics/Computer Science
B.A., St. Joseph College;
M.S., University of Southwestern Louisiana;
Ph.D., Arizona State University

ZIENKEWICZ, Lori Hamilton (2004)
Nutrition
B.S., M.S., Kansas State University

ZIKOPOULOS, John N. (1995)
Physical Science/Chemistry
B.S., Worcester Polytechnic Institute;
Ph.D., Iowa State University

ZIMMERMAN, Maureen (1991)
Nutrition
B.S., Arizona State University;
M.P.H., University of Hawaii;
Ed.D., Northern Arizona University

ZULU, Itibari M. (2006)
Library
A.A., Merritt College;
B.A., California State University, Hayward;
M.L.S., San Jose State University;
Doctoral Studies: Union Institute & University

Emeritus Faculty and Administrators

ALF, Stanely Nels (1966-1992)
Technology
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University, Linkoping University

ALLISON, Margaret L. (1963-1988)
English
A.A., Mesa College;
A.B., University of Colorado;
M.A., Colorado State College;
Graduate Study: Northern Colorado University, Stanford University, University of Colorado, University of Utah, Arizona State University, Standford University

ARNOLD, Ronald P. (1982-2001)
Technology
A.A.S., Canton College;
B.S., Oswego State University of New York;
Graduate Study: Potsdam State University of New York, St. Lawrence University

BENEDICT, Allen R. (1972-2003)
Exercise Science
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University, Azusa Pacific College

BENNETT, Silvia L. (1983-2007)
English
B.A., Trinity College, Washington D.C.;
M.A., Catholic University of America
Graduate Study: Arizona State University

BENNETT, Thomas G. (1971-1992)
English, Physical Education, Athletic Director
A.B., Wabash College;
M.A., Indiana University

BOWMAN, Margaret (1973-1994)
Nursing
Evanston Hospital School of Nursing Education;
Kendall College; Northwestern University;
B.S.N., M.A.E., Arizona State University;
Graduate Study: Arizona State University

BROWN, Donald R. (1971-1992)
Administration of Justice
A.A., Oakland City College;
B.S., M.P.A., Brigham Young University;
Graduate Study: Arizona State University

BRUNS, Ramon O.* (1965-1989)
Life Science
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University, George Peabody College for Teachers, University of Arizona, University of Oklahoma, University of Hawaii

BURKE, Doyle (1969-2002)
Chairperson, English, Humanities, Journalism
B.A., Arkansas State University;
M.A., Arizona State University;
M. Div., Golden Gate Baptist Theological Seminary;
Graduate Study: Arizona State University

BYDALEK, David (1990-2000)
Business
B.S., Eastern Illinois University;
M.S., Northern Illinois University;
Ed.D., Arizona State University
(MCCCD 1969)

CALBECK, Kenneth B. (1969-1989)
Cultural Science
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University, Northern Colorado University, University of Delaware

CAMPBELL, Marilyn* (1972-1994)
Chairperson, Nursing
St. Mary's Hospital School of Nursing;
B.S.N., M.S., Arizona State University;
Graduate Study: Arizona State University

CAMPBELL, Overton C. (1965-1987)
Technology
B.S., Oklahoma State University;
M.S., University of Utah;
Graduate Study: Wichita University, Oklahoma State University, University of Utah, University of Illinois, Arizona State University

CASEY, Bernard L. (1966-1994)
Social Science
B.A., M.A., Ed.D., Arizona State University

CHAVEZ, Antonio E.* (1972-2001)
Counseling
B.S., University of Arizona;
M.C., Arizona State University;
Graduate Study: Arizona State University

CHOICE, Donald (1971-1997)
English
B.A., M.A., University of Oklahoma;
Graduate Study: University College, Dublin, Ireland

CHRISTENSEN, Lot B. (1963-1986)
Physical Education
A.A., Eastern Arizona Jr. College;
B.S., Ricks College;
M.S., Utah State University

CLARIDGE, James D. (1967-1996)
Agriculture
A.A., Eastern Arizona Jr. College;
B.S., M.Ag.Ed., University of Arizona;
Graduate Study: University of Arizona

CLEMENT, Richard P. (1970-2001)
Foreign Language
B.A., M.A., Brigham Young University;
Fulbright, Graduate Study: Goethe-Institute in Goettingen and Berlin

COHEN, Roy (1988-2007)
Psychology
B.A., Hofstra University;
M.S., University of Pittsburgh;
Ph.D., Arizona State University
(MCCCD 1972)

CRONQUIST, Linda M. (1983-2003)
Business
B.A., Pennsylvania State University;
M.B.A., Arizona State University

DENEUI, Sandy (1971-1996)
Physical Education
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

DRACHLER, Carole (1983-2009)
Art
B.A., University of Michigan;
M.A., Northwestern University;
Ph.D., University of Michigan

DUCE, Durrell R. (1975-2005)
Physical Science/Chemistry
B.S., Utah State University;
M.S., Ph.D., Arizona State University

DURRANT, Martin H. (1983-1998)
Chairperson, Foreign Language
B.A., Brigham Young University;
M.A., Ph.D., Arizona State University;
Graduate Study: University of Valladolid
(MCCCD 1966)

DUTSON, Lyn (1969-2009)
Communication/Theatre Arts
B.A., M.A., Arizona State University;
Graduate Study: University of Boston, Arizona State University, Western Illinois University, Southern Oregon State College

EAGAR, Jorge (1998-2004)
Foreign Language
B.A., M.A., University of California, Los Angeles;
Ph.D., Arizona State University
(MCCCD 1984)

EBERLE, Donella (1976-2007)
Chairperson, English, Humanities, Journalism
B.A., M.A., Arizona State University
Graduate Study: Arizona State University

ELIAS, Sanford (1990-2005)
Speech/Theatre
B.S., M.A., Northwestern University;
M.F.A., Mankato State University
(MCCCD 1984)

ESHELMAN, Myrna (1980-2006)
Chairperson, Nursing
B.S., M.S.N., Arizona State University

ESQUER, Elias, Y. (1969-1994)
Chairperson, Foreign Language
B.A., M.A., Arizona State University;
Graduate Study: Guadalajara, Mexico, University of Sevilla, Spain

ETTER, Ronald A. (1996-2005)
Dean, Administrative Services
B.S., M.Ed., Arizona State University
(MCCCD 1972)

EVANS, Charles K. (1964-1992)
Chairperson, Speech Communication/Theatre Arts/ Telecommunication
B.A., Fort Hays State University;
M.A., Kansas State University;
Graduate Study: University of Colorado, Arizona State University

FALK, Edwin (1967-1987)
English
B.A., Roosevelt University;
M.A. Ed., Arizona State University

FANNING, Ron (1973-2000)
English
A.A., Mesa Community College;
B.S., M.A., Northern Arizona University;
M.F.A., Arizona State University;
Graduate Study: Arizona State University, University of Wyoming, University of New Hampshire;
Doctoral Studies: Ohio University

FAZIO, Gene S. (1981-2007)
English
A.A., Phoenix College;
B.A., M.A., M.Ed., Arizona State University;
Graduate Study: University of Delaware, University of California, Santa Barbara, Arizona State University, Northern Arizona University
(MCCCD 1970)

FERGUSON, Jerrell J. (1967-1994)
Chairperson, Psychology
B.S., M.A., Arizona State University

FERREIRA, Mary Grace (1976-1996)
Physical Science
B.S., M.A.T., University of Massachusetts;
M.N.S., Arizona State University

FRIDELL, Margaret (1984-2009)
Nursing
B.S.N., Avila College;
M.S., F.N.P., Arizona State University

FRYE, James (1969-1994)
Physical Education
B.A., University of Redlands;
M.S., Arizona State University

GALLIART, Allen G. (1972-2001)
Physical Science/Chemistry
B.S., Wichita State University;
Ph.D., Arizona State University

GARCIA, Robert J. (1979-2002)
English
B.A., M.A., New Mexico Highlands University;
Ed.S., University of Illinois;
Ph.D., Arizona State University;
Graduate Study: University of California, Berkeley

GARRISON, James S. (1971-2004)
Art
B.S., Indiana State University;
M.A., Purdue University

GILPIN, Barbara R.D. (1971-1991)
Home Economics
B.S., Arizona State University;
M.S., Arizona State University;
Registered Dietician, American Dietetic Association

GORDON, Deborah A. (1967-1992)
Physical Education
B.S., M.S., West Virginia University;
Graduate Study: Arizona State University,
Western International University

GRANT, Raymond W. (1975-2000)
Chairperson, Physical Science
A.B., Lafayette College;
A.M., Ph.D., Harvard University

HAGGARD, Bill (1967-1993)
Business
B.A., M.A., Arizona State University

HALTERMAN, Jayne (1982-2004)
Business
B.S., California State University, Long Beach;
M.A., Arizona State University
(MCCCD 1971)

HANNON, John J. (1975-1997)
Cultural Science
B.A., St. Patrick College;
M.A., Ph.D., University of Arizona

HARLOW, Roger (1991-2005)
Technology
B.S., Bowling Green State University;
M.A., Northern Arizona University
(MCCCD 1984)

HARRIS, Roger W. (1967-1994)
Chairperson, Music
B.M., Arizona State University;
M.M., University of Southern California

HARTSHORN, Robert (1968-1989)
Library
B.S., Brigham Young University;
M.S., University of Southern California;
Graduate Study: Utah State University, University of Utah,
Western Reserve University

HENDRICKS, James* (1965-1990)
Chairperson, Music
B.S., Columbia University;
M.A., Arizona State University;
Graduate Study: Arizona State University,
Oberlin Conservatory of Music, Vienna Musik Akadamie

HERNANDEZ-RODARTE, Rebecca (1978-2001)
Counseling
B.A., Arizona State University;
M.A., University of New Mexico;
Graduate Study: Arizona State University
(MCCCD 1972)

HERRICK, Ron (1975-2003)
Business
A.A., Phoenix College;
B.S., M.A., Ph.D., Arizona State University

HILL, Ronald D. (1971-2001)
Life Science
B.A., LaSierra University;
Ph.D., Arizona State University;
Graduate Study: University of Arizona

HINZE, Jack (1982-2003)
Technology
B.S., Chadron State College;
M.S., Pittsburgh State College;
Graduate Study: Arizona State University

HODGES, Walter G. (1966-1989)
Chairperson, English, Humanities, Journalism and Philosophy
B.S., M.A., Northern Arizona University;
B.F.T., Thunderbird Graduate School of International Management;
Graduate Study: Stanford, Arizona State University, Northern Arizona University

HOLT, William A. (1967-1996)
Dean of Instruction
B.A., M.S., Arizona State University;
Graduate Study: Arizona State University

HORN, Charles J. (1971-1997)
Physical Science
B.S., M.S., Northern Illinois University;
Ph.D., Arizona State University

HOSTETLER, Donald K. (1968-1991)
Mathematics
B.S., Bethel College, North Newton;
M.S., Kansas State Teachers College;
Graduate Study: Oklahoma State University,
Arizona State University, University of Nevada

HUFFAKER, Jerry (1968-1992)
English, Humanities
B.A., M.A., Arizona State University;
Graduate Study: Northern Arizona University,
Arizona State University, University of California

IKEDA, Susan (1976-2000)
Business
B.A., M.A., Arizona State University

*Deceased

INGRAM, Nels W. (1966-1991)
Mathematics
B.S., Oregon State University;
M.A., Reed College;
M.N.S., Arizona State University;
Graduate Study: University of Alaska, Oregon State University, Reed College, Stanford, Arizona State University, University of Oregon

JACKSON, Joan E.* (1970-1992)
English
B.S., Bowling Green State University;
M.S., Arizona State University

JOHNSON, Margaret A. (1984-2004)
Life Science
B.S., University of Texas, Austin;
M.S., Ed.D., Arizona State University;
Graduate Study: University of Arizona

JOHNSON, Zeno M. (1967-1989)
Cultural Science
B.A., M.A., Arizona State University;
B.D., Episcopal Theological School and Harvard Divinity School; Ph.D., Arizona State University

KALIA, Rajinder K. (1967-2008)
English
B.A., University of Travancore;
M.A., Panjab University;
M.A., University of California, Los Angeles;
Graduate Study: Arizona State University

KEYWORTH, Claire W. (1973-1998)
Chairperson, Nursing
New England Deaconess Hospital School of Nursing;
B.S.N., University of New Hampshire;
M.S., Arizona State University

KEYWORTH, Fred J. (1964-1989)
Chairperson, Social Science
A.B., M.S., Fort Hays Kansas State University;
Graduate Study: Arizona State University

KILPATRICK, Barbara L. (1969-1996)
Business
B.A., M.B.A., Arizona State University;
Graduate Study: Arizona State University, Northern Arizona University

KIRK, Jinnett B. (1965-1979)
Dean of Students
B.S., Oklahoma State University;
M.A., Arizona State University;
Graduate Study: Arizona State University, University of California, Los Angeles, University of California, Berkeley
(MCCCD 1955)

KIRKPATRICK, Richard (1968-1992)
English
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

KNOLL, Lester J. (1966-1992)
Counseling
B.A., M.S., Fort Hays Kansas State University;
Graduate Study: Emporia State Teachers College, Pittsburgh State College, Arizona State University

LaBELL, Gerald M. (1981-2008)
Technology/Electronics
B.S.E.E., Wayne State University;
M.S.E., Arizona State University;
Graduate Study: Arizona State University

LARSON, Linda S. (1975-2007)
Speech Communication/Theatre Arts
B.S., M.S., Indiana State University;
Graduate Study: Arizona State University, Northern Arizona University, University of Arizona

LEYVA, Raquel A. (1984-2004)
Chairperson, Reading
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University, University of Valencia

LUHTALA, Shirley (1965-1992)
Physical Education
B.S., M.S., Northern Illinois University;
Graduate Study: Arizona State University

LYON, Gary F. (1967-1996)
Chairperson, Agriculture/Technology
B.S.E.E.E., M.S.E.E.E., Arizona State University;
Graduate Study: Arizona State University

MAHONEY, Ann M. (1979-2004)
Philosophy/Religious Studies
B.A., English, M.A., Humanities, M.A., Philosophy, Ph.D., Arizona State University

MAHONEY, Kurt (1969-1994)
Psychology
B.S., M.A., Ph.D., Arizona State University

MAINIERI, John V. (1982-2007)
Business
B.S., Rutgers University;
M.B.A., Columbia University;
Certified Public Accountant, Arizona

MALENA, Richard F. (1999-2009)
Chairperson, Education
B.A., Gannon University;
M.Ed., Edinboro University of Pennsylvania;
Ed.D., Arizona State University
(MCCCD 1984)

MANCUSO, James B. (1974-2008)
Vice President, Academic Affairs (Acting)
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University
(MCCCD 1967)

MARTIN, Martha C. (1975-1979) (1984-2000)
Design, Family and Consumer Sciences
B.S., California Polytechnical State University;
M.S., Arizona State University;
Ed.D., University of California, Los Angeles

MARTIN, Maunelle W. (1969-1999)
Cultural Science
B.S.E., University of Central Arkansas;
M.S., University of Arkansas;
Ed.D., Arizona State University;
Graduate Study: University of Southern Mississippi, Western Michigan University, Southern Utah State, American University

*Deceased

MAST, Nancy (1975-1996)
Chairperson, Home Economics
B.S., University of Arizona;
M.S., Arizona State University

McDONALD, Kaye (1966-1992)
Dean of Student Services
B.S., University of Utah;
M.S., University of Colorado;
Ed.D., Arizona State University;
Graduate Study: University of Illinois, Northern Illinois University

McEOWEN, Bill (1968-1992)
Chairperson, Life Science
B.S., M.A., University of Arizona;
M.N.S., University of Idaho;
Graduate Study: Arizona State University, Colorado State University, University of Hawaii

McMULLIN, Gene A. (1966-1992)
Chairperson, Social Science
B.S., Southern Illinois University;
M.A., Arizona State University;
Graduate Study: Arizona State University, University of Arizona, American University

MELTON, Marcia (1975-2004)
Library
B.A., University of Montana;
M.L.S., University of Arizona;
M.A., University College of Wales

MESSALI, Andree J. (1964-1987)
Foreign Language
B.S., M.A., Western Michigan University;
B.E.P.S., France;
Graduate Study: University of Michigan, Arizona State University, University' de Vincennes, Institut Saint-Louis

MEYER, Eva (1967-1990)
Nursing
B.S.N., Wheaton College, West Suburban Hospital School of Nursing;
M.S., Arizona State University;
Graduate Study: Northern Arizona University

MEYER, Rick (1987-2007)
Mathematics
B.S., M.A., Arizona State University;
Graduate Study: Arizona State University
(MCCCD 1979)

MILLER, Marlan J. (1963-1983)
Art
B.A., M.A., Arizona State University;
Graduate Study: New York University

MILLER, Rex (1980-1996)
Technology
B.A., Arizona State University;
M.E., Bowling Green State University;
Graduate Study: Arizona State University
(MCCCD 1972)

MILNER, Jeannette Lynn (1979-2000)
Journalism
B.A., University of Wyoming;
M.A., Arizona State University;
Graduate Study: Syracuse University, American Institute for Foreign Study, Greece and Rome, International Seminar in Mass Communications, Dugi Otok, Yugoslavia
(MCCCD 1975)

MINITTI, Robert (1972-1998)
Physical Education
B.A., M.A., Arizona State University

MORRIS, Carl L. (1969-1992)
Physical Science
B.S., Chadron State College;
M.N.S., Arizona State University;
Graduate Study: University of Idaho, College of Idaho, Arizona State University
(MCCCD 1965)

MORRIS, Carlene K. (1971-1996)
Business
B.S., M.A., Arizona State University

MORRISON, Walter R. (1968-1989)
Social Science
B.S.Ed., M.A., Northeast Missouri State Teachers College;
Graduate Study: Arizona State University, Northeast Missouri State College, The Colorado College

NEAL, David N. (1966-1989)
Physical Science
B.A., M.A., Ed.D., Arizona State University;
Graduate Study: Oak Ridge, Tennessee, University of California, Berkeley, University of Oklahoma, Arizona State University

NIELSEN, Leroy (1969-1985)
Technology
B.S., University of Minnesota;
M.A., Arizona State University

OHL, John (1976-2007)
Social Science/History
B.S.Ed., Slippery Rock State College;
M.A., Duquesne University;
M.S.L.S., University of Kentucky;
Ph.D., University of Cincinnati

OKEZIE, Richard C. (1988-2007)
Business
B.S., Southwest Missouri State University;
M.B.A., Drury College
(MCCCD 1985)

OLSON, Selmer (1972-2007)
Exercise Science
B.S., California State Polytechnic University;
M.S., Arizona State University

OLSSON, Fred J. (1965-1987)
Life Science
B.S., Arizona State University;
M.S., University of Illinois;
M.S.T., University of Missouri;
Graduate Study: Arizona State University

OWENS, Joan M.* (1969-1992)
Nursing
Emanuel Hospital School of Nursing;
B.S.N., University of Oregon;
M.A., Arizona State University;
Graduate Study: Portland State College,
Arizona State University, University of Arizona

PATTERSON, Fred (1967-1996)
Reading
B.S., Clarion State College;
M.A., Arizona State University

PEARSON, Joseph A. (1997-2007)
Dean of Instruction
Director of Extended Campus (MCCCD 1982)
B.S., M.S., Loyola University;
Ph.D., Arizona State University

PERLINE, Irvin H. (1971-1996)
Psychology
B.S., Arizona State University;
M.A., University of Arizona;
Ph.D., Colorado State University

PHILLIPS, Hugh J. (1963-1983)
Life Science
A.B., University of California, Los Angeles;
M.A., Brigham Young University;
Graduate Study: Arizona State University
(MCCCD 1962)

POULSON, Donald G. (1967-1992)
Mathematics
B.A., M.A., Adams State College;
M.A., Northwestern University;
Graduate Study: Arizona State University,
Northwestern University

PRICE, Joan (1969-1991)
Philosophy
B.S., University of Arizona;
M.S., Springfield College;
M.A., Ph.D., Arizona State University

REID, Robert F. (1963-1983)
Mathematics
B.S., M.A., Southern Methodist University;
Graduate Study: Colorado State College,
Arizona State University
(MCCCD 1961)

RICE, Lorraine (1968-1992)
Music
A.A., Stephens College;
B.M., M.M., University of Michigan

RIGGS, John D.* (1963-1974)
Executive Dean
B.S., University of Arizona;
M.A., Colorado State College of Education;
Ed.D., Arizona State University
(MCCCD 1947)

ROECKELEIN, Jon E. (1968-1997)
Psychology
B.S., Wagner College;
M.A., State University of New York, Buffalo;
Ph.D., Arizona State University

RUTH, Scott* (1968-1992)
Physical Science
B.A., M.S., Arizona State University
(MCCCD 1967)

SCHLOSSER, Paulette* (1972-2001)
English
B.A., M.A., Arizona State University

SCORESBY, James E.* (1966-1992)
Psychology
B.S., M.S., Brigham Young University;
Ph.D., Arizona State University

SEACAT, Dale N. (1964-1989)
Business
B.S., M.S., Emporia State University;
Graduate Study: Arizona State University

SETLOW, Mark C.* (1969-1996)
Chairperson, Speech Communication/ Telecommunication/ Theatre Arts
B.S., M.S., University of Utah;
Graduate Study: University of Hawaii,
Arizona State University

SKOUSEN, Donald L. (1969-1991)
Social Science
B.A., M.A., Arizona State University;
Graduate Study: Brigham Young University,
University of Southern California

SLEDGE, Margaret J. (1971-1992)
Nursing
B.S.N., Madison College;
M.A., Arizona State University;
Graduate Study: University of Arizona

SMITH, Robert W. (1965-1993)
Philosophy
A.B., Ohio University;
M.A., Arizona State University;
Graduate Study: University of San Diego

SNIDER, Ed H.* (1981-2006)
Business
A.A., Phoenix College;
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

STITES, Ken (1987-2000)
Exercise Science
A.A., Phoenix College;
B.A., M.A., Arizona State University
(MCCCD 1971)

SWAIM, Darlene L. (1979-2006)
Art
B.F.A., John Herron Art Institute, Yale University,
Indiana University;
M.F.A., Arizona State University

SWAN, Leslie C. (1967-1989)
Business
B.S., Western Illinois University;
M.A., Ed.D., Arizona State University

TALAMANTE, Jerry (1979-1996)
Mathematics
B.S., Arizona State University;
M.A., Claremont Graduate School
(MCCCD 1971)

*Deceased

TAUSSIG, Judith F.* (1982-2007)
Dean of Student Affairs
B.S., Florida State University;
M.A., Columbia University

TEMPLETON, Thomas P. (1966-1990)
Cultural Science
B.S., M.A., Arizona State University;
Graduate Study: University of Florida,
Claremont Graduate School, University of Colorado

THEILMANN, James W. (1970-2007)
Library
A.B., College of Emporia;
M.L., Emporia State University

TIPTON, James N.* (1968-1992)
Mathematics
B.S., M.N.S., Arizona State University;
Graduate Study: Montclair State College,
Arizona State University, University of Oregon

TORRES, Jose I. (1971-1996)
Social Science
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

TUHEY, John E. (1967-1994)
Art
B.S., DePauw University;
M.A., Ball State University;
Graduate Study: Arizona State University

TWITCHELL, Jack B. (1965-1996)
Dean of Administrative Services
B.S., Kirksville State Teachers College;
M.A., Central Michigan University;
Graduate Study: Central Michigan University, Texas A&M,
Arizona State University

VAN WINKLE, Edwin G. (1967-1987)
Chairperson, Physical Education
B.A., M.S., Northern Arizona University

VESELY, Harry (1989-2000)
Technology
A.A.S., B.S., M.S., Bradley University;
Graduate Study: Arizona State University
(MCCCD 1977)

VINSON, George (1969-1992)
Cultural Science
A.B., Central State University;
M.A., United States International University, San Diego;
Graduate Study: Arizona State University,
Wayne State University, Michigan State University

VOSS, Bill* (1964-1986)
Art
B.A., M.A., Arizona State University

WIDMER, Paul (1967-2000)
Exercise Science
B.A., M.A., Arizona State University

WITHGOTT, Sara (1972-1999)
Nursing
St. Anthony's School of Nursing;
B.S.N., M.S., Arizona State University;
Graduate Study: Northern Arizona University,
University of Arizona

WOLF, Grant L.* (1970-2003)
Music
B.S., M.A., Northern Arizona University

WOZNIAK, Matthew J. (1984-1996)
Physics
A.B., Dartmouth College;
M.S., Ph.D., University of Arizona
(MCCCD 1972)

YATES, Ronald D. (1964-1991)
Chairperson, English/Humanities/Journalism/Philosophy
B.A., M.A., Arizona State University;
Graduate Study: University of Arizona, Claremont College,
Arizona State University

YOUNG, William* (1966-1991)
Counseling
B.S., Lock Haven State College;
M.Ed., Ed.D., Pennsylvania State University;
Graduate Study: Arizona State University

ZACHER, Olene C. (1969-1979)
Mathematics
A.B., M.A., University of Alabama;
Graduate Study: Arizona State University,
University of Southern California
(MCCCD 1959)

Retired Faculty and Administrators

ALCON, Mary (1975-1994)
Business
C.P.S., B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

AUTREY, Robert (1984-1992)
Chairperson, Business
B.B.A., Oklahoma University
(MCCCD 1977)

BACON, Uvonna* (1967-1983)
English
B.A., College of Idaho; M.A., University of Oregon;
Graduate Study: Stanford University, Sorbonne,
University of Hawaii, San Jose State, University of California,
University of Utah, Arizona State University, Northern
Arizona University

BEALS, Arthur R.* (1965-1981)
Business
B.A., M.A., Arizona State University;
M.S., Brigham Young University;
Graduate Study: Arizona State University,
Brigham Young University, University of Southern California
(MCCCD 1964)

BENSON, Gordon (1988 -1998)
Senior Associate Dean of Student Services
B.A., B.S., Northwest State University;
M.S., Southern Illinois University

BORN, Jean S.* (1973-1992)
Chairperson, Library
B.S., University of Arizona;
M.A.L., University of Denver;
Graduate Study: Arizona State University,
University of Arizona

BOTHWEL, Donald (1968-1987)
Music
B.M.E., Western Michigan University;
M.A., Arizona State University;
Graduate Study: Arizona State University

BRADSHAW, Donald R. (1979-1992)
Dean of Administrative Services
B.A., Northern Arizona University;
M.A., Western State College
(MCCCD 1975)

BRAMOWETH, Ellen (1990-2005)
Nursing
B.S., University of Arizona;
M.S., Texas Woman's University;
Graduate Study: Arizona State University

BRISTOL, Robert Frederick* (1967-1989)
Life Science
B.S., M.A., Ph.D., Arizona State University;
Graduate Study: Arizona State University,
Mankato State College, University of Minnesota,
University of Texas, University of Massachusetts

CARRILLO, Philip J.* (1986-2008)
Chairperson, Reading
B.S., M.A., Northern Arizona University;
Ed.D., Arizona State University

CERVANTES, James (1992-2006)
English
B.A., University of Washington;
M.F.A., University of Iowa

CHRISTIAN, Rodney D. (1997-2007)
Business
B.S., M.S., Illinois State University
(MCCCD 1989)

CORNELL, Victor M. (1994-2005)
Mathematics
B.A., M.A., Arizona State University

CORNO, Gene (1966-1984)
Art
B.A., M.A., Arizona State University

CREWS, Terri (1987-2006)
Nursing
B.S.N., University of Texas;
M.S.N., Texas Women's University;
Graduate Study: Texas Women's University

CROCKETT, Lynette (1996-2002)
English
B.A., Brigham Young University;
M.A., Northern Arizona University

DAANE, Jeanette (1973-1989)
Library
B.A., Rockford College;
M.S., Indiana University;
M.L.S., University of Hawaii;
M.A., Arizona State University

DEARTH, Sherman H. (1971-1983)
Business
A.A., Mesa College;
B.S., M.B.A., Arizona State University;
C.L.U., American College;
Graduate Study: Arizona State University

DECKER, Clair R. (1981-1983)
Agriculture
B.S., M.Ag.Ed., University of Arizona;
Graduate Study: Arizona State University,
University of Arizona
(MCCCD 1967)

DELLA PENTA, Catherine R. (1988-2009)
English
B.A., State University of New York at Binghamton
(Harpur College);
M.A., Tennessee State University;
Graduate Study: University of New Mexico;
Fulbright Lecturer at the University of Abidjan,
Ivory Coast, West Africa

DePRIEST, Jeanette* (1963-1979)
Cultural Science, English
B.A., Los Angeles State College, Riverside Library School;
M.A., Ed.D., Arizona State University;
Visiting Scholar, Northwestern University

DUNN, Daniel A. (1985-2000)
Mathematics
B.A., M.N.S., Arizona State University

ELLIS, Don (1964-1983)
Social Science
B.A., M.A., Arizona State University;
Graduate Study: Northern Arizona University,
University of California, Los Angeles,
Arizona State University

GARNESKI, Thomas M. (1976-1986)
Psychology
B.S., M.A., Ed.D., Arizona State University

GORDON, Barbara (1992-2003)
Counseling
B.A., Augsburg College;
M.C., Arizona State University

GRANT, Robert C. (1994-2004)
Mathematics
B.S., M.A., Central Michigan University

GROENKE, Lucille (1974-1987)
Mathematics
B.S., University of Wisconsin;
M.A., Arizona State University;
Graduate Study: University of Southern California
(MCCCD 1968)

HARDAWAY, Gail (1998-2007)
English
B.A., Fairmont State College;
M.A., West Virginia University
(MCCCD 1990)

HARRIS, Patricia M.* (1990-2002)
Business
B.S., B.A., University of Phoenix;
Graduate Study: Northern Arizona University,
Arizona State University

HARRISON, Geraldine B. (1986-2007)
Mathematics
B.S., Bennett College;
M.A.T.M., University of Detroit

*Deceased

HARTER, James H. (1986-2000)
Technology
A.A., El Camino Community College;
B.A., M.A., California State University at Long Beach

HEAP, Theo J. (1965-1983)
President
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University, University of California, Los Angeles

HERNANDEZ, Luis (1986-2007)
Business
A.S., Chaffey College;
B.S., California State Polytechnic University;
M.B.A., University of Southern California;
Graduate Study: Arizona State University, Universidad de Guadalajara, Mexico

HIGBEE, Mary Jeanne* (1968-1983)
English, Humanities
B.A., State University of Iowa;
M.A., University of Arizona;
Graduate Study: University of Arizona, Arizona State University

HIGGINBOTHAM, Vernon L. (1967-1983)
Reading
B.A., Central Michigan University;
M.A., Arizona State University;
Graduate Study: Northern Colorado University, Arizona State University, University of Arizona, Central Michigan University

HOAGLAND, Edith M. (1965-1977)
Nursing
Passavant Hospital School of Nursing, Jacksonville, Illinois;
B.A., MacMurray College;
Graduate Study: Arizona State University

HOOPER, Jeff* (1967-1983)
Business
B.S., McMurray College, Texas;
M.A., Sul Ross State College;
Graduate Study: University of Texas, Texas Tech, University of Iowa, University of Arizona, Arizona State University

HURLEBAUS, William H. (1978-1983)
Counseling
B.S., Stanford University;
M.A., Arizona State University;
Ed.D., Arizona State University;
Graduate Study: University of Southern California, University of California at Los Angeles, New York University, University of Arizona
(MCCCD 1966)

IKEDA, Masumi (1976-1989)
Business
B.S., University of Arizona;
M.S., California State University at Long Beach

INGLISH, Joyce* (1967-1983)
English
B.A., University of Colorado;
M.A., Ph.D., Arizona State University

JACKSON, Carvel (1968-1987)
Physical Education Athletic Director
B.S., M.S., Utah State University;
Graduate Study: Arizona State University

JOHANSEN, Norman B.* (1978-1989)
Dean of Continuing Education
B.A., University of Northern Iowa;
M.A., University of Iowa;
Ed.D., University of Missouri;
Management Certificate, Harvard University
(MCCCD 1976)

JOHNSON, Kenneth O.* (1966-1984)
Cultural Science
B.A., M.A., Bowling Green State University;
Graduate Study: Our Lady of the Lake College, University of Maryland, University of Denver, University of Colorado, Jamestown State Teachers College, Arizona State University

KENNEDY, Glen (1997-2007)
Mathematics
B.S., M.S., Northern Arizona University

KINCAID, William Bradley (1990-2008)
Life Science
A.A., Big Bend Community College;
B.S., Western Washington University;
M.S., PhD., University of Houston;
Graduate Study: Arizona State University

KYLE, Marjorie (1986-2007)
English
B.S., Oklahoma State University;
M.A., Ph.D., Arizona State University

LANDERS, Rosalie* (1967-1982)
Business
B.S., Northeastern Missouri Teachers College;
M.B.A., University of Denver;
Graduate Study: Arizona State University

LANDON, Florence P. (1989-2005)
Library
B.A., Elmira College;
M.S., Bank Street College of Education;
M.L.S., State University of New York, Albany

LeROUX, Donna S. (1991-2004)
Nursing
B.Th., Northwestern Christian College;
M.Ed., Phillips University;
M.S.N., University of Texas

LOMBARD, A.J. (1992-2009)
Physical Science/Geology
B.S., M.A., Arizona State University

LUEDTKE, Donald V. (1983-1994)
Technology
B.S., Wayne State University;
M.S., Arizona State University

MAARSINGH, Wallace E. (1968-1986)
Life Science
B.S., Southern State College;
M.A., Arizona State University

MASSEY, Joan A. (1994-2009)
English
B.A., M.A., Arizona State University;
M.A., Northern Arizona University

*Deceased

MAY-UPDIKE, Katherine S. (1992-2008)
Communication
B.A., Arizona State University;
M.A., University of Phoenix
(MCCCD 1987)

McFALL, Sharon (1982-2000)
Business
B.A., Central Washington University

McINTOSH, Billie Jane (1979-1989)
Counseling
B.S., University of Tulsa, University of Arizona;
M.A., Northern Arizona University;
Graduate Study: University of Colorado,
Arizona State University

McINTYRE, Ron L. (1979-1993)
Speech Communication/Telecommunication
A.A., Southern Utah State College;
B.A., M.A., Brigham Young University;
Ph.D., Ohio State University

MERRELL, Neil G. (1978-1996)
Social Science
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University,
Northern Arizona University, University of Arizona

MERTZ, Randall D. (1981-1999)
Business
B.S., St. John's University, New York;
M.A., State University of New York, Stony Brook;
Graduate Study: Arizona State University

MILLER, Harold L. (1971-1989)
Physical Science
B.S., M.E., Oklahoma State University;
M.B.A., University of Southern California;
Graduate Study: Arizona State University

MORRIS, Evelyn (1979-1996)
Business
B.A., M.A., Arizona State University

NAVARETTE, Efren (1971-1989)
Counseling
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

NIELSEN, Leroy (1969-1985)
Technology
B.S., University of Minnesota;
M.A., Arizona State University

OREN, Mary Ann (1987-1993)
Nursing
Harper Hospital School of Nursing;
B.S.N., M.S., Arizona State University

ORRANTIA, Gilbert D. (1967-1983)
Foreign Language
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University,
University of Valladolid

OWENS, Ross A. (1966-1983)
Business
B.A., M.A., Arizona State University;
Graduate Study: University of California at Los Angeles,
Arizona State University

PAINTER, Nathan E. (1968-1983)
Reading
B.A., M.A., Ed.D., Arizona State University

PAYNE, Gerald L. (1988-2007)
Mathematics
B.S., M.S., Michigan State University;
Ph.D., Arizona State University

PERKINS, Robert Eugene (1963-1982)
Technology
B.S., Wayne University;
M.A., University of Michigan;
Graduate Study: Wayne University, University of Michigan,
Arizona State University

PHILLIPS, Maurice A.* (1968-1977)
Director of Placement/Counseling
B.S., Florida Southern College;
B.D., Emory University;
M.A., Scarritt College;
Ed.S. and Ed.D., Nashville University Center
(Scarritt College, George Peabody College for Teachers,
and Vanderbilt University);
Graduate Study: Arizona State University

PIERSON, Eugene L. (1977-1989)
Technology
B.A., Arizona State University

PRICE, Donis (1971-1986)
Psychology
B.A., M.A., Wichita State University;
Ph.D., Arizona State University

ROLLINS, Carl W. (1979-1983)
Counseling
B.S., M.A., University of Wyoming;
Graduate Study: Brigham Young University,
Arizona State University
(MCCCD 1967)

ROWLEY, Gwen (1982-1996)
English
A.A., Mesa Community College;
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

SALAZAR, David (1989-2008)
English
B.A., M.A., Arizona State University;
Ph.D., Washington State University;
Graduate Study: University of California, San Diego

SCHREIBER, Edwin D. (1986-1998)
Life Science
B.S., M.A., George Peabody College;
Graduate Study: University of Texas, Austin,
Arizona State University, New Mexico Highlands University

SEEK, Steven A. (1990-2009)
Reading
B.A., M.Ed., Arizona State University

SHELDON, Harriett E. (1965-1979)
English, Humanities
B.A., Grinnell College;
M.A., Arizona State University;
Graduate Study: State University of Iowa,
Iowa State Teachers College, Arizona State University

*Deceased

SHIRLEY, Joseph C.* (1963-1973)
Social Science
A.B., Stanford University;
M.A., Arizona State University;
Graduate Study: Arizona State University, Stanford University

SHOEMAKER, Donald V. (1976-1992)
Social Science
A.A., Pasadena City College;
B.A., New School for Social Research;
M.A., University of Texas at El Paso;
Graduate Study: Pennsylvania State University

SILVA, Beverly (1991-2002)
English
B.A., M.A., San Jose State University

SISULAK, Dorothy L. (1984-2002)
English
B.S., M.A., Southern Illinois University;
Graduate Study: Arizona State University

SLACK, Ben L.* (1964-1983)
Physical Science
B.S., Utah State University;
M.A., M.S., Arizona State University;
Graduate Study: Arizona State University,
Bradley University, University of Colorado

SMITH, Van M. (1968-1980)
Technology
B.A., Arizona State University;
M.A., Northern Arizona University

STANLEY, Elna (1968-1985)
English
B.A., Grand Canyon College;
M.A., Arizona State University;
Graduate Study: Arizona State University

STEARNS, Merwin M. (1970-1981)
Agriculture
B.S., M.S., Kansas State University;
Graduate Study: Kansas State University,
Arizona State University, University of Arizona

SUGIYAMA, Kaoru Kaye, (1988-2002)
Chairperson, Library
B.A., M.A., San Francisco State College;
M.L.S., University of California, Berkeley;
Graduate Study: Kyoto University, University of Colorado,
Denver, University of Denver, Arizona State University

TEMPLETON, Charline (1989-1992)
Culture Science
B.A.Ed., M.A., Arizona State University
(MCCCD 1976)

TOMASI, Wayne F. (1985-1998)
Technology
B.S., Arizona State University;
Graduate Study: Arizona State University

TURLEY, Inez* (1970-1983)
Social Science
B.A., Northern Arizona University;
M.A., Arizona State University

URDAHL, Olga T. (1965-1970)
Reading
B.A., Central Washington College of Education;
M.A., Arizona State University;
Graduate Study: University of Washington,
Arizona State University

WAGONER, Ora M. (1994, 2001-2005)
Chairperson, Library
B.A., Spelman College;
M.L.S., University of Denver
(MCCCD 1988)

WARNE, Beverly M. (1990-2003)
Nursing
B.S.N., M.S.N., Arizona State University

WARREN, Evelyn* (1976-1984)
Home Economics
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

WIGGS, Larry A. (1984-2007)
Business
B.S., M.B.A., Arizona State University;
Graduate Study: Arizona State University

WILBURN, Zenobia (1971-1984)
Reading
B.S., Langston University;
M.A., Ed.S., Arizona State University;
Graduate Study: Ohio State University

WOODS, Vance (1973-1983)
Business
B.S., M.A., Arizona State University;
Graduate Study: Arizona State University
(MCCCD 1970)

*Deceased

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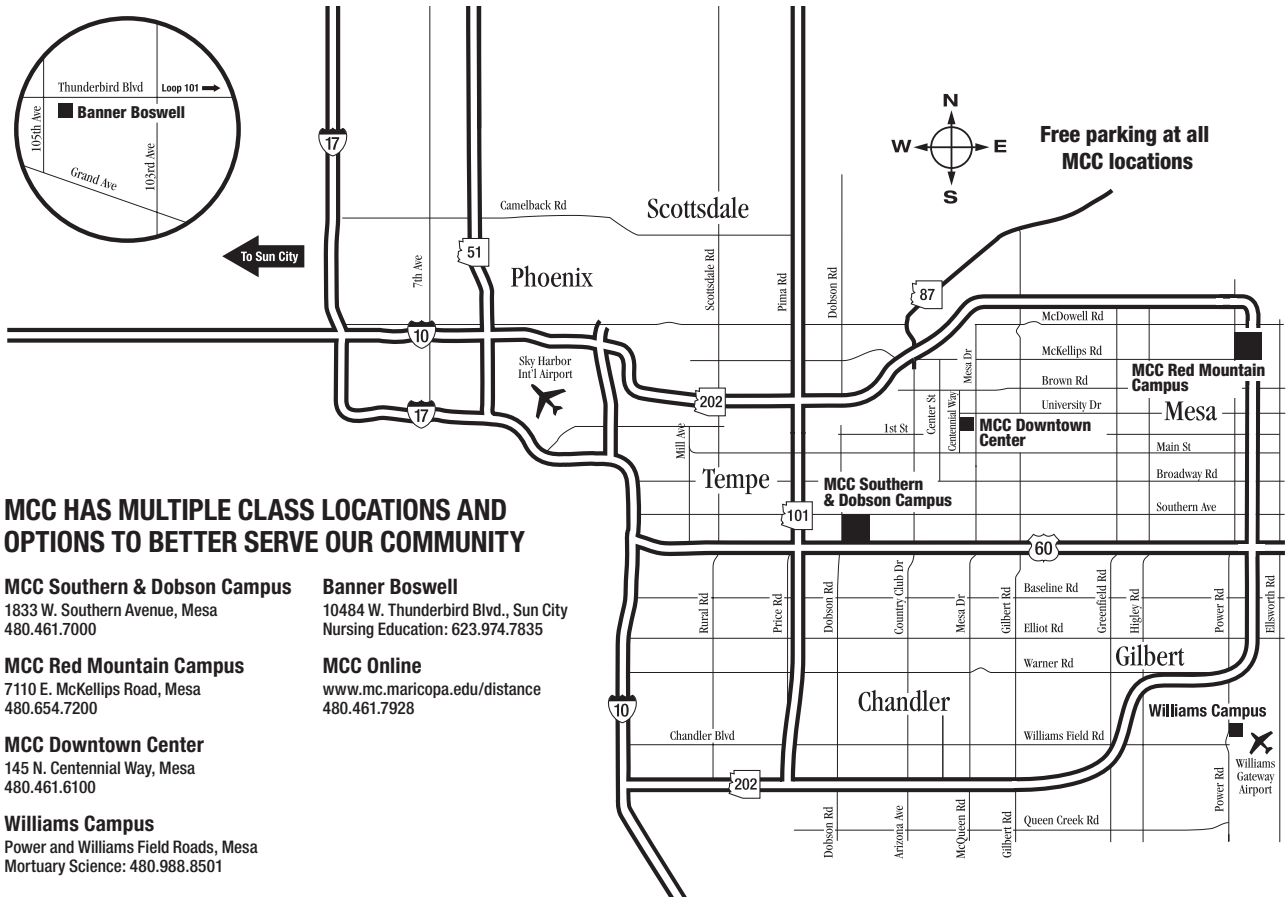
MCC Locations



MCC HAS MULTIPLE CLASS LOCATIONS AND OPTIONS TO BETTER SERVE OUR COMMUNITY

MCC Southern & Dobson Campus
1833 W. Southern Avenue, Mesa
480.461.7000

MCC Red Mountain Campus
7110 E. McKellips Road, Mesa
480.654.7200

MCC Downtown Center
145 N. Centennial Way, Mesa
480.461.6100

Williams Campus
Power and Williams Field Roads, Mesa
Mortuary Science: 480.988.8501

Banner Boswell
10484 W. Thunderbird Blvd., Sun City
Nursing Education: 623.974.7835

MCC Online
www.mc.maricopa.edu/distance
480.461.7928

MCC SOUTHERN AND DOBSON CAMPUS

One of our two state-of-the-art campuses is located on 145 lush acres of landscape at the southeast corner of Southern Avenue and Dobson Road in Mesa. The campus provides services to approximately 24,000 students and offers a comprehensive array of classes including: transfer, career, technical and community education, associate degree and certificate programs, service learning programs, and noncredit courses.

MCC RED MOUNTAIN CAMPUS

Our MCC Red Mountain Campus is located in a beautiful sonoran desert setting at Power and McKellips Roads. The campus is built on the tradition and excellence of MCC while embracing the needs of its community.

Slated for completion in fall 2009, construction is underway on a new 42,000-square-foot Learning Center at the MCC Red Mountain Campus. The new multifunctional building is comprised of two main components supporting the sciences and performing arts.

MCC Red Mountain provides service to thousands of students and offers an associate degree program for transfer to baccalaureate-granting colleges and universities.

MCC DOWNTOWN CENTER

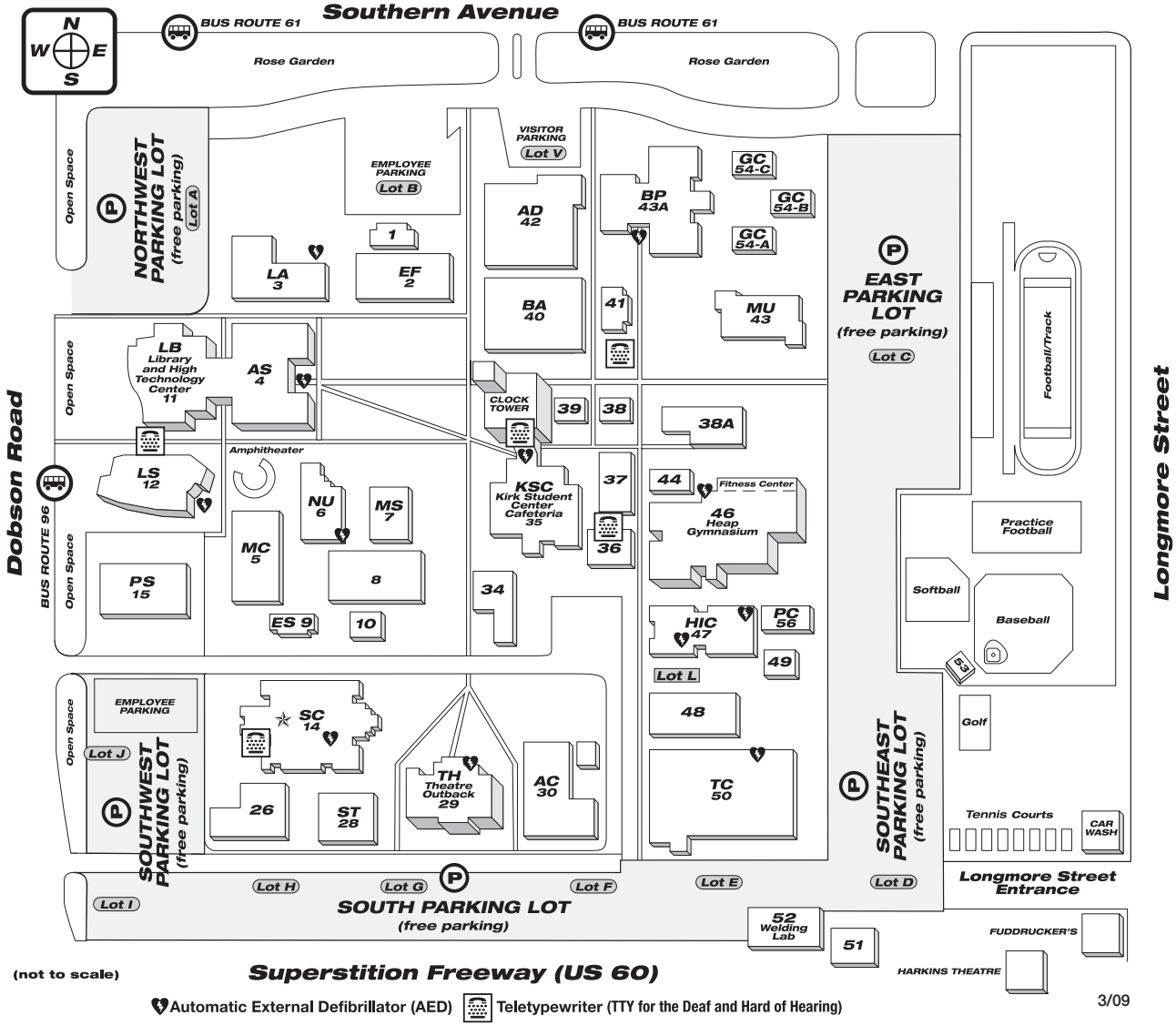
The MCC Downtown Center is located in the heart of Mesa's downtown district just north of Main Street on Centennial Way. Specialized courses are available in network administration, organizational and workplace skills, and fire science. Classes are also offered in partnership with NAU which enable students to earn a bachelor's degree. Students and the community will find that this center offers a variety of programs, partnerships and services, including:

- Network Academy
- Business and Industry Institute
- EMT/Fire Science Program
- Northern Arizona University Connection East Valley Regional Office
- Mesa Life Options
- Community Education
- East Valley P-20 Center
- Latino Town Hall

MCC Southern and Dobson Campus

1833 West Southern Avenue, Mesa, Arizona 85202 • 480.461.7000 • www.mc.maricopa.edu

Distance to Red Mountain Campus: 16.5 miles | Distance to Downtown Center: 11.9 miles

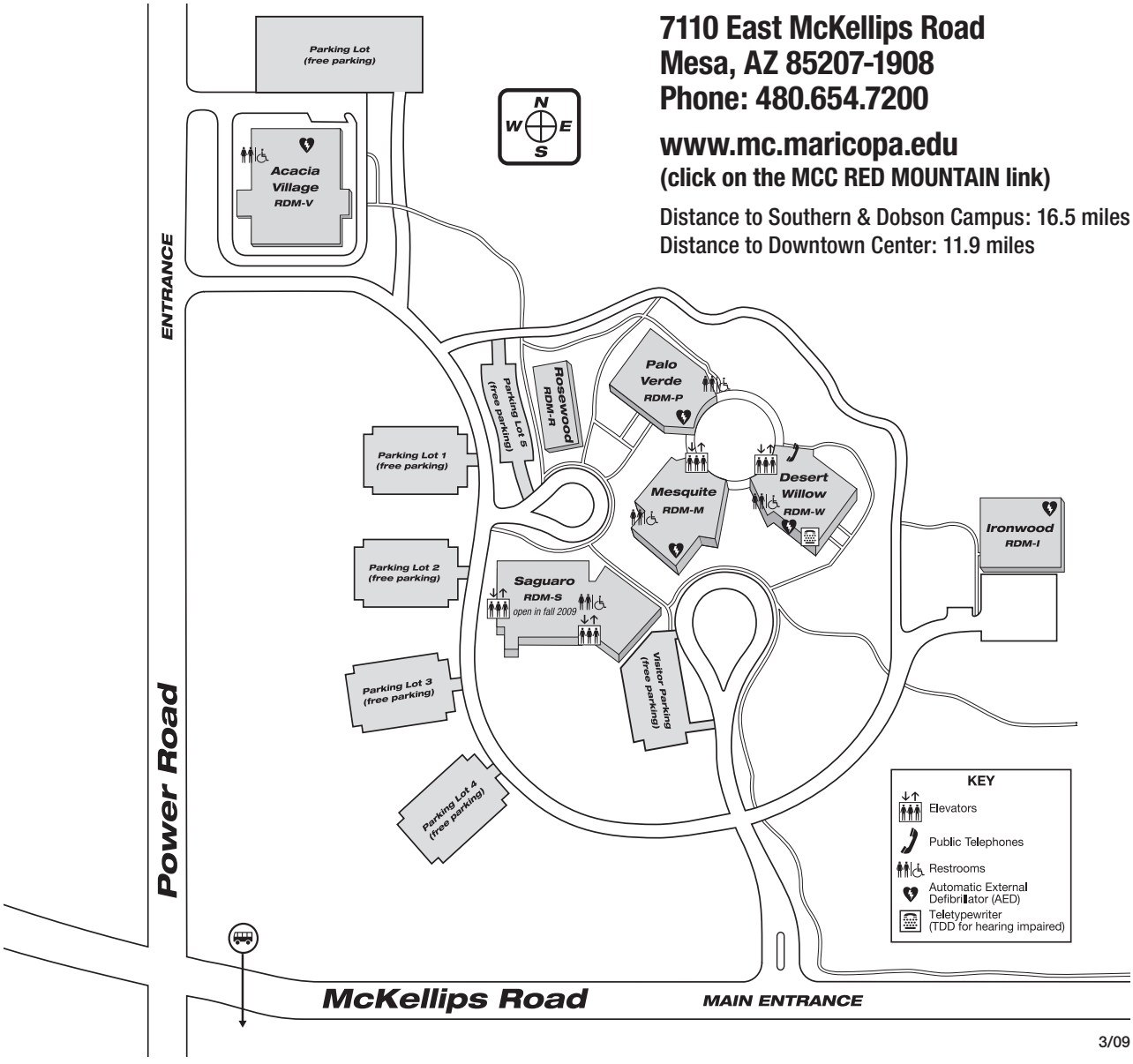


Automatic External Defibrillator (AED) | Teletypewriter (TTY for the Deaf and Hard of Hearing)

LEGEND:

	1	Faculty Offices
EF	2	English/World Language Classrooms/ Women's Resource Center
LA	3	Liberal Arts
AS	4	Academic Support Building Classrooms/Copy Center/Media Center/ World Language Learning Center/ Center for Teaching & Learning
MC	5	Math/Computer Science Faculty Offices
NU	6	Nursing/Faculty Offices
MS	7	Math/Science Classrooms
	8	Currently Being Remodeled
	9	Education Studies Faculty Offices Exercise Science Faculty Offices
LB	11	Library and High Technology Center
LS	12	Life Science
SC	14	Social/Cultural Science/College Safety
	15	Physical Science/Geology Labs
	26	Children's Center
ST	28	Studio 28
TH	29	Theatre Outback
AC	30	Art/Communication
	34	Receiving
KSC	35	Kirk Student Center/ Cafeteria/Student Activities/ Center for Service Learning
	36	Counseling/Career & Re-Entry Services
	37	American Indian Center/Financial Aid/ Veterans' Services/Multicultural Center/ Community Education/Disability Services
	38	Admissions/Advisement and Transfer Services
	38A	Assessment/Bookstore
	39	Records/Registration
BA	40	Multi-use Lab and Classrooms
	41	International Education/World Language Faculty Offices
AD	42	Classrooms Associate Deans Offices Information Technology Research/Planning Psychology Lab Cashier Services Fiscal Office Personnel Reading ESL Student Support Center
MU	43	Music
BP	43A	Business, Psychology, Philosophy, Religious Studies/Faculty Offices
	44	Coaches Offices
	46	Fitness Center/M&W Locker Rm/ Cycle Room Heap Gym/West Gym/Dance Room/ PE 1W
HIC	47	Health Improvement Center
	48	Maintenance Offices
	49	Coaches Offices
TC	50	Technology/Faculty Offices Design, Family and Consumer Sciences
	51	Greenhouse/Land lab
	52	Welding Lab
	53	Concession Stand
GC	54	General Classroom A,B,C
PC	56	Athletic Director's Office/Classrooms

MCC Red Mountain Campus



7110 East McKellips Road
Mesa, AZ 85207-1908
Phone: 480.654.7200

www.mc.maricopa.edu
(click on the MCC RED MOUNTAIN link)

Distance to Southern & Dobson Campus: 16.5 miles
Distance to Downtown Center: 11.9 miles

3/09

LEGEND:

RDM V Acacia Village
Classrooms (V116 – V127)
Instructional Support Services
Student Lounge

RDM W Desert Willow
Academic Computing
Classrooms (W119 – W226)
Fiscal Services
Information Technology Services
Learning Enhancement Center
Library (2nd Flr.) Public Copier Available
Media Services
PIRC Lab (2nd Flr.)
Test Proctoring Center (2nd Flr.):
Net Testing
Writing Center

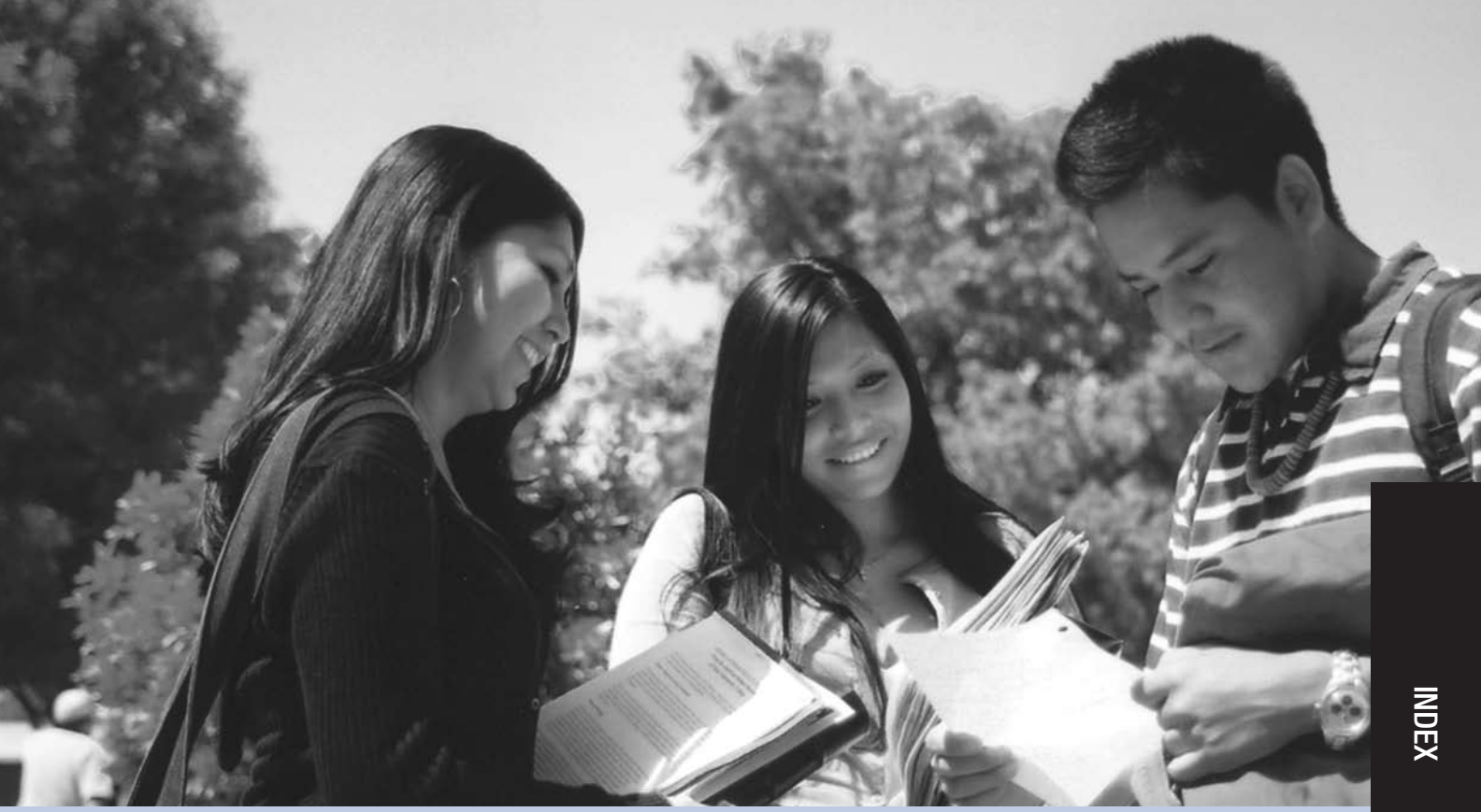
RDM I Ironwood
Public Safety
Maintenance & Operations
Receiving

RDM M Mesquite
Administration (2nd Flr.)
Bookstore
Community Room (2nd Flr.)
Enrollment Services:
Admissions/Academic Advisement
Cashier Services
Disability Resources & Services
Financial Aid/Veterans Services
Placement Testing
Registration
Fitness Center (M160)
Human Resources
Red Mountain Cafe
Student Life & Leadership (2nd Flr.)

RDM P Palo Verde
Center for Teaching and Learning (2nd Flr.)
Classrooms (P105 – P250)
Counseling Services
Faculty Offices (2nd Flr.)
Instructional Support Services (2nd Flr.)
Physical Science Laboratories (P107 – P114)

RDM R Rosewood
Classrooms (R101 – R104)

RDM S Saguaro
(Slated to open in fall 2009)
Classrooms (S152 – S283)
Cyber Cafe
Faculty Offices (2nd Flr.)
Instructional Support Services (2nd Flr.)
Life Science Laboratories (S153 – S157)
Rehearsal and Performance (RAP)
Center (S140)
Undergraduate Research Lab (S151)



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ACC Accounting 197
AES Aerospace Studies 197
AGB Agribusiness 197
AGL Agricultural Landscape 198
AGS Agricultural Science 198
AJS Administration of Justice Studies . . 199
ANH Animal Health 202
ANS Animal Science 203
APT Automotive Performance Technology 204
ARB Arabic 205
ARC Architecture 205
ARH Art Humanities 206
ART Art 206
ASB Anthropology 209
ASM Anthropology 210
AST Astronomy 210
AUT Automotive Technology 210
BIO Biology 211
BLT Building Safety and Construction Technology 212
BPC Business-Personal Computers . . . 213
CAD Computer-Aided Drafting 216
CCS Chicana and Chicano Studies 216
CET Civil Engineering Technology 216
CFS Child/Family Studies 216
CHA Community Health Advocate 217
CHD Chemical Dependency 217
CHI Chinese 218
CHM Chemistry 218
CIS Computer Information Systems . . 219
CNS Construction 227
CNT Cisco Network Technology 230
COM Communication 232
CPD Counseling and Personal Development 233
CRE Critical Reading 233
CRW Creative Writing 233
CSC Computer Science 234
CTT Caterpillar Technician Training . . 234
CWE Career Work Experience 235
DAE Dental Assisting Education 236
DAH Dance Humanities 236
DAN Dance 236
DFT Drafting 238
DHE Dental Hygiene Education 239
ECE Engineering Science 240
ECH Early Childhood Education 241
ECN Economics 241
EDU Education 241
EED Early Education 243
ELE Electronics 244
EMT Emergency Medical Technology . . 245
ENG English 246
ENH English Humanities 247
EPD Education Professional Development 249
EPS Entrepreneurial Studies 249
EQS Equine Science 250
ESL English as a Second Language . . 250
ETL Excellence/Teaching/Learning . . . 251
EXS Exercise Science 251
FCS Family and Consumer Science . . 254
FLA Foreign Language 254
FON Food and Nutrition 254
FRE French 257
FSC Fire Science Technology 257
FUS Future Studies 259
GBS General Business 259
GCU Cultural Geography 260
GER German 260
GLG Geology 260
GPH Physical Geography 261
GTC General Technology 262
HBR Hebrew 264
HCC Health Core Curriculum 264
HCR Health Care Related 265
HES Health Science 265
HIS History 266
HLR Health Related 267
HRM Hotel Restaurant Management . . 267
HUM Humanities 267
IBS International Business 268
IFS Information Studies 268
IND Industry 268
INT Interior Design 268
ITA Italian 270
ITS Information Technology Security 270
JPN Japanese 270
JRN Journalism 270
JUD Judicial Studies 271
LAT Latin 272
LBS Library Skills 272
LBT Library Technology 272
MAT Mathematics 274
MCO Mass Communications 276
MET Manufacturing Technology 276
MGT Management 276
MHL Music: History/Literature 277
MIS Military Science 278
MKT Marketing 278
MMT Multimedia Technology 279
MSP Mortuary Science Program 279
MST Microsoft Technology 280
MTC Music: Theory/Composition 281
MUC Music: Commercial/Business . . . 282
MUE Music: Education 283
MUP Music: Performance 283
NAV Navajo 286
NCE Nursing: Continuing Education . . 286
NUR Nursing Science: Basic 286
OAS Office Automation Systems 288
PED Physical Education 288
PHI Philosophy 289
PHS Physical Science 289
PHY Physics 290
POR Portuguese 290
POS Political Science 290
PSY Psychology 291
QCT Quality Control Technology 292
RDG Reading 293
REA Real Estate 293
REC Recreation 294
REL Religious Studies 295
RUS Russian 295
SBS Small Business Management . . . 296
SBU Society and Business 296
SLG Sign Language 296
SOC Sociology 297
SPA Spanish 297
SWU Social Work 298
TCM Telecommunications 299
TEC Textiles and Clothing 299
THE Theater 301
THP Theater Performance/ Production 301
TQM Total Quality Management 302
WED Wellness Education 303
WLD Welding Technology 303
WST Women's Studies 304

2009-2010 MCC Academic Calendar

Colleges/Centers may modify start dates in order to meet special needs. Dates listed below which are directly related to instruction refer to the traditional academic year. Some courses may be offered over time periods for which these dates are not applicable.

2009 SUMMER SEMESTER

Mon	Jun 1	First 5-Wk/8-Wk Sessions Begin
Thur	Jul 2	First 5-Week Session Ends
Mon	Jul 6	Observance of Independence Day
Tues	Jul 7	Second 5-Week Session Begins
Thur	Jul 23	8-Week Session Ends
Thur	Aug 6	Second 5-Week Session Ends

2009 FALL SEMESTER

March 23	Aug 28	Registration*
Sat	Aug 22	Classes Begin
Mon	Sept 7	Observance of Labor Day
Fri	Oct 2	Last Day for Withdrawal without Instructor's Signature
Mon	Nov 2	Application for December 2009 Graduation*
Wed	Nov 11	Observance of Veterans' Day
Thur-Sun	Nov 26-29	Thanksgiving Holiday
Mon	Nov 30	Last Day Student Initiated Withdrawal Accepted
Sun	Dec 13	Last Day of Regular Classes
Mon-Thur	Dec 14-17	**Final Exams
Fri	Dec 18	Mid-Year Recess Begins for Students
Fri	Dec 18	Fall Semester Ends
Winter Break (Campus Closed)		Dec 25 through Jan 1

2010 SPRING SEMESTER

Oct 26	Jan 22	Registration*
Sat	Jan 16	Classes Begin
Mon	Jan 18	Observance of MLK Jr. King Birthday
Mon	Feb 15	Observance of Presidents' Day
Mon	Mar 1	Application for May 2010 Graduation*
Fri	Mar 5	Last Day for Withdrawal without Instructor's Signature
Mon-Sun	Mar 15-21	Spring Break
Mon	Apr 26	Last Day Student Initiated Withdrawal Accepted
Sun	May 9	Last Day of Regular Classes
Mon-Thur	May 10-13	**Final Exams
Fri	May 14	Commencement
Fri	May 14	Spring Semester Ends
Mon	May 31	Observance of Memorial Day

2010 SUMMER SEMESTER

Tues	Jun 1	First 5-Wk/8-Wk Sessions Begin
Thur	Jul 1	First 5-Week Session Ends
Mon	Jul 5	Observance of Independence Day
Tues	Jul 6	Second 5-Week Session Begins
Thur	Jul 22	8-Week Session Ends
Thur	Aug 5	Second 5-Week Session Ends

* For specific information concerning registration dates, class start dates, application for graduation dates and final exam dates, consult the class schedule for the college of intended enrollment.

** Classes meeting on Friday evening only, Saturday only or Sunday only will have final examinations during their last regular class meeting.

MESA COMMUNITY COLLEGE
1833 West Southern Avenue
Mesa, Arizona 85202

Non-Profit Org.
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MCC

has multiple locations to better serve our community

MCC Southern & Dobson Campus
1833 W. Southern Avenue, Mesa
480.461.7000

MCC Red Mountain Campus
7110 E. McKellips Road, Mesa
480.654.7200

MCC Downtown Center
145 N. Centennial Way, Mesa
480.461.6100

MCC ONLINE

www.mesacc.edu/mcconline
480.461.7928

ENROLLMENT INFORMATION

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480.461.7700

MCC Red Mountain Campus
480.654.7600

Toll-free 1.866.532.4983

En Español 480.461.7455

ONLINE www.mesacc.edu

IN PERSON

MCC Southern & Dobson Campus
Admissions Office

MCC Red Mountain Campus
Enrollment Services

MARICOPA COMMUNITY COLLEGES

The Maricopa County Community College District is an EEO/AA institution. 6/09