MCC Contact Information:

MCC at Southern and Dobson
480-461-7000

MCC at Red Mountain
480-654-7200

Registration by phone
480-461-7700

Toll-free
1-866-532-4983

Website
www.mc.maricopa.edu

The Maricopa County Community College District is an EEO/AA institution. 3/06

MCC AT SOUTHERN & DOBSON

MCC AT RED MOUNTAIN

MESA COMMUNITY COLLEGE
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Mesa, Arizona 85202

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Mesa Community College Catalog 06-07

MESA COMMUNITY COLLEGE

MCC

Catalog 06-07

MESA COMMUNITY COLLEGE

480-461-7700 1-866-532-4983
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2006-2007 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.

2006 Fall Semester

March 6 - Aug 25		Registration*
Sat	Aug 19	Classes Begin
Mon	Sept 4	Labor Day – Campuses Closed
Fri	Oct 6	Last Day for Withdrawal without Instructor's Signature
Wed	Nov 1	Application for December 2006 Graduation*
Fri	Nov 10	Veterans' Day Observed – Campuses Closed
Thu-Sun	Nov 23 - 26	Thanksgiving Holiday – Campuses Closed
Mon	Nov 27	Last Day Student-Initiated Withdrawal Accepted
Sun	Dec 10	Last Day of Regular Classes
Mon-Thu	Dec 11 - 14	Final Exams**
Fri	Dec 15	Mid-Year Recess Begins for Students
Fri	Dec 15	Fall Semester Ends
	Dec 25 - Jan 1	Winter Break – Campuses Closed

2007 Spring Semester

Oct 2 - Jan 19		Registration*
Mon	Jan 15	M.L. King Birthday Observed – Campuses Closed
Tue	Jan 16	Classes Begin
Mon	Feb 19	Presidents' Day Observed – Campuses Closed
Thu	Mar 1	Application for May 2007 Graduation*
Fri	Mar 2	Last Day for Withdrawal without Instructor's Signature
Mon-Sun	Mar 12 - 18	Spring Break
Mon	Apr 23	Last Day Student-Initiated Withdrawal Accepted
Sun	May 6	Last Day of Regular Classes
Mon-Thu	May 7 - 10	Final Exams**
Fri	May 11	Commencement
Fri	May 11	Spring Semester Ends
Mon	May 28	Memorial Day Observed – Campuses Closed

2007 Summer Semester

Tue	May 29	First Five-Week/Eight-Week Sessions Begin
Thu	Jun 28	First Five-Week Session Ends
Mon	Jul 2	Second Five-Week Session Begins
Wed	Jul 4	Independence Day Observed – Campuses Closed
Thu	Jul 19	Eight-Week Session Ends
Thu	Aug 2	Second Five-Week Session Ends

* For specific information concerning registration dates, class start dates, application for graduation dates, and final exam dates, consult the class schedule.
** Classes meeting on Friday evening only, Saturday only, or Sunday only will have final examinations during their last regular class meeting.

CHECKLIST TO HELP YOU GET STARTED

- ☐ **Visit one of our campuses. If you'd like a guided tour, call 480-461-7099, or email campus.tours@mcmail.maricopa.edu.**
- ☐ **Apply for admission by completing the Student Information Form included in this catalog. You can also complete the form online at www.mc.maricopa.edu/services/student_services/.**
- ☐ **Apply for financial aid and/or scholarships. You can get more information on financial aid by calling 480-461-7440 or online at www.mc.maricopa.edu/services/finaid/. Allow plenty of time for your applications to be processed.**
- ☐ **Request that your high school transcript or GED scores and college transcripts be sent to the Office of Admissions.**
- ☐ **Complete placement testing to assist you in choosing the right classes. For information on testing dates and times, call 480-461-7336 or go to www.mc.maricopa.edu/services/testing/.**
- ☐ **Meet with an academic advisor for guidance in selecting your courses. For more information on advisement, call 480-461-7222 or visit www.mc.maricopa.edu/services/advisement/.**
- ☐ **Register and pay for your classes in person, by phone at 480-461-7700, or online at www.mc.maricopa.edu.**
- ☐ **Attend an orientation session to learn more about the campus and get helpful hints for success in your classes. For information about orientation sessions, call 480-461-7600 or visit www.mc.maricopa.edu/services/orientation.**
- ☐ **If you will be driving to campus, get a parking decal for your car. Find out how to do this by visiting the campus you plan to attend, calling 480-461-7285, or visiting www.mc.maricopa.edu/services/student_activities/.**
- ☐ **Be sure to get your student ID. It gives you access to many student services on campus, such as library privileges and tutoring. For information on how and where to get your ID, call Student Services at 480-461-7285 or visit www.mc.maricopa.edu/services/student_activities.**
- ☐ **Browse through this catalog to learn about other services offered to support you as a MCC student, including information resources, computer labs, tutoring, counseling, student clubs and organizations, bookstore, and food service. You'll find all this and more waiting for you as you become part of the MCC community of learners.**

BEST WISHES FOR YOUR SUCCESS AT MCC!

WELCOME TO MESA COMMUNITY COLLEGE

At Mesa Community College, learning is the focus of all we do. We provide innovative and engaging educational opportunities for learners with all kinds of academic, professional, and personal goals. In this way, we strive to improve the quality of life for all members of the diverse community we serve. We are proud to celebrate 40 years of serving the educational needs of our dynamic and growing community with adaptable and flexible programs.

Our students pursue coursework and degrees for transfer into university programs, for career and technical preparation and advancement, and for personal fulfillment. In addition to traditional college programs, we offer many opportunities for lifelong learners, including community education, continuing education for practicing professionals, customized training for industry needs, special programs for senior adult learners, programs for English language learners, service-learning programs to add real-world experience to classroom learning, developmental programs to help students prepare for college coursework, and a host of other special academic programs.

To make these programs more accessible to all members of our community, we offer classes, programs, and services at two comprehensive campuses – MCC at Southern and Dobson and MCC at Red Mountain – and multiple other sites in our community. For students whose schedules do not permit them to attend classes in person, we are constantly expanding our course offerings through our online program.

We are committed to student success. We demonstrate this through the many kinds of support services we provide, including advisement, counseling, financial aid, disability resources, veterans services, multicultural and international services, career resources, child care, and re-entry services, among others. To enhance the college experience, we sponsor many student organizations, activities, and events. Remaining actively engaged with our community is our top priority. We reach out through volunteerism, service-learning, and working partnerships that keep us in close contact with the community we serve.

I am pleased to welcome you as a member of the MCC learning community.

Sincerely,
Larry K. Christiansen
President

HOW TO USE THIS CATALOG

Whether you are planning to complete the first two years of a bachelor's degree before transferring to a university, complete a certificate or degree that will prepare you with workforce skills for your career, or pursue special interests, you will find a great deal of helpful information in this catalog.

Here's how to find what you are looking for:

About MCC describes the history of the college as well as our mission, our values, and our vision for the future. You'll learn about our national accreditations and our policies governing both campus life and academic matters. This section also describes some of our community connections.

If you want to know where to go for help with a specific issue that affects your life as a student, **Student Support Services** will guide you to the right source of assistance. Here you can find information about:

- Admissions
- Residency
- Advisement
- Testing and course placement
- Registration
- Financial aid
- Veterans services
- Transferring college credits
- Specialized services for your needs
- Student activities and organizations

Have you chosen a college major, or are you in the process of deciding on a major? **Academic Departments, Programs, and Services** provides descriptions of the many departments and programs that offer courses, certificates, and degree programs to help you meet your educational and career goals. You'll also find information about services that support your learning experiences at MCC, such as personal and academic counseling, library services, tutoring, computer labs, and technology support.

Along with traditional general education classes and career and technical classes, MCC offers learning opportunities for all kinds of learners.

If you are pursuing an associate degree or certificate at MCC, you will find information on the requirements for the program you have selected in **Graduation Requirements**. Read about all the associate degrees and certificates we offer.

Some of our degree and certificate programs are designed specifically to prepare you to enter a career or technical field. These programs emphasize skills needed in today's workforce. **Career and Technical Programs** provides a detailed list of all our career and technical programs and their individual requirements.

As you select courses to meet your educational and professional goals, you will want to see descriptions of the courses we offer at MCC. You'll find these in **Course Descriptions**. To look up a course, you need to know its three-letter prefix. The courses are listed alphabetically by prefix. Or you might prefer to browse through all of the courses offered in a particular discipline.

In **Contact MCC**, you will find directories of administrators, department chairpersons, directors, faculty, and support services to help you access the information and services you need. Also, we've included campus maps to help you locate classrooms and offices at our campuses and sites.

At the end of the catalog is the **Student Information Form** (that's what we call our admission form) and a **Checklist** to help you get started in your studies at MCC.

If you can't find what you need, call us at 480-461-7000.

And visit www.mc.maricopa.edu for constantly updated information on our courses, programs, services, and events.

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About MCC

This section of the catalog introduces you to Mesa Community College – our history, values, and vision for the future.

You will find general policies and information related to campus life and academic matters. You will also learn more about our connections with and commitment to the community we serve.

Courses, programs, requirements, policies, standards, tuition, and fees described in this catalog may be suspended, deleted, restricted, supplemented, or changed in any other manner at any time at the sole discretion of Mesa Community College and the Maricopa Community Colleges Governing Board. This catalog does not establish a contractual relationship but summarizes total requirements that the student must presently meet before qualifying for a faculty recommendation to the Maricopa Community College District Governing Board to award a degree or certificate.

Please visit our online catalog at **www.mc.maricopa.edu** for current college policies.

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

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 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 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).

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 our Downtown Center/Centennial Way, Downtown Center/Country Club and Brown, Williams Field, and our new Tempe site. 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.

Nondiscrimination Policy

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.

Equal Opportunity Statement

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 Statement

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 (Maricopa) 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.

Affirmative Action Policy Statement for Other Eligible Veterans, Special Disabled Veterans, and Vietnam Era Veterans

In conformance 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 (Maricopa) 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 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 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 three 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.

Notice of Americans with Disabilities Act (ADA)/Section 504 of the Rehabilitation Act/Title IX Coordinator

ADA/504/Title IX Coordinator: Judy Taussig,
Dean of Student Affairs, Mesa Community College,
1833 W. Southern Ave., Mesa, AZ, 480-461-7449

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.

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.

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.

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.

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.

Notificación del Acta de Americanos con Impedimentos (ADA)/Sección 504 del Acta de Rehabilitación/ Coordinador del Título IX

ADA/504/Title IX Coordinador: Judy Taussig,
Dean of Student Affairs, ADA/504/Coordinador del Título IX,
Mesa Community College, 1833 W. Southern Ave., Mesa AZ,
480-461-7449

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 deignado por ADA/504 en cada colegio.

Maricopa Community Colleges District Vision, Mission, and Values

VISION

The Maricopa Community Colleges strive 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.

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

We adhere to the philosophy that education thrives in a community bound by moral and ethical values and devotion to lifelong learning. We accept the responsibility to respond to the needs of the people in our communities who desire to fulfill their potential in life. Therefore, we operate on the basis of openness and trust to nurture an environment where all can be heard.

We commit to living according to the following basic values which are vital to maintaining the integrity and vitality of our community of leaders.

Value Education

We value lifelong learning opportunities that respond to the needs of our communities and are accessible, affordable, and of the highest quality.

Value Students

We value students as the primary reason we exist. We respect their diverse life experiences, value their achievements, and appreciate their contributions to our learning community.

Value Employees

We value all our residential faculty, adjunct faculty, administration, professional support staff, and crafts and maintenance and operations personnel, respect their diverse life experiences, appreciate their contributions to our learning community, and encourage their individual professional development.

Value Excellence

We invite innovation, support creative problem-solving, and encourage risk-taking. We value teamwork, cooperation, and collaboration as part of our continuous improvement efforts.

Value Diversity

We celebrate the diversity of our communities and pledge to promote and recognize the strengths as reflected in our employees and students. We believe no one is more important than another, each is important in a unique way, and we depend on each other to accomplish our mission.

Value Honesty and Integrity

We believe academic and personal honesty and integrity are essential elements in our learning environment. Employees and students must speak and act truthfully.

Value Freedom

To foster our learning environment, we respect individual rights and the privacy of our employees and students, and encourage dialogue and the free exchange of views.

Value Fairness

We advocate fairness and just treatment for all students and employees.

Value Responsibility

We believe employees are accountable for their personal and professional actions as they carry out their assignments. We are all responsible for making our learning experiences significant and meaningful. We are accountable to our communities for the efficient and effective use of resources.

Value Public Trust

We honor the trust placed in us by the community to prepare our students for their role as productive world citizens.

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.

General Policies

The Maricopa Community Colleges are dedicated to providing a healthy, comfortable, and educationally productive environment for students, employees, and visitors.

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. The Administrative Regulations of the Maricopa Community Colleges may be viewed in their entirety at

www.dist.maricopa.edu/gvpolicy/adminregs/adminregs_toc.htm

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.

Campus Life

ABUSE-FREE ENVIRONMENT

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 people from 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 drugs.

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 adopt programs applicable to their community as well as to our individual students' 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 Colleges have an equal "duty to care" responsibility and a commitment to substance abuse/misuse education for all students and employees.

The Maricopa Community Colleges shall:

1. Visibly demonstrate a performance of the Maricopa Community Colleges "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:

1. Developing and implementing substance misuse/abuse prevention programs.
2. Providing educational training and prevention programs for the college and community it serves.
3. Providing timely and accurate information dissemination.
4. Establishing supportive counseling programs as needed.
5. Establishing a strong ongoing evaluation of services.
6. Providing assistance to obtain treatment and rehabilitation of substance abuse/misuse.
7. Clarifying the college regulations for control of alcohol and drug use.
8. 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 Colleges are 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 programs will be on evaluation of the campus community and assistance to individuals.

The Maricopa Community Colleges fully support disciplinary action for misconduct and the enforcement of state laws governing use of alcohol and use, abuse, possession, or distribution of controlled substances or illegal drugs.

Student Program to Prevent Illicit Use of Drugs and Abuse of Alcohol

The 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 affects 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.

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

Sanctions for Violation of Standards of Conduct

Disciplinary actions include, but are not limited to:

a. Warning
b. Loss of privileges
c. Suspension
d. Expulsion

Legal Consequences of Alcohol and Other Drugs

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.

Federal Penalties and Sanctions for Illegal Possession of a Controlled Substance

First conviction: Up to one year imprisonment and fined at least $1,000 but not more than $100,000, or both.

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.

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: Mandatory at least five years in prison, not to exceed twenty years, and fined up to $250,000, or both, if:

1) First conviction and the amount of crack possessed exceeds five grams.
2) Second conviction and the amount of crack possessed exceeds three grams.
3) Third or subsequent crack conviction and the amount of crack possessed exceeds one gram.

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.

Forfeiture of vehicles, boats, aircraft, or any other conveyance used to transport or conceal a controlled substance.

Civil fine of up to $10,000 (pending adoption of final regulations).

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.

Ineligible to receive or purchase a firearm.

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.

State Penalties and Sanctions

Title Thirteen, Chapter 34 of the Arizona Revised Statutes lists drug offenses and their penalties. Following is a 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 $750. 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 $750.
2) LSD: Possession, use, and sale of LSD are felonies carrying sentences from four to five years and fines of not less than $1,000.
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 $2,000.

Alcoholic Beverages: Usage Regulation

1. No alcoholic beverage is allowed on or in the premises owned by the State and/or leased/rented by the Maricopa Community Colleges for district-approved educational purposes, except as provided herein.
2. No purchase of alcoholic beverages is allowed from any funds under the jurisdiction of the Governing Board of the District.
3. 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.
4. 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.

TECHNOLOGY RESOURCE STANDARDS

The Maricopa County Community College District 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 many 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, however, the proper use of those resources is all the more important. Accordingly, 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 College District are available only to authorized users, and any use of those 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 College 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 to advertise 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.

EMISSIONS CONTROL COMPLIANCE

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.

STUDENT TRAVEL

As a college-sanctioned activity, students participating in group travel are required to abide by the policies and procedures established by the Student Code of Conduct

as well as by the Governing Board of the Maricopa Community College District (MCCD) for in-state and out-of-state travel. Participants are also required to follow the policies and procedures set forth by the college and the organization hosting the event. Some of the regulations for students on college-sponsored trips are listed below.

Additional information on student travel is available from the Office of Student Life and Leadership and the Vice President of Student Affairs. 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 unless the advisor and the Director of Student Life agree otherwise.
- 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 MCCD. 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.

HEALTH CONCERNS

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 Disability Resources and Services or the Office of the 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 dean 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 Special Services and/or the Vice President of Student Affairs for the types of services available in the district or community on matters regarding AIDS or the HIV virus.

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.

LEGAL SERVICES

Free legal assistance is available to all MCC students at both MCC at Red Mountain and MCC at Southern and Dobson. Services include counseling and advice for personal legal transactions and/or problems, landlord-tenant matters, domestic relations, consumer and traffic problems, etc. You can make an appointment at the Office of Student Life and Leadership at (480) 461-7285 for MCC at Southern and Dobson, and (480) 654-7759 for MCC at Red Mountain.

PUBLICITY

The Campus Publicity Policy is designed to maintain order for the college bulletin boards, kiosks, and buildings.

- No information, notices, or advertisements may be posted without prior permission from the Office of Student Life and Leadership.
- No fliers, advertisements, coupons, or other published materials may be placed on vehicles parked on MCC property.

  In addition, no such materials may be posted in classrooms, except instructional materials placed by authorized college personnel.

- Groups wishing to advertise on campus may purchase ad space in the college newspaper or contact the Office of Student Life and Leadership. Signs, posters, or flyers displayed by authorized students campus groups must be removed within 24 hours after an event to avoid a possible clean-up fee.
- The Associated Students of MCC (ASMCC) Elections Committee establishes guidelines that regulate the size and dimensions of signs to be used in student body elections. Copies of the guidelines are available in the Office of Student Life and Leadership.
- No signs, fliers, or advertisements shall be posted on painted surfaces, wooden structures, or glass surfaces on campus. Any damages to these surfaces will be charged to the group sponsoring the activity.
- Off-campus groups wishing to distribute materials must get approval through the Office of Student Life and Leadership prior to posting. Please call 480-461-7258 at MCC at Southern and Dobson, or 480-654-7759 at MCC at Red Mountain.

SAFETY ON CAMPUS

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

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

Crime Awareness and Campus Security Act

Federal legislation requires the Maricopa Community Colleges to collect and report data related to crimes committed on and near our campuses. This data and additional information regarding College Safety policies can be obtained from the College Safety Office or by visiting our website at **www.mc.maricopa.edu/other/collegesafety/policies_crime.html**

College Safety personnel are authorized to ask any person on campus for proper identification 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) and reported to the Vice President of Student Affairs.

Students are urged to exercise care in securing their personal property, including motor vehicles, bicycles, mopeds, and motorcycles. 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 College 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 peace 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 College Safety Office and bring them to the College Safety Office for examination prior to the demonstration.

Alcohol and illegal drugs are prohibited on campus.

Accidents on Campus

Any accident resulting in injury should be reported to the College Safety Office. You can obtain an accident report from the College Safety Office.

Security Escorts

Security escorts are provided to and from parking lots when requested. Minor assistance is rendered to motorists with disabled cars, such as dead batteries.

LOST AND FOUND

Lost and Found is located in the College Safety Office. Lost and found items and inquiries should be directed to this office. We are located at the west end of the Social/Cultural Science Building at MCC at Southern and Dobson, 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 College Safety Office should be notified of any planned activity during those hours.

PARKING AND TRAFFIC

The administration of college regulations governing motor vehicles operated by students, staff, and visitors of MCC shall be under the jurisdiction of the college administration. Regulations apply to all members of the college community.

For more information on MCC parking and traffic policies, visit **www.dist.maricopa.edu/gvpolicy/adminregs/students/2_10.htm**

- 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 College 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 College Safety officers and furnish student or other identification when so required.
- 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.

Vehicle Registration

During 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 College Safety of the sale of the former vehicle.

Temporary parking decals are available in the College Safety Office for rented or borrowed vehicles.

Violation of the 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 College Safety Office at MCC at Southern and Dobson.

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.

www.mc.maricopa.edu/other/publicsafety/

VISITORS ON CAMPUS

Any person, group, or business who wishes to come to the campus must contact the Student Activities office regarding campus policies and procedures before coming to campus.

SEXUAL HARASSMENT POLICY FOR EMPLOYEES AND STUDENTS

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

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. 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

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

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.

Amorous Relationships

An amorous relationship that might be appropriate in other circumstances may be inappropriate if one of the individuals in the relationship has a professional responsibility toward, or is in a position of authority with respect to, the other, such as in the context of instruction, counseling, advisement, or supervision. An element of power is often present in such a context, and it is incumbent upon those with authority not to abuse that power.

Complaints

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 EEO/AA Office. 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 equivalent) 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.

The Maricopa Community Colleges EEO/AA Office phone number is 480-731-8885.

Confidentiality

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

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

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

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.

SOLICITATION

Petition Signature Solicitation

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 statewide 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

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.
4. 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.
5. 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.
6. 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.
   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.
7. 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 Colleges 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.

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 Students' office located on the top floor of the Kirk Student Center at MCC at Southern and Dobson.

STUDENT RIGHT TO KNOW

Under the terms of the Student Right to Know Act, the Maricopa Community Colleges must maintain and report statistics on the number of students receiving aid related to athletics 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 relevant statistics. To obtain copies of these reports, contact the Office of Admissions and Records.

WORKPLACE VIOLENCE PREVENTION

It is the policy of the Maricopa Community Colleges to promote a safe environment for their employees, students, and visitors. The Maricopa Community Colleges are committed to working with employees to maintain an environment that is 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 Colleges 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 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.

Academic Matters

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, 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, 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

CLASS 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 Admissions and Records when they discontinue studies in a course or at the college. Please refer to **Withdrawing from Classes**.

Official Absences

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 appropriate dean 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 regulation may not apply.

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. 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 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 and Children on Campus

If you wish to bring a guest to class, consult with your professor before you bring a 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.

COPYRIGHT ACT COMPLIANCE

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.

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

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, then, 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 US 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 Colleges 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 Technology Resource Standards, a student is prohibited from the "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." 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 website?
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
www.dist.maricopa.edu/legal
and click on "Intellectual Property." While you're there, read the Maricopa Community Colleges Copyright Guidelines. You should also review the complete text of the Technology Resource Standards that can be found under the "Information Technology" link.

DISCIPLINARY STANDARDS

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 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:

1. Cheating on an examination, laboratory work, written work (plagiarism); falsifying, forging, or altering college records.
2. Actions or verbal statements that 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 that may result in notification of law enforcement authorities.

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 dean 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.

The purpose of this policy is to help ensure a healthy, comfortable, and educationally productive environment for students, employees, and visitors.

Definitions

The following are definitions of terms or phrases contained within this document:

A. "College" means Maricopa Community Colleges or a designated college or center. "College president" also refers to center provost.
B. "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."
C. "Faculty member" means any person hired by the college or district to conduct classroom instruction.
D. "College official" means any person employed by the college or district, performing assigned administrative or professional responsibilities pursuant to this Student Code. The college president/provost shall designate the college official to be responsible for the administration of the Student Code.
E. "College community" means students, faculty members, college officials, or any other persons employed by the college. A person's status in a particular situation shall be determined by the college president.
F. "College premises" means all land, buildings, facilities, and other property in the possession of or owned, used, or controlled by the college or district.
G. "Organization" means a group that has complied with the formal requirements for college recognition.
H. "Judicial body" means any person or persons authorized by the college president/provost to determine whether a student has violated this Student Code and to recommend imposition of sanctions.
I. "Judicial advisor" means a college official authorized on a case-by-case basis by the college president/provost to impose sanctions upon students found to have violated this Student Code. The college president/provost may authorize a judicial advisor to serve simultaneously as a judicial advisor and the sole member or one of the members of a judicial body. Nothing shall prevent the college president/provost from authorizing the same judicial advisor to impose sanctions in all cases.
J. "Appellate boards" means any person or persons authorized by the college president/provost to consider an appeal from a judicial body's determination that a student has violated this Student Code or from the sanctions imposed by the judicial advisor. Nothing shall prevent the college president/provost from acting as the appellate board.
K. The term "shall" is used in the imperative sense.
L. The term "may" is used in the permissive sense.
M. The term "policy" is defined as the written regulations of the college and/or District as found in, but not limited to, this Student Code and Governing Board policy.

Judicial Authority

A. The college president/provost shall determine the composition of judicial bodies and appellate boards, and determine which judicial advisor, judicial body, and appellate board shall be authorized to hear each case.
B. The judicial advisor 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 Code.
C. Decisions made by the judicial advisor shall be final, pending the normal appeal process.

Prescribed Conduct

A. **Jurisdiction of the College**
Generally college jurisdiction and discipline shall be limited to conduct which occurs on college/center premises and/or during college sponsored or supervised activities, or which adversely affects the college community and/or pursuit of its objectives.

B. **Conduct: Rules and Regulations**
Any student found to have committed the following misconduct is subject to the disciplinary sanctions outlined in Judicial Policies:

1. Acts of dishonesty, including but not limited to the following:
   a. Furnishing false information to any official, college employee, 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. Disruption or obstruction of teaching, research, administration, disciplinary proceedings, or college activities, including its public service functions on or off campus, or other authorized non-college activities, when the act 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 appropriate dean 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, and/or conduct which threatens or endangers the health or safety of any person
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 one's self 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 published Governing Board policy, college rules, or regulations
8. Violation of federal, state, or local law on college/center premises or at college-sponsored or supervised activities
9. Use, possession, or distribution of narcotic or other controlled substances except as expressly permitted by law
10. Use, possession, or distribution of alcoholic beverages or public intoxication
11. Illegal or unauthorized possession of firearms, explosives, other weapons, or dangerous chemicals on college premises
12. Participation in a college demonstration 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; intentional obstruction that unreasonably interferes with freedom of movement, either pedestrian or vehicular, on campus
13. Obstruction of the free flow of pedestrian or vehicular traffic on college premises or at college-sponsored or supervised activities
14. Conduct which 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 activities sponsored by or participated in by the college
15. Attempted or actual theft or other abuse of computer time, 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 user's identification and password
    d. Use of computing facilities to interfere with the work of another student, faculty member, or college official
    e. Use of computing facilities to send obscene or abusive messages
    f. Use of computing facilities to interfere with normal operation of the college computing system
    g. Use of computing facilities for students' personal benefit
16. Abuse of the judicial system, including but not limited to:
    a. Falsification, distortion, or misrepresentation of information before a judicial body
    b. Disruption or interference with judicial proceedings
    c. Institution of a judicial proceeding knowingly without cause
    d. Attempting to discourage an individual's proper participation in, or use of, the judicial system
    e. Attempting to influence the impartiality of the member of a judicial body prior to, and/or during the course of, the judicial proceeding
    f. Harassment, either verbal or physical, and/or intimidation of a member of a judicial body prior to, during, and/or after a judicial proceeding
    g. Failure to comply with the sanctions imposed under this Student Code
    h. Influence or attempting to influence another person to commit an abuse of the judicial system

Violation of Law and College Discipline

1. When a student is charged only with an off-campus violation of federal, state, or local laws but not with any other violation of this Student Code, disciplinary action may be taken and sanctions imposed for grave misconduct that demonstrates flagrant disregard for the college community. In such cases, no sanction may be imposed unless the student has been found guilty in a court of law or has declined to confess such charges, although not actually admitting guilt, e. g., "no contest" or "nolo contendere."
2. College disciplinary proceedings may be instituted against a student charged with violation of a law that is also a violation of this Student Code, for example, if both violations result from the same factual situation, without regard to the pendency to civil litigation in court or criminal arrest and prosecution. Proceedings under this Student Code may be carried out before, during, or after civil or criminal proceedings off campus.
3. 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 considerations for that individual because of his or her status as a student. If the alleged offense is also a subject of a proceeding before a judicial body under this Student Code, however, the college may advise off-campus authorities of the existence of this Student 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 personnel capacities, remain free to interact with governmental representatives as they deem appropriate.

Judicial Policies

A. Charges and Hearings

1. Any member of the college community may file charges against any student for his or her conduct under this Student Code. Charges shall be prepared in writing and directed to the judicial advisor responsible for administration of the college judicial system. Any charge should be submitted within thirty (30) days of the incident. The judicial advisor will rule on the timeliness of the charges.
2. The judicial advisor 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 judicial advisor. Such dispositions shall be final, and there shall be no subsequent proceedings. If the charges cannot be disposed of by mutual consent, the judicial advisor may later serve in the same matter as the judicial body or a member thereof.
3. All charges shall be presented to the accused student in written form. A time shall be set for a hearing, not less than five (5) nor more than fifteen (15) working days after the student has been notified. Maximum time limits for scheduling of hearings may be extended at the discretion of the judicial advisor.
4. Hearings shall be conducted by the judicial body according to the following guidelines:
   a. Hearings normally shall be conducted in private.
   b. Admission of any person to the closed hearing shall be at the discretion of the judicial body, and/or its judicial advisor.
   c. In hearings involving more than one accused student, the chairperson of the judicial body, in his or her discretion, may permit the hearing concerning each student to be conducted separately.
   d. The complainant and the accused shall have the right to be assisted by any advisor they choose, at their own expense. The advisor may be an attorney. Both the complainant and the accused are responsible for presenting their own cases and, therefore, advisors are not permitted to speak or participate directly in any hearing before a judicial body.
   e. The complainant, the accused, and the judicial body shall have the privilege of presenting witnesses, subject to the right of cross-examination.
   f. Pertinent records, exhibits, and written statements may be accepted as evidence for consideration by a judicial body at the discretion of the chairperson.
   g. All procedural questions are subject to the final decision of the chairperson of the judicial body.
   h. After the hearing, the judicial body (if consisting of multiple members) shall determine by majority vote whether the student violated the designated sections of this Student Code. The judicial body shall render written findings of fact and conclusions, and forward these along with recommended sanctions as outlined in Article IV, Section B to the judicial advisor within three (3) working days of the conclusion of the hearing.
   i. The judicial body's determination shall be made on the basis of whether it is more likely than not that the accused student violated this Student Code.
5. There shall be a single verbatim record, such as a tape recording, of all hearings before the judicial body. The record shall be the property of the college and/or district.
6. No student may be found to have violated this Student Code solely because the student failed to appear before a judicial body. In all cases, the evidence and support of the charges shall be presented and considered.

B. Sanctions

1. The following sanctions may be imposed upon any student found to have violated the Student Code:
   a. Warning – a written notice to the student that the student is violating or has violated institutional regulations
   b. Probation – a written reprimand for violation of specified regulations. Probation is for a designated period of time and includes the probability of more severe disciplinary sanctions if the student is found to be violating any institutional 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
   e. Discretionary Sanctions – work assignments, service to the college, or other related discretionary assignments. (Such assignments must have the prior approval of the judicial advisor.)
   f. 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. (College suspension applies at all of the Maricopa Community Colleges.)
   g. College Expulsion – permanent separation of the student from the college. (College expulsion applies at all of the Maricopa Community Colleges.)
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 confidential record. Upon graduation, the student's confidential record may be expunged of disciplinary actions upon the student's application to the judicial advisor. 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.
4. The following sanctions may be imposed upon groups or organizations:
   a. Those sanctions listed above in Section B 1. a through d
   b. Deactivation – loss of all privileges, including college recognition, for a designated period of time

5. All sanction(s) shall be determined and imposed by the judicial advisor based upon the findings and conclusions of the judicial body. The judicial advisor will consider the recommendations for sanction(s) of the judicial body but will not be bound by its recommendations. The judicial advisor will forward the sanctions s/he determines to be appropriate along with the findings and conclusion to the accused student within two (2) working days after receipt of the judicial body's findings.

C. Interim Suspension

In certain circumstances, appropriate college/center officials may impose an interim suspension prior to the hearing before a judicial body.

1. Interim suspension may be imposed only:
   a. To insure the safety and well-being of members of the college community or preservation of college property;
   b. To insure the student's own physical or emotional safety and well-being; or
   c. If the student poses a definite threat of disruption of or interference with the normal operations of the college.
2. During the interim suspension, the student shall be denied access to the college including classes and/or all other activities or privileges for which the student might otherwise be eligible, as the judicial advisor deems appropriate.

D. Appeals

1. A decision reached by the judicial body or a sanction imposed by the judicial advisor may be appealed by accused students or complainants to an appeal board within five (5) working days of receipt of the decision. Such appeals shall be in writing and shall be delivered to the judicial advisor or his/her designee.
2. An appeal shall be limited to the review of the verbatim record of the initial hearing and supporting documents for one or more of the following purposes:
   a. To determine whether the original hearing was conducted fairly and in accordance with this Student Code prescribed procedures
   b. To determine whether the decision reached regarding the accused student conformed with the standard established in Judicial Policies
   c. To determine whether the sanction(s) imposed was appropriate to the violation
   d. To consider new evidence
3. If an appeal is upheld by the appellate board, the matter shall be remanded to the original judicial body and judicial advisor for reopening of the hearing to allow consideration of the original determination and/or sanction(s).

   In cases involving appeals by students accused of violating this Student Code, review of the sanction by the appellate board may not result in more severe sanction(s) for the accused student. Instead, following an appeal, the appropriate college official may, upon review of the case, reduce but not increase the sanctions imposed by the judicial advisor.
4. In cases involving appeals by persons other than students accused of violating this Student Code, the appropriate college official may, upon review of the case, reduce or increase the sanctions imposed by the judicial advisor or remand the case to the original judicial body and judicial advisor.

Interpretation and Revision

A. Any question of interpretation regarding the Student Code shall be referred to the person designated in Definitions, or his/her designee, for final determination.

B. The Student Code shall be reviewed every three (3) years under the direction of the Vice-Chancellor for Student Development and Community Affairs.

GRADES

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 websites. See **www.mc.maricopa.edu** for further details.

MCC students can access their grades online at **www.mc.maricopa.edu/apps/grades/**

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	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.

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 Office of Admissions and Records.

Students must complete the requirements within the time period agreed to. The 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 re-register for the course to complete the contract.

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 enroll in a course for the third time should seek advisement prior to enrolling. All enrollments in a course will appear on the transcript and will be included in calculating the grade point average.

The student may request in writing that the course(s) with the lower grade(s) be excluded during the grade point average calculation. The written request must be submitted to the Office of Admissions and Records at the Maricopa Community College where the course with the lower grade was taken. Check individual courses and programs for exceptions.

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.

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 Office of Admissions and Records.

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 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 Office of Admissions and Records 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 limit the number of credit/no credit courses that can be transferred.

Note: Some institutions outside of the Maricopa Community Colleges may translate the Z grade as failing.

Auditing Courses

Auditors are those who enroll in a course for the sole purpose of obtaining information; they receive no credit or grades, nor do they complete 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. 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** below.

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	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 (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

Instructional Grievance Process for Students

A student who feels that he or she has been treated unfairly or unjustly by a faculty member with regard to discrimination or sexual harassment in the academic environment by a faculty member, administrator, campus visitor, or other student is urged to report such conduct to the dean of student services (or designee) at each individual college. A student may also contact the Maricopa Community Colleges Equal Employment Opportunity/Affirmative Action Office to obtain the name and phone number of the college official designated to respond to sexual harassment complaints.

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 assignment 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 follow:

- Discuss the issue with the faculty member involved. This conference should be requested by the student within 15 working days from the time the student knew or reasonably should have known about the alleged unfair or unjust treatment.
- If, within 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 10 working days following the previous deadline. The written complaint will be given to the faculty member five days before any official meetings are convened.
- 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.
- If the grievance is not resolved at this level within 10 working days, the student should forward to the dean of instruction or appropriate college/center administrative officer, a copy of the original written complaint with an explanation regarding action taken at each prior level. The dean of instruction or appropriate college/center administrative officer will meet with the student, faculty member, college faculty senate president if requested by the faculty member, and department/division chairperson to attempt to resolve the issues. This level will be the final step in any grievance process regarding grades.
- If the grievance, other than those concerning grades, is not resolved by the dean of instruction or the appropriate college/center administrative officer, 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 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 these approved procedures:

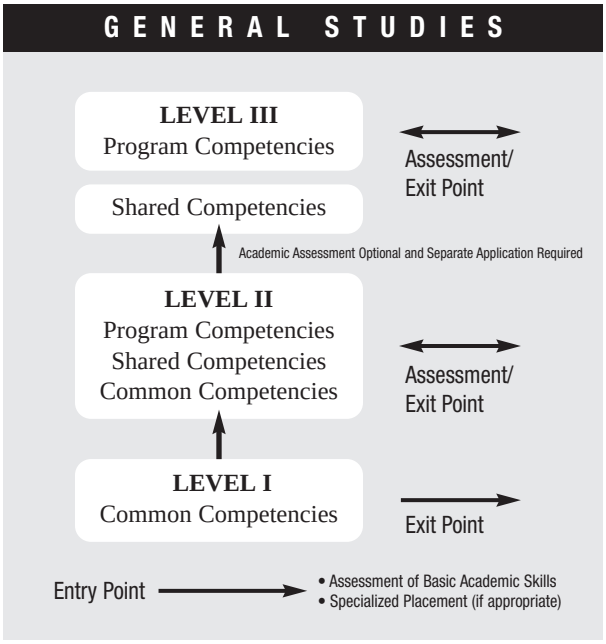
- Discuss the issue with the employee involved. The student should request this conference within fifteen (15) working days from the time the student knew or reasonably should have known about the unfair or unjust treatment.
- If, within ten (10) working days of the request for the conference with the 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.
- 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.
- If the complaint is not resolved at this level within ten (10) working days, the student should forward to the appropriate college/center dean and/or associate dean, a copy of the original written complaint with an explanation regarding action taken at each prior level. The dean and/or associate dean will meet with the student, the employee, and the relevant supervisor, and attempt to resolve the issues.
- If the associate dean and/or dean do 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.

HEALTH CARE INTEGRATED EDUCATIONAL SYSTEM (HCIES)

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 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, **healthcare.maricopa.edu** is a comprehensive information source.

HCIES Pathways



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. 5
HCC130AB Workplace Behavior in Health Care 5
HCC130AC Personal Wellness and Safety 5
HCC130AD Communication and Teamwork in Health Care Organizations 5

LEVEL II – Common Competencies . . . . . Credits Vary
ALL Health Care Students must satisfactorily achieve the Level II Common Competencies. See your advisor to determine which Medical Terminology course satisfies your pathway's course requirements.

HCC130AE Legal and Ethical Issues in Health Care 5
HCC130AF Decision Making in the Health Care Setting .5
HCC145AA Medical Terminology for Health Care Workers I 1.0
HCC145AB Medical Terminology for Health Care Workers II 1.0
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 requirements, 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 program 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.*

Examples of Level II Health Care Pathways ** College(s)
Clinical Research Coordinating . . . . . GWCC
Community Health Advocate for Diabetes . . . . . MCC
Dental Assisting. . . . . MC, PC, RSC
Dental Office Management . . . . . PC
Nurse Assisting . . . . . GCC, MCC, PC, SCC, GWCC, MSC, PVCC, SWSC/EMCC
Diagnostic Medical Ultrasound . . . . . GWCC
Direct Care Practice. . . . . MCC
Health Information Technology. . . . . PC
Health Services Management. . . . . GWCC
Health Unit Coordinating . . . . . GWCC
Hospital Central Service. . . . . GWCC
Laboratory Assisting . . . . . PC
Medical Assisting. . . . . MSC, PC, SWSC/EMCC
Medical Billing . . . . . PC
Medical Coding: Physician or Hospital Based . . . . . PC
Medical Transcription . . . . . GWCC, SWSC/EMCC
Nuclear Medicine Technology . . . . . GWCC
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

Examples of Level III Health Care Pathways **College(s)

Dental Hygiene . . . . . MC, PC, RSC
Dental Office Management . . . . . PC
Diagnostic Medical Ultrasound . . . . . GWCC
Direct Care Practice. . . . . MCC
Health Information Technology. . . . . PC
Health Services Management. . . . . GWCC
Medical Assisting. . . . . MSC, PC, SWSC/EMCC
Medical Radiography . . . . . GWCC
Nuclear Medicine Technology . . . . . GWCC
Nursing . . . . . GCC, GWCC, MCC, PC, RSC, SCC
Physical Therapist Assisting. . . . . GWCC
Practical Nursing . . . . . GCC, GWCC, MCC, MSC, PC, SCC, SWSC/EMCC
Respiratory Care. . . . . GWCC
Surgical Technology . . . . . GWCC
Therapeutic Massage . . . . . CGCC, PC

** subject to change

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 colleges for more information regarding the availability of courses and course schedule information.

Notes:

1. *Students are responsible for completing General Education 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.*

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 that 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 Colleges, college of attendance requirements for the completion of the healthcare program pathways can be met through the completion of coursework taken at all 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 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 clearance 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 a HCIES program does not guarantee the receipt of a license or certificate to practice in the field of study.

HCIES Credit for Prior Learning National/Regional Credential Recognition

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** or visit the website at **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

Students may apply for credit for prior learning in certain courses. Specific information and required forms can be found online at **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 (I CAN). Students may apply for HCIES Health Care Pathway/Program Advanced Placement in certain courses by obtaining form(s) in the Office of Admissions and Records, paying required fee(s), and successfully completing the examination and/or skills demonstration and other requirements of the college.

See fee schedule for related fee. Fees are not refundable if a student fails to obtain credit.

Students may not request:
1. to challenge a course a second time;
2. to challenge a course while currently enrolled in the course;
3. to establish credit in a previously completed course; or
4. to establish credit for a lower level of a course in which credit has been received.

Certain health care pathways/programs have additional requirements that 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," a grade, and the number of credits will appear on the student's transcript. The grade is used in computing the grade point average with the exception of courses graded P/Z.

SCHOLASTIC STANDARDS

Academic Renewal

Students who are returning after a separation of five (5) years or more from the Maricopa Community Colleges may petition for academic renewal. The request must be in writing and submitted to the Office of Admissions and Records 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.

1. 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 re-enrollment.
2. Upon approval, all courses taken prior to re-enrollment 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.
3. All coursework will remain on the student's permanent academic record, ensuring a true and accurate academic history.
4. The academic renewal policy may be used only once at . each college and cannot be revoked once approved.
5. 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

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.

Graduation Grade Point Average

Students must meet all requirements for graduation. Graduation requires a minimum grade point average of 2.00. Some specific programs have higher grade requirements. It is the student's responsibility to be aware of these program requirements. For more information, see **General Graduation Requirements.**

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 average will graduate with the following designations:

3.50 to 3.69	With distinction
3.70 to 3.89	With high distinction
3.90 to 4.0	With highest distinction

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.

ACADEMIC MISCONDUCT

Academic Misconduct includes misconduct associated with the classroom, laboratory, or clinical learning process. Some examples of academic misconduct are cheating, plagiarism, and excessive absences.

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.

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.

Sanctions

Any student found by a faculty member to have committed academic misconduct may be subject to the following sanctions. Sanctions 1, 2, 3, and 4 may be imposed by a faculty member. The faculty member may recommend to the department chairperson and the appropriate dean that sanctions 5, 6, or 7 be imposed. College suspension or expulsion will be imposed only by the appropriate dean.

1. Warning – A notice in writing to the student that the student has violated the academic code.
2. Discretionary Sanctions – Additional academic assignments determined by the faculty member.
3. Grade Adjustment – Lowering of a test, assignment or academic misconduct has occurred but is confronted with facts that rebut that belief to the extent that reasonable doubt occurs, the disciplinary due process procedures should be invoked to determine guilt or innocence.
4. Course Failure – Failure of a student from a course where academic misconduct occurs.
5. Disciplinary Probation – A written reprimand in response to academic misconduct. 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.)

Appeal of Sanctions for Academic Misconduct

Students can appeal sanctions imposed for academic misconduct by following the instructional grievance process (AR 2.3.5).

Academic 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

Note: 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.

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.

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.

Students Receiving Federal Financial Aid

Specific requirements for academic progress for financial aid recipients are applied differently than scholastic standards. Specific information is available at the Office of Student Financial Services. See **Satisfactory Academic Progress**.

TAPING OF CLASSROOM LECTURES

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 (both audio and video) their classes.

Each faculty member shall inform his or her students within the first week of class as to his or 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 or her taping policy.

WITHDRAWING FROM CLASSES OR FROM MCC

To withdraw from a course or from the college, students must follow approved procedures. The Office of Admissions and Records provides information about the withdrawal process.

The official date of withdrawal is the last date of attendance as determined by the student's withdrawal or as reported by the instructor. The official date of withdrawal determines refunds.

Never attending is not a guarantee of a refund or an excuse from the debt incurred through registration. Please see the refund policy.

The prescribed time limits are for full semester classes. Time limits for classes that meet fewer than sixteen (16) weeks are adjusted accordingly. See **Important Deadlines for Students**.

Withdrawal from Specific Classes

Students may be officially withdrawn from specific courses in the following ways:

1. Through the 7th week, a student may initiate an official withdrawal from any course by submitting a course withdrawal form with the required signatures to the Office of Admissions and Records in accordance with the published deadlines. A grade of W will be assigned.
2. After the 7th week, a student may initiate a withdrawal. The faculty member will sign the form and assign a grade of W or Y. The form is then to be returned to the Office of Admissions and Records. (See **Important Deadlines for Students**.)
3. 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 instructor. 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 file the withdrawal form, including the last date of attendance, with the Office of Admissions and Records.

Failure to file an official withdrawal form may result in failing grades.

Complete Withdrawal from MCC

Failure to withdraw officially from the college within the published deadlines may result in failing grades and responsibility for course tuition and fees.

Students electing to withdraw from the college must contact the Office of Admissions and Records 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) or Y (withdrawn, failing).

Withdrawal of Students Who Receive Financial Aid

In accordance with federal regulations (CFR 668.22), students may be required to repay federal financial aid funds if they completely withdraw or are withdrawn from or fail to earn a passing grade from all classes during a semester. Further information is available at the college Office of Student Financial Services. This could affect a student's ability to receive financial aid in the future at any school.

Community Connections

At Mesa Community College, we value our many partnerships with our local, statewide, and national communities. To learn more about these partnerships, have a look at this section.

ALUMNI ASSOCIATION

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 AND 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**

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

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 accomplished through the following research-based programs:

- Implementing an Annual International Leadership Conference
- Offering year-long local, statewide, national, and international Academy for Leadership Training and Development programs. Foundation and Advanced programs are available to post-secondary leaders worldwide
- Customizing leadership training and development programs for post-secondary institutions worldwide
- Offering membership to the Chair Academy which includes the benefits of receiving our juried journal, *Leadership*, as well as our bi-monthly electronic *Leadership Tips and Tools Bulletin*

For additional information about the Chair Academy programs and offerings, please visit

www.mc.maricopa.edu/other/chair

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 postsecondary 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.

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

www.mc.maricopa.edu/organizations/community/cpp/

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.

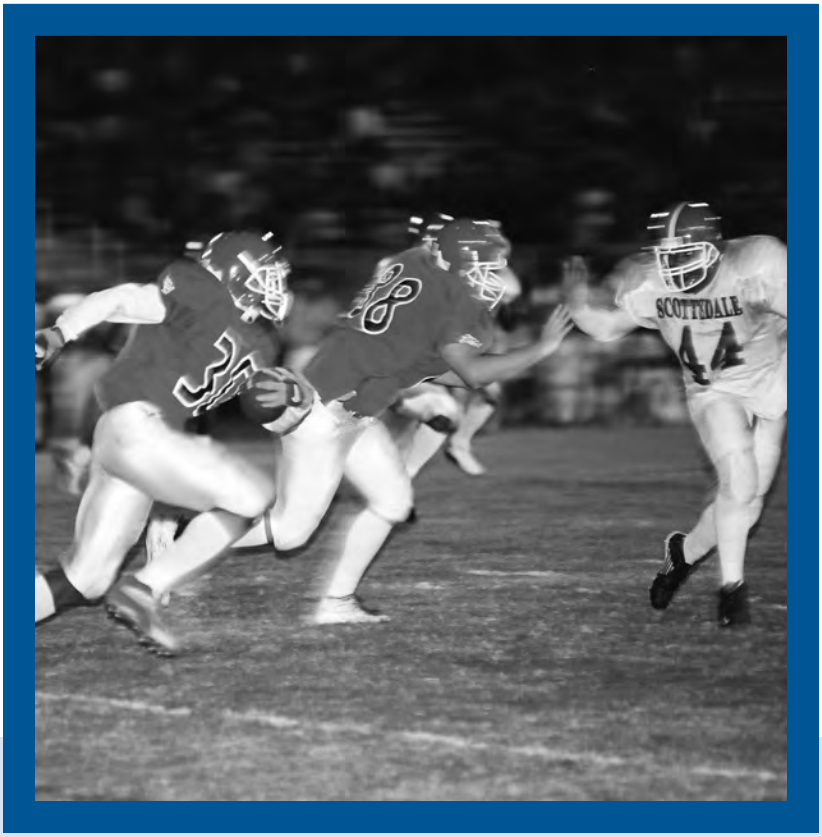
For more information, contact the MCC Development Office at 480-461-7356 or visit

www.mc.maricopa.edu/development

For more information on the Maricopa Community Colleges Foundation, please visit

www.dist.maricopa.edu/foundation/

Student Support Services



This section of the catalog provides all the information you need to get started in your academic program at MCC. You will also find information about a wide range of student clubs, organizations, and activities that you can become part of to enhance your college experience. In this section, you will find policies and procedures related to:

- **Registering for classes**
- **Finding services for veterans**
- **Locating services for special needs and interests**
- **Finding financial aid**
- **Transferring college credits**
- **Getting involved in student organizations and activities student support services**

Registering for Classes

OFFICE OF ADMISSIONS AND RECRUITMENT

The Office of Admissions and Recruitment provides information to prospective students, processes applications for admission to the college and special programs, determines residency for tuition purposes, evaluates transcripts from other colleges, and assists students through the enrollment process. College recruitment activities and high school relations efforts are coordinated through the Office of Admissions and Recruitment.

www.mc.maricopa.edu/services/student_services

ADMISSION POLICIES

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.

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 18 years of age or older 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 achieves the following test scores:
   a. Scholastic Aptitude Test (SAT) composite (verbal and math) SAT I 930 or more, or SAT II 500 or more, or
   b. American College Test (ACT) composite of 22 or higher
2. 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 the test scores specified in paragraph 1, subparagraphs a or b of this subsection.
3. A student admitted under this subsection is not guaranteed admission to a specific degree program or to all courses offered by the community college.
4. A community college may limit the number of credit hours in which the student may enroll to no fewer than six (6) credit hours.

C. Admission of Students in Special Status

Students not meeting any of the provisions stated above may be admitted on an individual basis with the approval of college officials, so long as the students meet the established requirements of the courses for which they enroll and the college officials determine that such admission is in the best interest of the students.

The status of "Special Admissions" may be granted to a student who:

1. Is beyond the age of compulsory high school attendance and has met the established requirements for the courses for which he or she plans to enroll based on the college assessment examinations, or
2. Is under the age of 18 and has taken the appropriate college assessment tests in order to demonstrate the knowledge of the necessary academic skill level to benefit from the course. Departments may have additional requirements to register for a course. (Signature of parent or guardian is required for students under 18), or
3. Is a participant in a special program sponsored by the admitting college

THE COLLEGES RESERVE THE RIGHT TO ENROLL STUDENTS IN COURSES. The final decision for admission to any class for students admitted under Section B or C will be determined by the designated college administrator in consultation with the department chairperson.

D. Specialized Vocational/Training Program

If districts are granted authority for specialized curricula, local district boards shall adopt guidelines to determine admissibility of students for such programs.

E. 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 Office of Admissions and Recruitment.

F. Admission of F-1 Nonimmigrant Students

Prospective students should contact the Office of Admissions and Recruitment or designated office for the necessary student information form(s). When completed, the form(s) should be returned to the Office of Admissions and Recruitment 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 have the equivalent of 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 Office of Admissions and Recruitment 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. 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 required. The dean or director of admission and records of the college may accept other proof of English language proficiency for admission purposes.

   Questions about the TOEFL should be directed to the Educational Testing Services at:

   TOEFL Services
   P.O. Box 6151
   Princeton, NJ 08543-6151

2. **Admission to the Intensive English Program**
   An applicant for admission to the Intensive English Program must provide evidence of at least 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
   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 the intensive English program or the college's responsible designee. Students admitted to the 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 the student's average costs for 12 months to be:

   Tuition and fees: . . . . . $ 6,000[1]
   Living Expenses: . . . . . $ 10,400[2]
   Books: . . . . . $ 800[3]
   Health Insurance: . . . . . $ 600[4]
   Total. . . . . $ 17,800[5]

   Footnotes:
   (1) Based on 2004-2005 tuition and fee schedule.
   (2) Based on estimated costs of apartment rental, utilities, local transportation, food, and entertainment.
   (3) Based on average new and used textbook prices. Assumes books are sold at the end of the semester.
   (4) Based on 2004-2005 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 a 1-20 is issued.

4. **Dependent Financial Guarantee**
   Evidence for financial support of 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 a 1-20 issued by one of the Maricopa Community Colleges are required to purchase the Maricopa Community Colleges' international student health insurance plan. Health insurance coverage for dependents is also 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 Office of Admissions and Recruitment or the International Education office.

ADMISSIONS INFORMATION

Students must file a Student Information Form with the Office of Admissions and Recruitment at the college of attendance. There is no charge for this service.

Student Status

Freshman: A student who has completed fewer than 30 credit hours in 100-level courses and above
Sophomore: A student who has completed 30 credit hours or more in 100-level courses and above
Unclassified: A student who has earned an associate degree or higher

Student Identification Number

Disclosure of the social security number is voluntary; 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.

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.

Admission of 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.

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.

Regular status 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.

Regular with provisional requirements status 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 participating in an eligible program.

Special status 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 requirements for admission.

Transcripts for Admissions Purposes

The Maricopa Community Colleges reserve the right to require transcripts for clarification or admission to specific programs, for participation in official athletic events, and for determination of academic standing and eligibility. When an official transcript is required, the transcript must be sent directly to the college Office of Admissions and Recruitment. 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.

Residency for Tuition Purposes

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 system-wide)

Residency for tuition purposes is determined in accordance with state law (A.R.S. §15-1801 et sec.) 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 Office of Admissions and Recruitment for clarification.

Implementation

1. 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.

2. 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.

3. 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.

Definitions

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 Association Administration, the National Guard, and any military reserve unit of any branch of the armed forces of the United States.

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 intersession beyond the normal academic year in order to maintain continuous attendance.

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.

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.

Emancipated person means a person who is neither under a legal duty of service to his or her parent nor entitled to the support of such parent under the laws of this state.

Full-time student means one who registers for at least twelve (12) credit hours per semester.

Part-time student means one who registers for fewer than twelve (12) credit hours per semester.

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.

Criteria for Determining Residency

In-State Student Status

A. Except as otherwise provided in this article, no person having a domicile elsewhere than in this state is eligible for classification as an in-state student for tuition purposes.

B. A person is not entitled to classification as an in-state student until he or she 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:

1. His or her parent's domicile is in this state and the parent is allowed to claim him or her as an exemption for state and federal tax purposes.
2. He or she is an employee of an employer which transferred him or her to this state for employment purposes, or he or she is the spouse of such employee.
3. He or she is an employee of a school district in this state and is under contract to teach on a full-time basis, or is employed as a full-time noncertified classroom aide, at a school within that school district. For purposes of this paragraph, he or she 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 his or her family is eligible for classification as an in-state student if he or she is eligible for classification as an in-state student pursuant to this paragraph.

C. The domicile of an unemancipated person is that of such person's parent.

D. 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.

E. A person who is a member of the Armed Forces of the United States and who is stationed in this state pursuant to military orders or who is the spouse or a dependent child 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.

F. 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.

G. A person who is honorably discharged from the Armed Forces of the United States shall be granted immediate classification as an in-state student on honorable discharge from the Armed Forces and, while in continuous attendance toward the degree for which currently enrolled, does not lose in-state student classification if the person has met all of the following requirements:

1. Declared Arizona as the person's legal residence with the person's branch of service at least one year prior to discharge from the Armed Forces.

2. Demonstrated objective evidence of intent to be a resident of Arizona which, for the purposes of this section, include at least one of the following:
   a. Arizona driver license
   b. Arizona motor vehicle registration
   c. Employment history in Arizona
   d. Arizona voter registration
   e. Transfer of major banking services to Arizona
   f. Change of permanent address on all pertinent records
   g. Other materials of whatever kind or source relevant to domicile or residency status
3. Filed an Arizona income tax return with the department of revenue during the previous tax year.

H. 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.

Alien In-State Student Status

A. An alien shall be classified as an in-state student if the alien can establish that on or before the official starting date of the semester, the alien meets one of the following situations:
   1. Has been domiciled in the state for at least one year immediately preceding the official starting date of the semester.
   2. Is domiciled in this state and:
      a. The domicile of the alien's parent is in this state, and
      b. The parent is entitled to claim the alien as an exemption for federal and state tax purposes.
   3. Is domiciled in this state and the alien is:
      a. An employee of an employer which transferred the alien to this state for employment purposes, or
      b. The spouse of such an employee.
   4. Qualifies as an in-state refugee student by virtue of having been granted refugee status in accordance with all applicable laws of the United States and having met all other requirements for domicile in this state.

B. In establishing domicile, the alien must not hold a visa that prohibits establishing domicile in this state. After meeting other residency requirements, students holding valid, unexpired visas in the following categories may be classified as in-state students:
   - A Foreign Government Official
   - E Treaty Trader
   - G Principal Resident Representative of Recognized Foreign Member Government to International Staff
   - K Fiancé or Child of Fiancé of U.S. Citizen
   - L Intracompany Transferee
   - N Parent or Child Accorded Special Immigrant Status
   - O Workers of "Extraordinary" Ability in Sciences, Arts, Education, Business, or Athletics
   - P "Internationally Recognized" Entertainers and Athletes, "Reciprocal Exchange" or "Culturally Unique" Artists and Entertainers
   - Q Cultural Exchange Visitors
   - V Spouses and Dependent Children of Lawful Permanent Residents I-688 Employment Authorization

C. Students who hold visas as listed in Section B above, or who were issued a visa of a type other than those listed in Section B above and have submitted an I-485 to Citizenship and Immigration Services (CIS) or have been out of status for at least one year, may establish domicile by complying with paragraphs A1, A2 or A3 above. 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 a student who is not a United States citizen intends to establish domicile under paragraphs A.2.a. (dependent of parent–parent domiciled in Arizona), the student's parent, in order to establish domicile, must hold a valid, unexpired visa in one of the categories listed in paragraph B. above. To be eligible to establish domicile, the parent must:

   1. Hold a valid visa of a type as listed in paragraph B, or
   2. Have never held a visa, or
   3. Have been issued a visa of a type other than those of the foregoing categories but be out of status for at least one year.

D. A person's status as an undocumented or illegal alien shall not preclude that person from being able to qualify as an in-state student on the same terms as other persons.

E. 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.

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:

A. 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.

B. Once established, a domicile is not lost by mere absence unaccompanied by intention to establish a new domicile.

C. 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.

Proof of Residency

When a student's residency is questioned, the following proof will be required:

A. In-State Residency

1. An affidavit signed by the student must be filed with the person responsible for verifying residency.
2. Any of the following may be used in determining a student's domicile in Arizona:
   a. Income tax report
   b. Voter registration

c. Automobile registration
d. Driver's license
e. Place of graduation from high school
f. Source of financial support
g. Dependency as indicated on federal income tax return
h. Ownership of real property
i. Notarized statement of landlord and/or employer
j. Bank accounts
k. Other relevant information

B. County Residency

1. 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
2. Any of the following may be used to determine a student's county residency:
   a. Notarized statements of landlord and/or employer
   b. County voter registration
   c. Source of financial support
   d. Place of graduation from high school
   e. Ownership of real property
   f. Bank accounts
   g. Other relevant information

ACADEMIC ADVISEMENT CENTER

Academic advising assists students in forming educational plans and goals. The academic advisor 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. This is an ongoing process of clarification, evaluation, re-clarification, and re-evaluation.

The Academic Advising Center assists students in forming educational plans and goals. The academic advisor is knowledgeable about institutional policies, procedures, programs, and resources. Academic advising is an ongoing process of clarification, evaluation, re-clarification, and re-evaluation.

The ultimate responsibility for making decisions about educational plans and life goals rests with the student. The academic advisor helps to identify options.

Academic advisors assist students to:

- 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 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 workshops, seminars, and other resources.
- Receive accurate printed materials on course, certificate, degree, and program requirements.
- Understand and utilize placement test results.
- Be active participants in their educational planning and college life.
- Be informed of support services that are available and how to access them.
- 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 that supports the academic advising process.

The Academic Advisement Center provides advisement to help students select courses specific to their degree, major, occupational goal, or educational objective. The Center provides information regarding certificate programs, occupational programs, associate degree options, and transferability of courses to meet baccalaureate degree requirements.

On completion of a student's course of study, if the requirements have been satisfied, the degree or certificate will be granted. For this reason, it is important for students to acquaint themselves with all regulations and procedures and to remain currently informed throughout their community college careers. Students are responsible for completing requirements and meeting filing deadline dates.

For more information on advisement services, call **480-461-7222** or visit **www.mc.maricopa.edu/services/advisement**

TESTING CENTER

Students are required to file a Student Information Form for admission before taking the placement test. Placement testing is recommended for all new students and is required in certain circumstances. (See **Course Placement Policy**.)

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

Monday through Thursday:
8:00 AM, 11:00 AM, 2:00 PM, 5:30 PM

Friday:
11:00 AM, 2:00 PM

Allow 2-1/2 hours for the test series.

Registration for the GED High School Equivalency Test is available at MCC at Southern and Dobson Monday through Thursday from 8:00 AM to 6:00 PM. This is a community service available to legal residents of Arizona who are 16 years of age or older. Persons under 18 years of age require additional documentation. A fee is charged. Certificates of Equivalency are issued by the State Department of Public Education.

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.

COURSE PLACEMENT POLICY

The Maricopa Community Colleges are committed to providing students with opportunities for successful academic experiences. Student academic achievement is directly related to 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.

Testing for Course Placement

Students will be required to complete a course placement test under any one of the following conditions:

- 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.
- 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.
- The student does not have a high school diploma or GED, and is applying for federal financial aid.
- The student for whom English is not the primary language and who is taking his or her first English as a Second Language class is required to take a test of English proficiency.

Students will be strongly encouraged to complete a course placement test under any one of the following conditions:

- The student is taking a math course and has a college-level prerequisite on file that is more than five (5) years old.
- 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.

Students MAY be exempt from a course placement test if at least one of the following conditions apply:

- The student has earned an associate or higher degree.
- 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.
- 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.

Course Placement

Students will be advised for specific course enrollment based on test scores. Students with test scores that fall into the range described as a "decision zone" must receive advisement to select appropriate course(s).

Students will be permitted one re-test in English, reading, or math level after at least a 24-hour waiting period. An additional re-test is permitted one year from the date of the student's original or re-test at any course placement testing site.

The dean of student services 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.

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 Office of Admissions and Recruitment.

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.

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.

For more information on the Testing Center, call 480-461-7480 or visit **www.mc.maricopa.edu/services/testing**

CREDIT FOR PRIOR LEARNING

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

Students must be currently enrolled in a credit course at the college at which they apply for assessment of their prior learning.

Credit awarded for prior learning does not count as credit hours in residence for graduation requirements. Exceptions may be granted at some Maricopa Community Colleges for

their unique programs of study. No more than 20 semester credit hours may be applied to the Arizona General Education Curriculum (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 Office of Admissions and Recruitment.

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 number 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.

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, for 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.

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 Educational Credit for Training Programs. 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.

Departmental Credit By Evaluation

Students may apply for Departmental Credit By Evaluation in certain courses by obtaining the appropriate form in the Office of Admissions and Recruitment, and completing applicable paperwork and other requirements of the college, including payment of required fee. See **Tuition and Fees** for related fee. Fees are not refundable if a student fails to obtain credit.

Students may not request:

- The evaluation of a course a second time
- The evaluation of a course while currently enrolled in the course
- To establish credit in a previously completed course
- To establish credit for a lower level of a course in which credit has been received

Certain departments have additional requirements that 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.

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 Office of Admissions and Recruitment from the specific testing company(s) before credit is awarded.

All equivalency is subject to future review and possible catalog change.

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	4 or 5	6 credit hours/ ENG101, ENG100 AA, AC, AD, eligible for Honors ENG102
English-Literature and Composition	4 or 5	6 credit hours/ENG101, ENH110, eligible for Honors ENG102

Math AP Recommendation

EXAM	SCORE	CREDIT FOR COURSE
Math-Calculus AB	3, 4 or 5	MAT220 or MAT221
Math-Calculus BC	3	MAT220 or MAT221
Math-Calculus BC	4 or 5	MAT220 or MAT221, and MAT230 or MAT231 upon completion of MAT241
Computer Science	4 or 5	CSC100

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. Contact those colleges for additional information on registering for CLEP examinations.

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	CREDITS
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.

Examination		MCCCD	
General	**Score**	**Sem. Hrs.**	**Equivalency**
English Composition	500 on 1978 version	3	With essay qualifies for ENG101
Humanities	500	6	Elective Credit
Mathematics	500	3	MAT122
Natural Sciences	500	8	Elective Credit*
Social Sciences & History	500	6	Elective Credit
Subject	**Score**	**Sem. Hrs.**	**Equivalency**
American Government	ACE Score	3	POS110
American History–Early Colonization to 1877	ACE Score	3	HIS103
American History–1865 to the Present	ACE Score	3	HIS104
American Literature	ACE Score	6	ENH241, 242
Analysis & Interpretation of Literature	ACE Score	3	Elective Credit
Calculus with Elem Functions	ACE Score	4	MAT221
College Algebra (1993) (replaces College Algebra [1979])	ACE Score	3	MAT152
College Algebra and Trigonometry	ACE Score	3	MAT152
College French	39-48	4	FRE101
College French	49-53	8	FRE101, 102
College French	54-62	12	FRE101, 102, 201
College French	63-80	16	FRE101, 102, 201, 202
College German	39-45	4	GER101
College German	46-50	8	GER101, 102
College German	51-59	12	GER101, 102, 201
College German	60-80	16	GER101, 102, 201, 202
College Spanish	40-49	4	SPA101
College Spanish	50-54	8	SPA101, 102
College Spanish	55-61	12	SPA101, 102, 201
College Spanish	62-80	16	SPA101, 102, 201, 202
English Literature	ACE Score	3	Elective Credit
Freshman College Comp (replaces College Comp & Freshman English)	ACE Score	3	With Essay ENG101
General Biology	ACE Score	8	BIO Elective Credit*
General Chemistry	ACE Score	9	CHM Elective Credit*
Human Growth & Developmt	ACE Score	0	No Credit
Information Systems & Computer Applications	ACE Score	3	CIS Elective Credit
Intro. to Educational Psychology	ACE Score	3	EDU Elective
Introductory Accounting	ACE Score	6	ACC Elective Credit
Introductory Business Law	ACE Score	3	GBS Elective Credit
Introductory Psychology	ACE Score	3	PSY101
Introductory Sociology	ACE Score	3	SOC101
Principles of Macroeconomics (replaces Introductory Macroeconomics)	ACE Score	3	ECN111
Principles to Management	ACE Score	3	MGT Elective Credit
Principles of Marketing	ACE Score	3	MKT271
Principles of Microeconomics (replaces Introductory Microeconomics)	ACE Score	3	ECN112
Trigonometry	ACE Score	3	MAT182
Western Civilization–Ancient Near East to 1648	ACE Score	6	HIS100,101
Western Civilization–1648 to the Present	ACE Score	3	HIS102

* The General Education requirement in Natural Sciences (SQ & SG) and Literacy and Critical Inquiry (L) are not satisfied by CLEP.

Defense Activity for Non-Traditional Education Support

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**.

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.

Advanced Placement

Examination	Score	Maricopa Community Colleges	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 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	ECN111	3
Economics–Introductory Microeconomics	5 or 4	ECN112	3
English–Lang & Comp	5 or 4	ENG100AA, AC, AD & ENG101	6
English–Literature & Comp	5 or 4	ENG101 & ENH110	6
Environmental Science	5 or 4	no credit	3
French–Language	5, 4, 3	FRE101, 102, 201, 202	16
French–Literature	5, 4, 3	FRE101, 102, 201, 202	16
German–Language	5, 4, 3	GER101, 102, 201, 202	16
German–Literature	5, 4, 3	GER101, 102, 201, 202	16
History–American	5 or 4	HIS103, 104	6
History–European	5 or 4	HIS101, 102	6
	3		3
Latin–Language	5	LAT101, 102, 201, 202	16
	4	LAT101, 102, 201	12
	3	LAT101, 102	8
Mathematics–Calculus AB	5, 4, 3	MAT220 or MAT221	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	5
Music	5 or 4	MTC105	3
Physics B	5 or 4	PHY111, 112	8
	3	PHY111	4
Physics C–Elec. & Magnetism	5 or 4	PHY116 with calculus and lab course work	5
Physics C–Elec. & Magnetism	5 or 4	PHY112 with lab course work	4
Physics C–Mechanics	5	PHY115 with calculus and lab course work	4
Physics C–Mechanics	5 or 4	PHY111 with lab course work	4

Advanced Placement Continued

Examination	Score	Maricopa Community Colleges	Sem. Hrs.
Political Science–American Government	5 or 4	POS110	3
Political Science–Comparative Government & Politics	5 or 4	POS140	3
Psychology	5 or 4	PSY101	3
Spanish–Language	5, 4, 3	SPA101, 102, 201, 202	16
Spanish–Literature	5, 4, 3	SPA101, 102, 201, 202	16
Statistics	5, 4, 3	MAT167	3

International Baccalaureate Diploma/Certificate Credit

Students who present an International Baccalaureate Diploma/Certificate may qualify for college credit. The Maricopa Community Colleges grant 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.

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, 112
	4	3	ECN111
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
Mathematics	7, 6, 5 or 4	4	MAT221
Physics	7, 6 or 5	8	PHY111, 112
	4	4	PHY111

Transferring Your College Credits

The Transfer Services office offers students individual advisement and academic planning by walk-in or appointment, resource materials for institutions of higher learning, appointments with visiting admissions and advisement personnel from a wide selection of universities, online contacts to educational institutions for up-to-date application processes, selection of required coursework, registration, and in-person or electronic liaison services to facilitate the transfer process.

The Transfer Services website gives easy access to transfer information to Arizona's public universities and other MCCCD official partners:
www.mc.maricopa.edu/services/stuserv/transfer/

Transfer Articulation Guidelines

Transfer Articulation with Secondary Institutions, the Maricopa Skills Center, and the Southwest Skill Center

Students who have participated in programs articulated with Maricopa Community Colleges programs may be granted credit for prior learning as provided for in the respective articulation agreements. No fees will be assessed for credits for prior learning granted through articulation. Articulated program credit is transferable within the Maricopa Community Colleges, but is not necessarily transferable to other colleges or universities. For proper placement in an articulated program, students should obtain a program of study from an academic advisor. Once the course requirements are completed, students must provide the valid documentation of articulated credits to the Office of Admissions and Records to place credits on their academic record.

Transfer Articulation from Arizona Public Community College Districts and Universities into the Maricopa Community Colleges

Any 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. Acceptance of courses other than general education requirements is determined by individual Maricopa Community Colleges.

A student transcript with the completed block of courses included in the Arizona General Education Curriculum (AGEC-A, AGEC-B, or AGEC-S) will transfer as a block and fulfill the requirements for the corresponding AGEC at the Maricopa Community Colleges.

Maricopa Community Colleges Transfer Associate Degrees

The Maricopa County Community Colleges District offers three transfer Associate degrees: Associate in Arts (AA), Associate in Business (ABUS), and Associate in Science (AS). Each degree articulates with specific majors offered by Arizona's public universities. In addition, the degrees are recognized and transfer based on articulation agreements with several other baccalaureate degree-granting institutions. The three transfer Associate degrees transfer as a "block" and include groups or blocks of courses, e.g. the Arizona General Education Curriculum (AGEC), and common lower-division courses. Completed blocks are treated as a whole; the components are not examined separately to determine transferability. All credits are accepted and applied toward the designated/appropriate baccalaureate degree.

The Maricopa Community Colleges also offer Associate in Transfer Partnership (ATP) Degrees for specific majors at identified public and private universities. Maricopa's Associate degrees are accessible on the web at:
www.dist.maricopa.edu/academic/curric/curricrpts.php

Select:
1. Curriculum Procedures Handbook – Programs
2. Academic Programs
3. AGEC Course Matrix

Transfer Articulation from the Maricopa Community Colleges to Baccalaureate Degree-Granting Institutions

The Maricopa Community Colleges have transfer articulation agreements with private, public, and international baccalaureate degree-granting institutions that have achieved full accreditation or candidacy status with a regional accreditation commission such as the North Central Association of Colleges and Schools. Maricopa Community Colleges enter into transfer articulation agreements on behalf of the district as a whole and not with individual colleges within the district.

Courses taken at any of the Maricopa Community Colleges are equally transferable by institutions wishing to enter into an articulation agreement. Additionally, the articulation agreements require that all associate degrees awarded by Maricopa Community Colleges will transfer to participating institutions as a block. As mentioned above, these blocks transfer as a whole.

Transfer Options for Maricopa Community Colleges Associate in Applied Science Degrees

The Maricopa Community Colleges Associate in Applied Science (AAS) degrees are recommended for students who want to gain a depth of technical expertise leading to employment through the completion of an occupational program. Some students may want to pursue a baccalaureate degree as well. The AAS degrees transfer as a "block" to the Bachelor of Applied Science at Arizona State University (Polytechnic and West), and Northern Arizona University.

Course Acceptability and Applicability

Transfer articulation to Arizona's public baccalaureate degree-granting institutions is communicated in terms of "acceptability" and "applicability" of community college courses and programs.

To determine "acceptability" of Maricopa Community Colleges courses, refer to the Course Equivalency Guide (CEG) on the Arizona Courses Applicability System (AZCAS). The AZCAS CEG is online at:
www.az.transfer.org/cas/

Effective Fall 2000, the course evaluation and/or the general education designation as listed in AZCAS is valid for the term in which credits are earned and appear on the transcript. A course evaluation and/or university general education designation may be subject to change. Given that curriculum is dynamic at both the Maricopa Community Colleges and the institutions to which our students transfer, students have the option to petition for equivalencies and/or general education designations. To determine "applicability" of Maricopa Community Colleges courses and transfer associate degrees to university-specific degree requirements, refer to the Maricopa

Community Colleges Associate in Transfer Partnership degrees, the AZCAS Transfer Planning Aids, or the university transfer guides, described below.

University Transfer Guides

Arizona's public universities have developed University Transfer Guides to show how Maricopa Community Colleges courses apply to specific baccalaureate degree requirements. The transfer guides are useful both for students pursuing Associate in Transfer Partnership degrees, as well as for students who want to transfer to Arizona's public universities to pursue degrees for which the Maricopa Community Colleges do not have Associate in Transfer Partnership degrees.

University Transfer Guides are accessible at the following websites:

Arizona State University Tempe Campus, Arizona State University Polytechnic Campus, and Arizona State University Downtown Campus
www.asu.edu/provost/articulation/

Arizona State University West Campus
www.west.asu.edu/tranguid/

Northern Arizona University
www4.nau.edu/aio/articulation/tginfo.htm

The University of Arizona
transferguides.arizona.edu/

Arizona Course Applicability System (AZCAS) Transfer Planning Guides

You may enter community or university coursework into AZCAS to create a Transfer Planning Guide. The guide evaluates progress toward completing a community college transfer certificate, transfer degree, and/or an Arizona public university degree and assists students in selecting additional coursework that meets the academic program requirements. The Transfer Planning Guides are accessible at
www.az.transfer.org/cas/

Registration and Records

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 **Admissions**. Enrollment is not complete until tuition and fees are paid. Students may not attend a class for which they are not registered.

CONCURRENT ENROLLMENT IN ARIZONA PUBLIC INSTITUTIONS OF HIGHER EDUCATION

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.

SERVICEMAN'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 District 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.

ACADEMIC LOAD

The following guidelines are for institutional purposes. Rules regarding academic load for financial aid eligibility, veterans 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 Office of Admissions and Recruitment for clarification.

Courses may vary in length, and begin and end at any time throughout the year. The 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 work, 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 MCC. It is the student's responsibility to notify the college if he or she will no longer be attending class. See **Withdrawing from Classes or from MCC**.

TUITION AND FEES

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 Maricopa Community Colleges 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-Country, Out-of-State (1-6 credit hours systemwide)

Residency for tuition purposes is determined in accordance with state law 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 Office of Admissions and Recruitment for clarification.

In-state 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 out-of-state residents for tuition and fees purposes should refer to the Concurrent Enrollment in Arizona Public Institutions of Higher Education policy.)

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 **Tuition and Fees Schedule** approved by the Maricopa Community Colleges Governing Board. Enrollment is not complete until tuition and fees are paid.

Tuition and Fees Schedule

(Effective July 1, 2005 for Fall, Spring and Summer Sessions)
The following is a tuition and fees schedule for 2005-2006 and is provided for reference. These tuition and fees are subject to change. Consult the Office of Admissions and Recruitment for fees in effect at the time you intend to register.

Student Status

1. County Resident – Resident Rate per credit hour
General Tuition: $58.50 plus
Fees: $1.50. . . . . .$60.00

2. County Resident - Audit Rate per credit hour
Audit Fee Surcharge: $25.00 plus
General Tuition: $58.50 plus
Fees: $1.50. . . . . .$85.00

3. Out-of-County Resident
(7 & more credit hours systemwide) - per credit hour
Out-of-County Surcharge: $198.00
(Applies only to counties with no community college)
plus General Tuition: $58.50 plus
Fees: $1.50 . . . . . $258.00

4. Out-of-State Resident*
(including F-1 Nonimmigrants - 7 or more credit hours systemwide) - per credit hour
Out-of-State Surcharge: $198.00 (approval pending) plus
General Tuition: $58.50 plus
Fees: $1.50 . . . . . $258.00

5. Unclassified Student - Out-of-State, Out-of-County*
(less than 7 credit hours systemwide) - per credit hour
Unclassified Student Surcharge: $25.00 plus
General Tuition: $58.50 plus
Fees: $1.50. . . . . .$85.00

6. Out-of-State students participating in Western Undergraduate Exchange Program*
(any number of credit hours) - per credit hour
WUE Out-of-State Surcharge: $30.00 plus
General Tuition: $58.50 plus
Fees: $1.50. . . . . .$90.00

7. Courses offered out of Arizona, including distance learning, to non-resident out-of-state students**
Total tuition per credit hour $147.00

8. Corporate Tuition Rate - Out-of-State*

(any number of credit hours) for out-of-state employees of companies in training contracts with Maricopa - per credit hour
Out-of-State Surcharge: $76.00 plus
General Tuition: $58.50 plus
Fees: $1.50 . . . . . $136.00

9. Skill Center Tuition Rates

Hourly Tuition $4.10

10. Credit by Examination and Credit by Evaluation

per credit hour - excludes HCIES courses
Regular Rate $58.50

11. Contract Testing Rate $29.25

Students from the following counties are considered out-of-county and should check with their local County Board of Supervisors about out-of-county tuition and fee payments:

- Apache
- Greenlee
- Santa Cruz

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 15-1429, community college districts are excluded from counting as FTSE those students who reside out of the state but are taking an Arizona community college district learning course or a classroom-based credit course.*

Special Fees

The following fees are in addition to applicable tuition and fees:

Check Returned from Bank $15.00

Child Care Fees (per clock hour)
Students 1.75
Drop in 3.00
Registration per semester – Students 15.00
Registration per semester – Staff and Faculty. 20.00
For each 15 minutes of late pick-up 5.00
For every week payment is late 5.00

Course Materials Fee . . . . . .actual cost

Distance Learning Fees . . . . . actual cost

Emergency Medical Technology (EMT) . . . . . actual cost, not to exceed $400.00

Excessive Laboratory Breakage. . . . . actual cost

Field Studies . . . . . actual cost

Field Trips and Out-of-County/Out-of-Country Tours
(Special assessment directly related to actual cost of trip or tour) . . . . . actual cost

Fire Science
FSC102 – Fire Department Operation 150.00
FSC109 – Emergency Response Team for Industry . . 120.00
FSC134 – Fitness & Conditioning/Firefighters 30.00

Fitness Center 20.00

GED
First Test 50.00
Test Repeat (per section). 10.00

General Laboratory and Course Fees. . not to exceed $25.00

Graduation Fees
Application/Recording/Issuance Fee (degrees/certificates - 25 or more credits) non-refundable 5.00

Commencement Fee (one-time fee refundable up to 2 weeks prior to graduation). 25.00

HCIES (Health Care Integrated Education System)
Skills Demonstration Assessment Fee . . . . . actual cost
HESI-PN (Health Education System)
Practical Nurse for Advanced Placement . . . . . actual cost
Library Fines – lost materials. . . . . list price + $5.00

Life Science
BIO181 – General Biology I Honors 50.00
BIO205 – Microbiology 35.00
BIO212AA – Biotechnology I 105.00
BIO212AB – Biotechnology II. 105.00
BIO212AC – Biotechnology III 105.00
BIO220 – Biology of Microorganisms 50.00
BIO246 – Cellular and Molecular Biology Laboratory . 75.00

Manufacturing Process Program
GTC236 – CAD/CAM/CNC Programming 65.00
GTC246 – Advanced CAD/CAM Programming 65.00
GTC266 – CAD/CAM Modeling 65.00
WLD101 – Welding I 200.00
WLD102 – Basic Welding Metal Sculpt 200.00
WLD106 – ARC Welding. 200.00
WLD206 – Advanced Welding Heli & Wire 135.00
WLD208 – Advanced ARC Welding & Cert 200.00

Mathematics
MAT082, 092, 120, 122, 150, 151 . . . . . 82.00

Mortuary Science Program
MSP202 – Embalming 500.00
MSP207 – Restorative Art 500.00

Music
MTC120 – Introduction to Sound Design for Film and Video. 75.00
MTC191 – Electronic Music 75.00
MTC192 – Electronic Music II. 75.00
MTC195 – Studio Music Recording I 200.00
MTC195AA – Studio Music Recording I. 200.00
MTC196 – Studio Music Recording II. 200.00
MTC197 – Live Sound Reinforcement I 75.00

MTC198 – Live Sound Reinforcement II. 75.00
MTC220 – Advanced Sound Design
for Film and Video 75.00
MUC111 – Digital Audio Workstation I (DAW I) . . . 100.00
MUC112 – Digital Audio Workstation II (DAW II). . 100.00
MUC120 – Introduction to Sound Design
for Film and Video. 75.00
MUC295 – Studio Music Recording III 225.00
MUP131, 132, 231, 232 – Class Piano I-IV. 5.00
MUP217 – Music Comedy 10.00
MUP270 – Musical Theatre Workshop 10.00

Private Music Lessons
Music Majors –
- First 1/2 hour per week/per semester 0.00
- Each additional 1/2 hour per week/ per semester . . 90.00

Non-Music Majors –
- First 1/2 hour per week/per semester 280.00
- Each additional 1/2 hour per week/per semester . . 280.00

Nursing
NET – Nursing Entrance Test. . . . . actual cost
CHA103 – Comm Health Advocate - Intro to Diabetes . 35.00
NCE126, 126AA, 126AB Nursing Assisting 46.00
NUR108, 109, 208, 209 Nursing Process. 46.00
NUR180, 181, 280, 281 . . . . . 30.00

Parking Fines
(All fines are doubled if not paid within 15 working days.)
Displaying an altered or substituted permit 50.00
Failure to register a vehicle and display a parking permit . . 30.00
Falsifying information on vehicle registration application . . 50.00
Improperly displaying a parking permit 15.00
Obstructing a properly parked/moving vehicle 15.00
Parking in an unauthorized parking area 25.00
Parking by a college employee or student in a visitor area. . 15.00
Parking in a fire lane. 50.00
Parking on or blocking a pedestrian path 15.00
Parking outside stall lines 15.00
Parking beyond posted time limit 15.00
Parking in an undesignated, restricted, or
unauthorized off-pavement area 15.00
Removing a barricade or failure to obey vehicle
control device 25.00
Violating disabled parking stall or access. 50.00

PED Special Course Charge . . . . . actual cost

Registration Processing Fee
Assessed on a per student, per semester, per college basis.
Refundable only if the student drops all credit classes
at a particular college during the 100% refund period . 5.00

Transcript Fee 5.00

Students may incur expenses beyond the established fees in certain courses.

Non-Credit Courses/Seminars/Workshops/ Community Services

Fees for these courses are determined by the length and type of each course and will cover total costs.

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 college fiscal agent is responsible for:
   a. Verifying the student's districtwide debt,
   b. Notifying the student of the debt,
   c. Attempting to collect the debt, and
   d. Notifying credit reporting organizations of the debt.
2. All Maricopa Community Colleges services will be withheld pending payment of debt at the college fiscal office with cash, certified check, or money order. Student may be withdrawn from classes.
3. If other 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

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.

REFUNDS

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 1-9 calendar days in length or as specified by the college. Calendar days include weekdays and weekends. Refer to individual colleges for withdrawal and appeal 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. All refunds and deposits that may be due a student will first be applied to debts owed to the college.

Refunds for students receiving federal financial assistance are subject to federal guidelines.

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.

Canceled Classes

When a class is canceled by the college, a 100% refund will be made.

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 Office of Admissions and Records or designated college official:

- 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.
- Serious illness or death of a family member that prevents the student from attending all classes for the semester. Appropriate documentation must be provided before a refund can be given.
- Death of a student. Appropriate documentation must be provided before a refund can be given.

Requests for a total withdrawal from a college or courses for one of the above reasons may result in a prorated refund of tuition, provided courses have not been completed. 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 Identification/Activity Card

All new students will be provided identification cards upon registration at no charge. This is a permanent ID that provides access to college services and activities. Replacements will be provided for a $5.00 fee. Contact the Student Life and Leadership Office for further information.

OFFICE OF RECORDS AND REGISTRATION

The Office of Records and Registration maintains official college transcripts for all students, coordinates the registration process, provides enrollment verification, and records transfer credits on the student's official transcript. The Office of Records and Registration establishes student athletic eligibility, implements the probation/suspension provisions of the District Academic Standards Policy, and assists students through the enrollment process.
www.mc.maricopa.edu/services/records_registration/

Transcripts

The transcript is issued upon written request only. Students who want to transfer to other institutions of higher education, including other Maricopa Community Colleges, must request their transcripts be sent from the Office of Admissions and Records. However, transcripts may be shared within the Maricopa Community Colleges without the written request of the student in compliance with the Family Education Rights and Privacy Act of 1974 (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. 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.
www.mc.maricopa.edu/services/records_registration/

Rights of Access to Education Records

For the purposes of this policy, the Maricopa County Community Colleges District has used the following definition of terms.

1. College – includes all colleges, educational centers, skill centers, and District office
2. Educational Records – any record (in handwriting, print, tapes, film, or other media) maintained by the college or a 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. Students will be notified of their further rights annually by publication in the college catalog and/or the student handbook.

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 office that administers FERPA is:
   Family Policy Compliance Office
   US Department of Education
   400 Maryland Ave., S.W., Washington, DC 20202-4605

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 Office of Admissions and Recruitment.

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, parttime or fulltime status, most recent previous educational agency or institution attended by the student, college within the Maricopa Community College where the student has been enrolled, photograph of student, and electronic mail address.

Use of Education Records for Advisement Purposes

All 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.

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.

Lost or Stolen Student Records

The Federal Family Educational Rights and Privacy Act of 1974 established that student records containing personally identifiable information be protected from disclosure. The Chandler or designee shall develop guidelines that address how employees or agents serving on behalf of the Maricopa County Community Colleges District (MCCCD) will report the loss or theft of student education records, in the event that such loss or theft occurs.

Any employee, agent of the MCCCD, office, or department that experiences the loss or theft of student education records, and/or serves at the custodian for the records, and/or serves as the custodian for the records is responsible for notifying the appropriate college and district officials and/or other authorities as outlined in an appendix of the administrative regulations. In addition, departments or divisions that experience a loss or theft of student records shall develop and implement procedures to help avoid the future loss or theft of records.

Finding Financial Aid

Mesa Community College provides financial assistance to students who qualify. 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.
www.mc.maricopa.edu/services/finaid/

APPLYING FOR FEDERAL FINANCIAL AID

New students must complete the Free Application for Federal Student Aid (FAFSA) or FAFSA on the web at **www.fafsa.ed.gov/**. Each academic year, continuing students must reapply by completing a FAFSA, Renewal FAFSA, or FAFSA on the web. (Caution: Other websites may charge a fee to do this.) Scholarships require separate applications. Specific information regarding financial assistance, including application deadlines or priority dates, may be obtained from the Office of Student Financial Services.

Types of Aid

Grants, loans, student employment, and scholarship funds may be available from federal, state, and/or private sources.

Distribution of Aid

Criteria by which aid is distributed among eligible financial aid applicants are available on request from the Office of Student Financial Services.

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 and 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 explained elsewhere in this catalog, financial aid recipients are also subject to the following Standards of Satisfactory Academic Progress. Specific information is available from the Office of Student Financial Services.

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 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, and Summer term (example: for 2005–2006 academic year, academic progress will be evaluated on Spring 2005, Fall 2004, and Summer 2004).

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 six 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 six 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 Timeframe 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 timeframe eligibility.

C. A student with a bachelor's degree or higher will be considered to have exhausted maximum timeframe 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 Timeframe Eligibility.

IV. Repeated, Audited, Consortium, and Remedial Courses, and 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 Office of Student Financial Services where the student is applying for aid and must include related documentation.

C. Examples of documentation 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 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 the 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 met 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 Services when this condition has been met.

For more information, please contact the Office of Student Financial Services.

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 Office of Student Financial Services for more information.

REFUNDS AND REPAYMENTS

In accordance with federal regulations (CFR 668.22), students 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. This could affect a student's ability to receive financial aid in the future at any school. Further information is available at the Office of Student Financial Services. Students who receive financial aid should also see **Withdrawing from Classes or from MCC**.

SCHOLARSHIPS

Scholarships require separate applications. The Maricopa Colleges Foundation scholarship application can be accessed online at **www.mc.maricopa.edu/foundation**

Specific information and applications for scholarships are available in the Student Financial Services Office and online at **www.mc.maricopa.edu/finaid**

Finding Support for Veterans

The Maricopa Community Colleges Veterans Service offices act as liaisons with the Department of Veterans Affairs. Each program must be approved by the State of Arizona Department of Veterans Services. A student may be eligible to receive educational benefits if he or she is registered in courses that apply to his or her approved program.

Application forms, counseling, advisement, and tutoring are available for students who are eligible for veterans education benefits. Students applying for veterans 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.

Veterans 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 Veterans Services Office of any change in enrollment, address, program of study, enrollment at another institution, or any other change that may impact a 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 Veterans Educational Benefits

Credit Hours for Which Grade Points are Computed at Resident Maricopa Community College	Minimum Grade (A, B, C, D, F, and Y) 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 veterans 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 will be placed on probation for a maximum of two consecutive semesters. At this point, if satisfactory academic progress has not been demonstrated, veterans 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 and additional details and information regarding veterans educational benefits, contact the Veterans Services office.

The Veterans Services staff is available to help answer questions about Veterans Administration benefits. Veterans services 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. Payments will begin from six to eight weeks following application. Official transcripts from previous colleges must be on file in the Admissions Office.

For more information, call 480-461-7425 or visit **www.mc.maricopa.edu/services/veterans/**

Finding Specialized Services

MCC offers a wide range of support services to meet your special needs.

AMERICAN INDIAN CENTER

The American Indian Center was established in 1986 to enhance opportunities for and address the educational needs of the American Indian student. 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 personal/career counseling, peer support/counseling, personal growth experiences, study groups, and participation in cultural events. Support is offered to encourage students to complete associate degree programs and also to continue to pursue higher educational goals.

For more information, call 480-461-7453 or visit **www.mc.maricopa.edu/services/multicultural/tribal/**

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, 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 **www.collegecentral.com/mesa**

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

CHILD CARE

The Children's Center 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 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 Academy of Early Childhood Programs.

For more information on child care services, call 480-461-7082 or visit **www.mc.maricopa.edu/services/childcare/**

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. The Counseling Department assists students in managing educational and personal needs. Students are invited to take advantage of confidential services offered to help them achieve their full potential.

Courses offered through the Counseling Department are transferable to other colleges and universities, depending on the programs and policies of the transfer institution.

Counseling services are located in Building 36 at MCC at Southern and Dobson, and in the Mesquite Building at MCC at Red Mountain. Students are best served through an appointment system. To arrange for personalized services, call 480-461-7588.

DISABILITY RESOURCES AND SERVICES

Disability Resources and Services provides a wide range of services for students with disabilities. The student with disabilities is one who:

1. Has a physical or mental impairment which limits one or more major life activities (functions such as caring for one's self, performing manual tasks, or walking);
2. Has a record of such an impairment (has a history of mental or physical impairment or has been misclassified as having such);
3. Is regarded as having such an impairment (has a physical or mental impairment that does not substantially limit major life activities, but is treated by an institution receiving federal assistance as having such a limitation; or has an impairment which limits major life activities only as a result of the attitudes of others toward such an impairment; or has no impairment – as defined in the Rehabilitation Act of 1973, but is treated by the institution as having such an impairment).

   Services offered include the following: scribes and notetakers, interpreters, specialized adaptive equipment, emergency wheelchair loan, classroom aides, special testing arrangement, community referral, advisement, and registration assistance.

Eligibility Requirements

Each applicant with a disability must meet MCCCD admissions requirements, or be enrolled as a 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 manager/program advisor is responsible for evaluating documentation and determining accommodation 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:

- Orthopedic disability
- Blind or visual impairment
- Deaf or hard-of-hearing
- Traumatic brain injury
- 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.

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. 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 of 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 provision 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 re-evaluation 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 the Disability Resources and Services office or designated professional if, in the professional opinion of MCC's Disability Resources and 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. MCC will make every attempt to provide "preferred" accommodations; however, "the most effective and reasonable" accommodation may be determined to meet sufficient accessibility needs.

For more information on documentation requirements, please call 480-461-7447 or visit
www.mc.maricopa.edu/services/disability

DISABILITY PARKING

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 decals 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.
www.mc.maricopa.edu/services/disability/

HEALTH IMPROVEMENT CENTER

The Health Improvement Center (HIC) 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**.

MULTICULTURAL SERVICES

The Office of Multicultural Services is a resource and liaison service office for the internal/external ethnic communities that strive to foster courtesy, sensitivity, and respect for cultural ethnic differences among faculty, staff, and students. Our goal is to enhance awareness and create an environment where diversity is understood, appreciated, celebrated, and respected in attitudes and actions.

We provide unique one-stop quality student advisement, registration, and support services, and specialize in promoting retention, diversity projects, programs, and activities that encourage, motivate, and empower underrepresented minority and first-generation college students to be successful in their academic and career pursuits. For more information or an appointment, call 480-461-7453, or visit
www.mc.maricopa.edu/services/multicultural/

RE-ENTRY SERVICES

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

Getting Involved in 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.

Every MCC student is 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 the Fall/Spring Bash. Students interested in becoming a part of any MCC activity may inquire at the Information Center in the Kirk Student Center at MCC at Southern and Dobson, or in the Office of Student Life and Leadership at MCC at Red Mountain, where a comprehensive listing is available.

Services include: housing information, student identification/activity cards, legal services, student insurance/accident and health information, volunteer projects, parking permits, bus schedules, child care information, food service, and general information.

Students are encouraged to participate in extracurricular activities sponsored by MCC. Through these activities, students can make friends, develop social skills, and practice leadership skills. Membership in some organizations is competitive, others by invitation, but the majority are open to any student who is interested.

Clubs and organizations are important and vital components of the total educational experience at MCC. Different interest groups provide opportunities for training in leadership skills, personal satisfaction, and fulfillment through campus and community volunteerism, and allow students to participate in social growth through involvement. A list is available in the Office of Student Life and Leadership or during Clubs Carnival in the fall.

The following groups provide opportunities for enhancing skills learned in class: A Cappella Choir, Jazz Band, Show Band, Madrigal Singers, Legend Newspaper, Sun Valley Chorale, Model United Nations, Drama/Theatre Productions, Opera Workshop, Dance Productions, and Cheer/Pom. **www.mc.maricopa.edu/other/campuslife/**

DANCE

Get involved in the MCC Dance Program! 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**

EMERGING LEADERS PROGRAM

This program is designed for selected students to develop their leadership skills. Participants are nominated by faculty and staff. For more information, contact the Director of Student Life and Leadership in the Kirk Student Center.

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.

SPORTS

Intercollegiate sports at Mesa Community College is 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, Phoenix; Pima Community, Tucson; Scottsdale Community, Scottsdale; South Mountain Community, 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

www.mc.maricopa.edu/services/athletics/

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. 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.

Commissioners are appointed by the Executive Board and together form the ASMCC Cabinet.

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/services/student_activities**

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 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 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/**

Academic Departments, Programs, and Services

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.

Along with traditional university transfer classes and career/technical classes, MCC offers learning opportunities for all kinds of learners.

Community Education • Continuing Education for Practicing Professionals • Distance Learning • Developmental Education English as a Second Language • Honors • International Education • Senior Adult Program • Service-Learning

When you need special services related directly to classes you are taking or technology that you are using in your classes, you can find that information here, too:

Bookstore • Computer Labs • Counseling • Information Commons • Learning Enhancement Center • Media Services Technology Support Services • Writing Center

Contact Phone Numbers

ADMINISTRATION

Dr. Larry K. Christiansen – President 480-461-7300
Dr. Gail Mee – Vice President of Academic Affairs 480-461-7325
Dr. Jerry Davis – Vice President of Administrative Services 480-461-7410
Dr. Patricia Cardenas-Adame – Vice President of Student Affairs 480-461-7104
Ms. Carol Achs – Dean of Instruction 480-461-7742
Dr. Rodney Holmes – Dean of Instruction 480-461-7315
Mr. Lawrence D. Thacker – Dean of Instruction. 480-461-7124
Ms. Jo Wilson – Dean of Instruction, Red Mountain 480-654-7700
Ms. Andrea Greene – Dean of Instruction, Research and Planning 480-461-7215
Dr. Joseph Pearson – Dean of Instruction, Extended Education 480-472-0806
Mr. Kurt Conover – Dean of Administrative Services 480-654-7777
Ms. Joni Grover – Dean of Student Affairs, Red Mountain 480-654-7702
Ms. Judy Taussig – Dean of Student Affairs (Acting). 480-461-7104

STUDENT SERVICES

Academic Services/Learning Center 480-461-7678
Admissions Information. 480-461-7600
Advisement Center. 480-461-7200
American Indian Center 480-461-7453
Bookstore 480-461-7225
Career/Re-Entry Services. 480-461-7592
Cashier Services 480-461-7400
Center for Teaching and Learning 480-461-7331
Child Care 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
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
Information Commons (Library) 480-461-7194
International Education 480-461-7758
Library Reference Desk 480-461-7680
Lost and Found. 480-461-7046
Multi-Cultural 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 Activities 480-461-7285
Testing Center Information 480-461-7336
Transfer Services 480-461-7452
Veterans Services 480-461-7426
Writing Center 480-461-7513

ACADEMIC DEPARTMENTS

Agriculture/Technology 480-461-7135
Art 480-461-7524
Business Administration 480-461-7011
Counseling 480-461-7588
Cultural Science 480-461-7348
Design, Family, and Consumer Sciences . . 480-461-7144
English 480-461-7636
Exercise Science/Physical Education. 480-461-7551
Foreign Language 480-461-7031
Library 480-461-7930
Life Science 480-461-7105
Mathematics 480-461-7728
Music 480-461-7575
Nursing. 480-461-7106
Philosophy and Religious Studies 480-461-7616
Physical Science. 480-461-7015
Psychology 480-461-7032
Reading 480-461-7035
Social Sciences. 480-461-7060
Speech Communication/Theatre Arts. 480-461-7524

ACADEMIC PROGRAMS

Administration of Justice 480-461-7080
Fire Science/
Emergency Medical Technology 480-472-0830
Mortuary Science 480-988-8501
Network Academy 480-461-6105

Administration of Justice Studies

Harold W. Cranswick, Chairperson: 480-461-7245
Bonnie Black, Director: 480-461-7052
Social Science Building
www.mc.maricopa.edu/dept/d52/ajs/

The Administration of Justice Studies (AJS) degree provides a broad overview of the many components of the criminal justice system. It gives students a solid understanding of the processes and players that make up our system of justice. Course requirements are designed to expose students to all areas of the system and the historical foundation on which it is built.

An educational journey through the criminal justice system is an exciting trip. Students immerse themselves in the laws that govern our system of justice, ethical concerns that make decision-making a challenge, the juvenile justice system where society struggles to deal with violent youth, current issues and trends that we see so often headlining the news, and criminology that explores the criminal mind and intent. The journey continues with a look at the police function and its changing role in the community, ongoing debates between punishment and rehabilitation, and the important role of criminal investigation in solving crime.

The program provides both educational and training opportunities to a diverse student population, including those who plan to transfer to a university, those who have a general interest in the subject, professionals currently working in the field, and those who want to pursue a career in criminal justice. The program strives to:

- Provide students with a broad-based understanding of both theory and application as it relates to criminal justice.
- Create a smooth transition for the university-bound student who plans to pursue a bachelor's degree in justice studies or related fields.
- Provide quality instruction with a practitioner focus in traditional and distance learning delivery formats.
- Work collaboratively with employers and practitioners in preparing students for employment opportunities within the criminal justice field.

The Administration of Justice Studies Program offers the following degree and certificate programs:

AAS in Administration of Justice Studies (AJS)

This is a broad-based degree that is well suited for many career choices including law enforcement, courts, law, corrections, or other criminal justice areas. Through elective courses, students can specialize in areas that interest them and can apply certificate programs towards the AAS requirements. The following certificates can be applied to the degree to create an area of specialization:

- Certificate of completion in Victimology
- Certificate of completion in Forensic Investigations
- Certificate of completion in Judicial Studies
- Certificate of completion in Emergency Management

This degree gives students a wide range of career choices.

AAS in Police Science

This degree is designed for those interested in a law enforcement career. It is also well suited for police officers in Arizona who have completed the AZPOST (Arizona Peace Officer and Standards Training) certified training academy. Credit by evaluation can be considered for those who can provide verification of successful completion of an AZPOST academy program.

Certificate of Completion in Police Science

This 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.

AAS in Emergency Management (Homeland Security)

A collaborative effort between Fire Science and Justice Studies, this degree is designed to provide students with knowledge and skills required of those who are pursuing careers as first responders or will work in the area of emergency management and/or response.

Certificate of Completion in Emergency Management

This specialized area of study is designed for those interested in career fields related to law enforcement, fire science, military, and other careers in the homeland security area. Emphasis is placed on emergency preparedness, security, and response. It is also ideal for professionals already working in the field who want to enhance their knowledge and skills in homeland security.

AAS in Judicial Studies (JUD)

This program focuses on the court system and the multifaceted components of our legal system. It serves those interested in pursuing a career in the judiciary as bailiffs, court administrators, judicial assistants, lawyers, probation officers, and other career areas. Judicial Studies (JUD) courses are approved for continuing education credits (COJET) by the Arizona Supreme Court, making them an ideal educational opportunity for current court professionals. JUD courses are offered online, making this program available statewide.

Certificate of Completion in Judicial Studies (JUD)

This is a unique program of study that offers a specialization in the judiciary and legal system. The certificate is offered on-line for those desiring flexibility in their learning. This certificate is ideal for Arizona court employees seeking continuing education hours (COJET).

Certificate of Completion in Victimology

Victim intervention is critical to most criminal justice responses. This is a unique program for those pursuing careers in the criminal justice system or those who want to work in victim advocacy or crisis intervention. It is also well suited for professionals already working in the field as police officers, firefighters, 911 operators, probation officers, crisis intervention responders, counselors, social workers, and in other jobs that deal with victims of crime.

Certificate of Completion in Forensic Investigations

This certificate provides the student with a specialization in forensic investigations as it relates to photography, collection and preservation of evidence, and investigative strategies. This program is ideal for students or professionals already working in the fields of law enforcement, security, nursing, and other areas. The AJS program houses a small criminal forensics laboratory.

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

OTHER SERVICES/PROGRAMS OFFERED INCLUDE:

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.

Agriculture

Cindy Odgers, Chairperson: 480-461-7137
Technology Building
www.mc.maricopa.edu/dept/d58/ags/

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
- Animal Science
- Pest Management
- Urban Horticulture
- Veterinary Technology

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. The Arizona Veterinary Association and Arizona Veterinary Technicians Association work with, advise, and provide internship opportunities for students. 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 Sign Language

See Foreign Language.

Anthropology

Shereen Lerner, Chairperson: 480-461-7060
Social/Cultural Science Building
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, educational visits to schools, field work, and study abroad and international programs.

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, 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
ASB230 Principles of Archaeology
ASB231 Archeological Field Methods
ASB245 Indians of the Southwest
ASM265 Laboratory Methods in Archaeology

Arabic

See Foreign Language.

Art

Sarah Capawana, Chairperson: 480-461-7524
Art Communications Building
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)
- Media 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. The AA is a general degree that includes special requirements enabling art majors to graduate from MCC after earning 64 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 Certificates of Completion (CCL) in Media Arts in the following areas of specialty:

- Animation
- Computer Art / Illustration
- Desktop Publishing
- Digital Imaging
- Web Page Design

See **Career and Technical Programs** for more information on these programs.

Astronomy

Mike Sims, Chairperson: 480-461-7015
Physical Science Building
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
UA	BS	Atmospheric Sciences
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
PHY115	University Physics I
PHY116	University Physics II

Biology

See Life Science.

Business Administration

Linda D. Collins, Chairperson: 480-461-7077
Business/Psychology Building
www.mc.maricopa.edu/dept/d07/

The emphasis of the Business Administration Department is to provide quality academic coursework, teaching methodologies, and 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 department offers courses in:

- Accounting (ACC)
- General Business (GBS)
- 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) and Office Automation Systems (OAS). See **Computer Information Systems** for details on these courses. See **Network Academy** for information on courses, certificates, and degrees in network administration and security.

Faculty advisement is available by appointment and drop-in.

The department has several computer labs available for student use at various campuses and sites:

MCC at Southern and Dobson Multiuse 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

Downtown Center/Country Club and Brown, Mesa Public Schools Building, Third Floor
Operating hours during the Fall and Spring semesters are:

Monday through Thursday	7:00 AM – 10:00 PM
Friday	7:00 AM – 5:00 PM
Saturday	8:00 AM – 2:00 PM

Business and Personal Computers

See Computer Information Systems.

Chemistry

Mike Sims, Chairperson: 480-461-7015
Physical Science Building
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 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	
PHY115	University Physics I AND
PHY116	University Physics II

Chinese

See Foreign Language.

Computer Information Systems

Linda D. Collins, Chairperson: 480-461-7077
Business/Psychology Building
www.mc.maricopa.edu/dept/d07/

Computer Information Systems, Business Personal Computers, and Office Automation Systems are disciplines within the Business Administration Department. For more information on the department, see **Business Administration.**

The department offers certificates, degrees, and courses in:

- Computer Information Systems (CIS), such as Introduction to Computer Information Systems, 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)

The department is an Authorized Microsoft Office Specialist, IC3, and CIW Testing Facility. For courses, certificates, and degrees in network administration and security, see **Network Academy.**

Faculty advisement is available by appointment and drop-in.

The department has several computer labs available for student use at various campuses and sites:

MCC at Southern and Dobson Multiuse 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

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

Downtown Center/Country Club and Brown, Mesa Public Schools Building, Third Floor
Operating hours during the Fall and Spring semesters are:

Monday through Thursday	7:00 AM – 10:00 PM
Friday	7:00 AM – 5:00 PM
Saturday	8:00 AM – 2:00 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.

Computer Science

Chuy Carreon, Chairperson: 480-461-7728
Math/Computer Science Building
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 three public Arizona universities all require a minimum of 6 credits selected from:

CSC225	Assembly Language Programming on Macintosh and Motorola 78000 OR
CSC226	Assembly Language Programming on IBM/ Intel 80x86
MAT241	Calculus with Analytic Geometry III
MAT227	Discrete Mathematical Structures
CSC210	Data Structures and Algorithms (Java) OR
CSC210AA OR CSC210AB	
CSC120	Digital Design Fundamentals

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)
- Personal counseling to enhance study experiences
- Special events, seminars, workshops, and programs to promote personal safety and well-being, and enhance peer support
- Volunteerism programs that create supportive relationships among students

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

To schedule an appointment for personal counseling or to get more information on courses, workshops, and events, call 480-461-7758 at MCC at Southern and Dobson, or 480-654-7771 at MCC at Red Mountain.

Cultural Science

Shereen Lerner, Chairperson: 480-461-7060
Social/Cultural Science Building
www.mc.maricopa.edu/dept/d10/index

The Cultural Science Department includes five disciplines:

- Anthropology
- Education
- Geography
- Social Work
- Sociology

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

The Cultural Science Department houses the School of Education, coordinates coursework in American Indian Studies and Chicano Studies, and takes the lead in coordinating study abroad programs in Xalapa, Mexico, and China.

The department also coordinates an academic certificate 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 Requirement**s for more information on program requirements, or contact the department office for more information.

Dance

See Physical Education and Exercise Science.

Design, Family, and Consumer Sciences

Diana Abel, Chairperson: 480-461-7305
Technology/Faculty Offices Building
www.mc.maricopa.edu/dept/d19/

The Design, Family, and Consumer Sciences Department offers courses and programs in a variety of subjects:

- Child and Family Studies (CFS)
- Early Childhood Education (ECH)
- Food and Nutrition (FON)
- Interior Design (INT)
- Textiles and Clothing (TEC)
- Computer Aided Design (CAD)

All student advising is conducted within the department by faculty in the program area. Advising is conducted during faculty office hours or by appointment.

The department is committed to student success and offers the following lab services to support student learning:

Computer Lab (TC305) – For all students enrolled in courses within the department. Specialized software includes Photoshop and Food Processor (dietary analysis). Housed in the lab are 20 computers, black-and-white laser printer and copier. Open lab hours are posted.

Foods Lab (TC311) – Six-kitchen lab for all food preparation courses such as gourmet foods, cultural foods, and applied food principles.

Sewing Lab (TC308) – Includes a variety of sewing machines, sergers, and an industrial machine for use by students in clothing construction, serger, home furnishings, and quilting classes.

Interior Design Studio (TC101) – Drafting and design lab with research and production facilities for use by students enrolled in INT and CAD courses. Housed in the lab are 20 custom-designed drafting/computer workstations, black and white and color laser printers, scanner, copier, and two plotters. Specialized software includes Architectural Desktop 2006, Architectural Graphic Standards, Microsoft Project, SketchUp and Adobe Elements. A lab assistant provides hardware and software support. Open lab hours are posted.

Design Lab (TC310) – Multi-purpose interior design studio includes extensive fabric, finishes, and material resources for use by interior design majors. Open lab hours are posted.

The Evelyn H. Warren Child Development Lab operates three mornings per week as a preschool for children ages three to five. It is licensed by the Arizona State Health Department and accredited by the National Association for the Education of Young Children (NAEYC).

The American Society of Interior Design (ASID) Student Chapter is sponsored by the Arizona North Chapter of ASID. Membership is open to all interior design majors. Membership provides opportunities to network within the design profession, attend workshops and seminars, and assist with community service projects.

Fashion Focus is a club open to all Apparel Merchandising majors and any other students interested in a career in the fashion industry. Club activities include field trips, fashion show production, and guest speakers.

Interior Design students can participate in various study tours. Recent tours have included WestWeek in Los Angeles, HD Expo in Las Vegas, and a cultural exchange with ITC Tosi in Busto Arsizio, Italy. Interior Design students also participate in a variety of design competitions on the local, state, and national levels.

Associate in Applied Science degree programs in Early Care and Education, Family Life Education, Interior Design, and Apparel Merchandising, and Culinary Arts offer opportunities to complete internships in the student's field of study. See **Career and Technical Programs** for more information about these degrees.

The Associate in Transfer Partnership in Early Childhood Education transfers to NAU's B.S.Ed. in Early Childhood Education. This degree prepares the student to be certified by the Arizona Department of Education as a public school early childhood teacher.

Certificates offered in this department include:
- Nutrition for Fitness and Wellness
- Image Consulting
- Retail Sales Management
- Costume Design and Production
- Family Life
- Culinary Arts
- Early Care Specialist
- Home Furnishings and Materials
- Interior Design: Advanced

Scholarship opportunities include the Martie Martin Child Development Scholarship and ASID Student Scholarships sponsored by the Arizona North ASID Chapter. Applications are available from the appropriate program director. Contact the department office for more information.

Economics

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

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

Shereen Lerner, Chairperson
Richard Malena, Director, School of Education
480-461-7060
Social/Cultural Science Building
www.mc.maricopa.edu/dept/d10/edu

A recruiter/advisor specifically designated for education majors is housed in the Cultural Science Building at MCC at Southern and Dobson. For appointments, call 480-461-7890 or 480-461-7060, or the Instructional Support Office at Red Mountain at 480-654-7734.

All EDU221 Introduction to Education classes require 30 hours of field experience. Consult your course instructor for more information about sites of service.

The Teaching and Learning Communities Block Program requires that students:
- Complete or test out of CRE101
- Be eligible to take MAT090 or higher
- Commit to program participation for four consecutive semesters

Off-site course offerings are available within local school districts. We are currently collaborating with Mesa Public Schools to provide coursework toward English as Second Language, Reading Specialist, and Math Specialist endorsements for practicing teachers as well as coursework that applies to instructional assistant certificates and degrees.

Our School of Education also collaborates with the Universidad Veracruzana in Xalapa, Veracruz, Mexico to provide a four-week cultural immersion experience which includes service-learning in Mexican classrooms. Course offerings include education and Spanish courses that can be used toward ESL or Bilingual endorsement. For more information, visit **www.mc.maricopa.edu/xalapa**

MCC offers the Hendrix Scholarship for continuing students who are education majors, as well as seniors who graduate from a Mesa or Tempe city high school. Check with the scholarship office for details.

Numerous degree and certificate programs are available through MCC's School of Education. These programs are designed for a variety of individuals, including paraprofessionals, students intending to transfer to a university, and certified teachers pursuing specialized endorsements, and continuing professional endorsements.

Contact the education recruiter/advisor at 480-461-7890 for help in determining the best degree pathway and courses to help meet your goals.

Emergency Medical Technology

See Fire Science.

Engineering Science

Mike Sims, Chairperson: 480-461-7015
Physical Science Building
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 Science

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

ECE102	Engineering Analysis Tools and Techniques
ECE103	Engineering Problem Solving and Design
ECE211	Engineering Mechanics – Statics
ECE212	Engineering Mechanics – Dynamics
ECE214	Engineering Mechanics
EEE202	Circuits and Devices

All engineering majors require a variety of general studies, chemistry, mathematics, and physics courses that are taught at MCC and transfer into an engineering degree program at the three state universities. Please check with an advisor or consult your university program curriculum checksheet to verify course requirements and transferability for your chosen engineering field.

English

Donella Eberle, Chairperson: 480-461-7636
Liberal Arts building
www.mc.maricopa.edu/dept/d13/eng

The English Department offers courses and programs in a variety of subjects including:

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

Courses are offered in traditional classroom settings at different campuses and sites as well as in computer labs, over the Internet, and through independent study to provide flexible options to our students. New students who plan to enroll in any English composition or English as a Second Language (ESL) course must first take an English Placement Test at our Testing Center.

In addition to course offerings, the English Department provides free tutorial services to all MCC students through the Writing Center at the MCC at Southern and Dobson campus and through the Learning Enhancement Center at the MCC at Red Mountain campus. Developmental and ESL students may also go to the Academic Skills Center at the Southern and Dobson campus for tutoring.

The English Department is also home to MCC's award-winning student newspaper, *The Mesa Legend*, in conjunction with our journalism program.

The English Department serves as home base for the Women's Studies program, offering an Academic Certificate. The Academic Certificate in Women's Studies – 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. See **Academic Certificates** for program requirements.

If You Plan to Major in English

There is always great demand for excellent writing and speaking skills and for critical and analytical thought and problem-solving skills developed through the study of language and literature. The English major has many academic and professional opportunities. Law schools regard an undergraduate major 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.

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

ENH221 Survey of English Literature/Before 1800
ENH222 Survey of English Literature/After 1800

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

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

See Physical Education and Exercise Science.

Fire Science and Emergency Medical Technology

Hans Silberschlag, Interim Director: 480-988-8326
Williams Campus, Downtown Center/ Country Club and Brown
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 (Technician Level)
- Weapons of Mass Destruction (WMD)/Homeland Security
- Technical Rescue Technician
- Corporate Team Building
- Emergency Response for Industry
- Candidate Physical Ability Test (CPAT)

Students may earn certificates of completion or an AAS degree in Fire Science. The certificates of completion include the following:

- Emergency Vehicle Driver/Operator
- Basic Firefighter
- Wildland Firefighter
- Fire Company Officer
- Fire Academy

Students may also earn certificates of completion and an AAS degree in Paramedicine. The certificates of completion include the following:

- Basic EMT
- EMT Advanced–Paramedic

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 of 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 480-472-0831.

The MCC Fire Science/EMT program requires service-learning as part of the A.A.S. degree program. We have partnered with the City of Mesa Fire Department to create a service-learning program known as Connectors. Connectors are MCC students who work with the Mesa Fire Department to provide assistance to citizens who have suffered loss of clothing, shelter, or food, due to fire or natural disaster.

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.

Foreign Language

Marcella Fierro, Chairperson: 480-461-7031
Building #41
www.mc.maricopa.edu/dept/d16/

The purpose of the Foreign Language Department is to teach communication skills in world languages and to promote knowledge of their cultures. The department offers courses in 12 different languages taught by qualified professionals in a highly interactive environment:

- American Sign Language (ASL)
- Arabic (ARB)
- Chinese (CHI)
- French (FRE)
- German (GER)
- Hebrew (HEB)
- Italian (ITA)
- Japanese (JPN)
- Latin (LAT)
- Portuguese (POR)
- Russian (RUS)
- Spanish (SPA)

The Foundation Track (courses numbered 101, 102, 201, and 202) prepares students for courses above the 200-level at universities. All of these courses strongly emphasize listening, speaking, reading, and writing skills. Courses numbered 101 have no prerequisites.

Some of these courses are offered via the Internet. Please check the current class schedule for details.

The Advanced Track (courses numbered 265, 266, 282, and 298) prepares students for upper-division courses at universities. These courses are for students who plan to transfer to a university and want to develop a deeper understanding of the culture and improve their critical language skills. Courses in the advanced track have prerequisites.

The Conversational Track (courses numbered 115, 116, 225, 226, 235, and 236) emphasizes communication and comprehension skills for those who wish to develop conversational skills.

The Professional Conversational Track (courses numbered 109, 169, and 117) emphasizes communication and comprehension skills for specific working environments.

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 Foreign Language Department has a state-of-the-art laboratory to facilitate and stimulate the language learning process. The language-learning 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 Foreign Language 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.

French

See Foreign Language.

Geography

Shereen Lerner, Chairperson: 480-461-7060
Social/Cultural Science Building
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)

Academic advisement for all degrees and programs in geography, including certificates in Geographic Information Systems (GIS), and university transfer are provided by geography faculty.

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

If You Plan to Major in Geography

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

ASU	BA/BS	Geography
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 courses may also be recommended:

GPH219 Introduction to ArcView
GCU221 Arizona Geography

Geology

Mike Sims, Chairperson: 480-461-7015
Physical Science Building
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 and CHM151LL General Chemistry I and lab
CHM152 and CHM152LL General Chemistry II and lab
GLG101 Introduction to Geology I (Physical Lecture)
AND
GLG103 Introduction to Geology I (Physical Lab)
PHY115 University Physics I AND
PHY116 University Physics II

German

See Foreign Language.

Health

See Physical Education and Health Science.

Hebrew

See Foreign Language.

History

Harold W. Cranswick, Chairperson: 480-461-7245
Social Science Building
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 Civ to Middle Ages AND
HIS101 History of Western Civ, Middle Ages to 1789
AND
HIS102 History of Western Civ, 1789 to Present
HIS103 United States History to 1870
HIS104 United States History, 1870 to Present

Humanities

See English.

Italian

See Foreign Language.

Japanese

See Foreign Language.

Judicial Studies

See Administration of Justice.

Justice Agencies Support

See Administration of Justice.

Latin

See Foreign Language.

Library

Jane Mente, Chairperson: 480-461-7680
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)

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

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.

Life Science

Saundra Minckley, Chairperson: 480-461-7115
Life Science Building
www.mc.maricopa.edu/dept/d22/bio/index.html

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 collect)on is used with visiting school groups including the annual Science Day for elementary school students.

Finally, 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

Mathematics

Chuy Carreon, Chairperson: 480-461-7728
Math/Computer Science Building
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, Director: 480-988-8501
Williams Campus
www.mc.maricopa.edu/dept/d26/msp/

The Mortuary Science Program has as its central aim the 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

It 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), 38 Florida Avenue, Portland, ME 04103, 207-878-6530, **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 in Mu Sigma Alpha, the National Honor Society of Mortuary Science.

Students in the program can 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 and Funeral Association (ICFA)
- 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 for further details.

Study groups have become an integral part of the program, and 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. 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. The program offers Continuing Education for Embalmer Assistants, 6 credits per year.

Courses are available which lead to Cremation 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	29/31	93.5%	25/29	86.2%	28/29
2004 - 05	16/21	76.1%	12/16	75%	16/16
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 come from states other than Arizona.

Music

Sue Anne Lucius, Chairperson: 480-461-7577
Music Building
www.mc.maricopa.edu/dept/d28/

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 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 course work, 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
MUP131	Class Piano I
MUP132	Class Piano II
MHL241	Music History
MHL242	Music History
MUP209	Conducting
Private instruction	4 semesters
Performing ensemble	4 semesters

The Music Department offers the Associate in Applied Science (AAS) and Certificate of Completion (CCL) in:
- Audio Production Technologies
- Music Business

Network Academy

Pinny Sheoran, Director: 480-461-6100
1-866-886-6872
Downtown Center/Centennial Way
bii.mc.maricopa.edu

The MCC Network Academy's 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.

Our purpose 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 that are 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 of 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 towards certificates of completion in Network Administration with specializations in:
- Cisco Certified Network Administrator (CCNA)
- Cisco Certified Network Professional (CCNP) l
- Network Administrator: UNIX
- Network Administrator: Novell
- Network Administrator: Microsoft

Students may also complete advanced coursework in the Information Assurance program towards certificates of completion in:
- Network Security
- Information Assurance Specialist Certificate
- CyberForensics Technician

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 Downtown Center/Centennial Way at 145 N. Centennial Way in downtown Mesa. Every student has access to computers and network equipment in the classroom during the scheduled class time. A limited number of courses are provided additional practice time in a small lab, on a first-come/first-served basis.

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 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.

Nursing

Myrna Eshelman, Chairperson: 480-461-7106
Nursing Faculty Office Building
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
- Practical Nursing – Certificate of Completion
- International Educated Nurse Program
- Paramedic to Nurse Program
- Nurse Assisting for ESL Students
- 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.

Office Automation Systems

See Computer Information Systems.

Philosophy and Religious Studies

David Yount, Chairperson: 480-461-7833
Business/Psychology/Philosophy and Religious Studies Building-43A
www.mc.maricopa.edu/dept/d34/

The Philosophy and Religious Studies Department offers a variety of courses and programs in philosophy (PHI) and religious studies (REL).

In addition to its course offerings, the Philosophy and Religious Studies Department has created a not-for-profit organization called The Center for Global Tolerance and Engagement. The mission of this center is twofold:

- To help foster a sustainable environment for global tolerance and engagement in our pluralistic world, and
- To promote understanding of different worldviews on religion and ethics

We are fulfilling our mission by offering opportunities for faculty, students, and the community to participate in open forums and dialogues, and by sponsoring speakers both on and off the MCC campuses. For a list of events or to schedule an event, please contact the department at 480-461-7860 or 480-461-7615, or visit the Center's website at **www.mc.maricopa.edu/dept/d34/cgte/**

Two philosophy faculty advise the MCC Philosophy Club, active during the Fall and Spring semesters. For a list of events or more information, please phone 480-461-7833 or 480-461-7620.

Several religious studies faculty sponsor Table Talks, which are informal discussions of contemporary religious issues. For more information on the Table Talks, please phone 480-461-7791; for a list of events, visit the Center's website at **www.mc.maricopa.edu/dept/d34/cgte/**

The department also sponsors an essay contest each spring. The award is a $1,000 scholarship. Please contact the department for more information.

Advisement for students who plan to major in philosophy or religious studies is available by department faculty during regular office hours or by appointment. The department may be able to provide students with the names of logic tutors on an as-needed basis. Please contact the department office at 480-461-7616 for a list of available tutors.

If You Plan to Major in Philosophy

There are many academic and professional opportunities available to those who wish to study philosophy. For example, all three public Arizona universities – ASU, UA, and NAU – offer BA degrees in philosophy.

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

PHI101 or PHI102	Introduction to Philosophy
PHI103	Introduction to Logic
PHI105	Introduction to Ethics

If You Plan to Major in Religious Studies

There are many academic and professional opportunities available for those who are interested in religious studies. For example, all three public Arizona universities – ASU, UA, and NAU – offer BA degrees in religious studies.

The three public Arizona universities all require the following course for the religious studies major:

REL202 Classics of Asian Religions

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

REL201 History of Ancient Philosophy
REL243 OR PHI243 OR HIS243 World Religions
REL270 Introduction to Christianity
REL271 Introduction to the New Testament

Physical Education and Exercise Science

Ann Stine, Chairperson: 480-461-7551
Physical Education Building
www.mc.maricopa.edu/dept/d37/index.html

The Exercise Science Department offers a wide range of courses, programs, certificates, and services in:

- Physical education and exercise science (PED)
- Health (HES)
- Recreation (REC)
- Dance - humanities (DAH)
- Dance - technique (DAN)
- Wellness (WED)
- Physical activities (PED)
  - Golf - Bowling - Tennis - Racketball
  - Basketball - Volleyball - Fencing - Hiking
  - Backpacking - Rock Climbing
  - Martial Arts - Yoga - Pilates
  - Dance, Leisure - Aerobics - Weight Training
  - Cycling - Life Time Fitness Centers
  - Physical Education for the Atypical

The department also offers certificates in:

- Strength and Conditioning Personal Trainer
- Aerobics and Group Fitness Instructor
- Nutrition and Fitness
- Recreation Management

Courses that apply to the Arizona Board of Education State Coaching Certification are also available.

Students must be 16 years of age or have a high school diploma to enroll in an activity class.

The Exercise Science Department offers many lecture courses in traditional classroom settings as well as online or hybrid (a combination of classroom and online learning).

The Computer Learning Lab, located in PC3N, is open from 8:00 AM to 5:00 PM Monday through Friday.

The CPR/First Aid course is affiliated with the American Heart Association. All students who successfully complete the written exam and lab skills will be Health Care Provider certified. The First Aid portion of the class will be certified through the American Red Cross.

The department also sponsors formal dance productions performed by the MCC Dance Production team each fall, spring, and summer.

If You Plan to Major in Exercise Science (Kinesiology)

Exercise Science and Kinesiology emphasize the study of human movement as it relates to physical activities, health, injury prevention, exercise, and sports. Students who have a professional interest in movement science and exercise have an opportunity to pursue baccalaureate degrees.

ASU Main	BS	Kinesiology
NAU	BS	Sports Medicine

The following are transfer courses for the exercise science/kinesiology major at ASU Main:

PED200	Introduction to Exercise Science/ Physical Education
PED210	Movement Analysis
HES100	Healthful Living (satisfies SB general education requirement)
HES271	Prevention and Treatment of Athletic Injuries

If You Plan to Major in Exercise and Wellness

Exercise and Wellness is the study of physical activity and other healthy lifestyle habits that contribute to optimal health and wellness for students who have a professional interest in fitness leadership and management.

Following are transfer courses for the Exercise and Wellness BS program at ASU Polytechnic:

PED212	Flexibility
PED212	Strength
PED212	Cardiorespiratory
HES100	Healthful Living
WED110	Personal Wellness

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 exercise. Opportunities to pursue baccalaureate degrees include:

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

If You Plan to Major in Health Sciences

If you are interested in a career in the Health Sciences or Health Promotion (the study of lifestyle behaviors and patterns within the context of psychological and environmental development that contribute to optimal health), you can pursue a baccalaureate degree at:

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

If You Plan to Major in Recreation or Tourism Management

If you are interested in a career in Recreation Management or Tourism Management, several public universities offer programs in this field:

ASU	BS	Recreation: Recreation Management Recreation: Tourism Management
ASU West	BS	Recreation and Tourism Management
NAU	BS	Parks and Recreation Management

Following are transfer courses for recreation majors at ASU Main and ASU West:

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

Recommended Classes to Satisfy General Education Requirements:

Social and Behavioral Science

HES100	Healthful Living
REC120	Leisure and Quality of Life
WED110	Principles of Physical Fitness and Wellness

Humanities/Global Awareness

DAH100	Introduction to Dance
DAH201	World Dance Perspectives

If You Plan to Major in Dance Studies, Choreography, Performance, or Dance Education

Following are transfer courses for ASU Main:

DAH100	Introduction to Dance
DAH201	World Dance Perspectives

Suggested electives: All DAN prefix courses

Physical Science and Physics

Mike Sims, Chairperson: 480-461-7015
Physical Science Building
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:

ASU	BS	Physics
NAU	BS	Physics
NAU	Merged BS	Physics and Astronomy
NAU	Merged BS	Physics and Mathematics
UA	BS	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
PHY115	University Physics I
PHY116	University Physics II

Political Science

Harold W. Cranswick, Chairperson: 480-461-7245
Social Science Building
www.mc.maricopa.edu/dept/d52/pos/pos.html

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 Foreign Language.

Psychology

Wynn Call, Chairperson: 480-461-7032
Business/Psychology Building
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.

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 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!

The PIRC is located in the AD building (near the Cashier's Office) at MCC at Southern and Dobson. Fall and Spring semester hours are: Monday through Thursday: 8:00 AM to 8:00 PM; Friday: 8:00 AM to 3:00 PM; Saturday: 10:00 AM to 3:00 PM. The PIRC is also open Monday through Thursday (during regular MCC hours) during summer sessions, but the specific schedule is variable.

Free tutoring is available for any student taking a psychology course. Tutoring is offered in the PIRC from 10:00 AM to 2:00 PM Monday through Friday, and from 4:00 PM to 6:00 PM on Tuesday and Wednesday.

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 electives can 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.

All three public Arizona universities require the following courses for psychology majors:

PSY101 Introduction to Psychology
PSY230 Introduction to Statistics
PSY290 Research Methods

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

Ralph Sandoval, Chairperson: 480-461-7889
AD Building
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.

The department offers the Milly Olsen Memorial Scholarship in honor of a former faculty member. See the Financial Services website or visit the office for more information about this scholarship.

Recreation

See Physical Education and Exercise Science.

Russian

See Foreign Language.

Social Science

Harold W. Cranswick, Chairperson: 480-461-7245
Social Science Building
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, judicial, and political foundations of local, state, national, and international communities.

The Social Science Department includes:

- Administration of Justice*
- Economics
- Future Studies
- History
- Judicial Studies*
- Justice Agencies Support*
- Political Science

* *For more information on these programs, see* ***Administration of Justice Studies.***

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

Shereen Lerner, Chairperson
Sue McAleavey, Social Work Faculty: 480-461-7060
Social/Cultural Science Building
www.mc.maricopa.edu/~smcaleavey

Social work advisement is available by social work faculty and MCC's Transfer Office. Social work students and faculty visit the ASU School of Social Work, and ASU Social Work advisors visit MCC at least once per year. Social work classes may include field trips to relevant community service sites.

Social work students are given the opportunity to serve the community at key sites. These include, but are not limited to, sites such as the East Valley Child Crisis Center, CARE Partnership, Paz de Cristo, Prehab of AZ, local hospitals, and Mesa Public Schools.

There is a great need for bilingual social workers, and the 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.

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 bachelor's and master's degrees in social work.

If you are planning to pursue a bachelor's degree in social work at a public Arizona university, you can follow the Associate in Arts (AA) 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 at least 6 credits from the following courses for the social work major:

SWU171 Introduction to Social Welfare
SWU291 Social Service Delivery Systems*

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

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

SWU101 Self-Awareness for Paraprofessional Helpers
SWU130 Chemical Dependency
SWU215 Working with the Chemically Dependent
SWU220 Co-Occurring Disorders
SWU258 Victimology and Crisis Management
SWU275AA Case Report Writing

Sociology

Shereen Lerner, Chairperson
Mona Scott, Sociology Faculty: 480-461-7060
Social/Cultural Science 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
SOC212 Women and Men in a Changing Society
SOC245 Social Deviance
SOC251 Social Problems
SOC270 Sociology of Health and Illness

Spanish

See Foreign Language.

Speech Communication

James Mancuso, Chairperson: 480-461-7522
Art/Communication AC17
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 that employers want.

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.

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 finetune 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.

The department also offers courses designed for English Language Learners (ELL).

Certificates

Speech Communication offers three certificates in Communication:

- Communication Skills for English Language Learners
- Oral Communication Fluency for English Language Learners
- Communication Competence in the Workplace

The Speech 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 an annual symposium entitled Careers in Communication, during which communication professionals speak to majors on pathways to careers in Speech Communication. In addition, the Speech 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

There are many academic and professional opportunities open to those who want to study Speech Communication.

All three public Arizona 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
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. Meets the business requirement for accounting majors, media arts, and other disciplines.*

Technology

Cindy Odgers, Chairperson: 480-461-7125
Technology Building
www.mc.maricopa.edu/dept/d58/

The primary mission of the Technology Department is to educate technicians for the work force of the East Valley industrial complex. Primary areas of emphasis in the department are:

- Architecture
- Automotive Performance
- Construction
- Electromechanical Automation
- Electromechanical Drafting
- Electronics
- Manufacturing
- Welding

The Technology Department also has a new program designed specifically to train technicians to maintain, troubleshoot, and repair Caterpillar equipment. Developed in conjunction with Caterpillar, this program provides a combination of classroom instruction and hands-on experience in Caterpillar dealership environments.

All students who want to pursue coursework and programs in Technology are required to take the general placement test for math, English, and reading.

Virtually ALL technology courses have a laboratory component. Students will be required to pay some laboratory fees as well as purchase some of their own parts and equipment.

Tutors are available within the department for tutoring on an as-required or scheduled basis. The labs are open at some times of the week for student use.

The department maintains close ties with nationally recognized professional organizations. The Automotive program is certified through the National Automotive

Technician Education Foundation (NATEF). Automotive faculty are all Society of Automotive Engineer (SAE) certified. Various programs in the department successfully compete in the SkillsUSA/VICA competitions each year. Welding classes participate in juried Welding Sculpture shows.

Various companies offer scholarships and internships for technology students. Check with the department office for specific details.

Theatre Arts and Film

James Mancuso, Chairperson
Lyn Dutson, Director of Theatre: 480-461-7165
Theatre Outback 1A
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 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 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)

Contact an academic advisor in the Advisement Center for help in choosing the best courses for your needs.

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
THP115	Theatre Make-up
THP131	Stage Movement
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

Wellness

See Physical Science and Exercise Science.

Special Academic Programs

Community Education

A wide array of non-credit classes, workshops, seminars, and employment preparation courses are offered through MCC's Community Education Department. The diverse curriculum is available to those who seek cultural enrichment, intellectual growth, career and professional development, and leisure pursuits. These courses provide access to MCC's resources and facilities for those not enrolled in traditional

credit-carrying classes. Instructors are drawn from throughout the East Valley and provide contemporary content in an adult learning environment.

There are no admission 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 each year.

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

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 earn Continuing Education Units (CEUs) are currently available for nurses, 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, or visit **www.mc.maricopa.edu/organizations/community/comm_ed/**

Senior Adult Program

MCC provides intellectual and cultural stimulation for people of retirement age through the college's lifelong learning programs organized by the office of Senior Adult Programs.

New Frontiers for Learning in Retirement is a membership organization sponsored by MCC and affiliated with ALIROW (Association for Learning in Retirement Organizations in the West). A wide selection of study groups, facilitated by NFLR members, provides a limitless array of topics for exploration. The learning environment is lively and full of diversity, insight, and wisdom. Participants explore new ideas and meet new people in a pleasant and informal atmosphere.

In the Fall and Spring semesters, free lectures may be offered on Wednesday afternoons at the college. MCC faculty and others speak on a wide variety of topics. Please call 480-461-7493 for information about Senior Adult Programs at MCC or visit **www.newfrontiers-mesa.org/**

Distance Learning

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 distance learning courses adhere to a set schedule and are not self-paced. In addition, some distance learning courses require students to complete one or more proctored, on-campus exams. Contact the instructor to get more information about specific distance learning classes.

A successful distance 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 Distance Learning website.

www.mc.maricopa.edu/other/distance

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 skill 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.

English as a Second Language

English as a Second Language (ESL) classes are designed for students whose primary language is other than English. MCC has an Intensive English program that meets five days a week, and an ESL program that offers a variety of day and evening classes at several locations. These classes help students develop listening, speaking, reading, and writing skills in English, preparing them for other classes and professional settings. A Language Placement Exam is required through the MCC Testing Center.

Contact the English Department office at 480-461-7636 for more information on ESL classes.

Honors Program

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 in 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 talented, motivated students and 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 lesser amounts of up to $250.00 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. If you think you may qualify, please contact us at the Honors Office at 480-461-7079. We look forward to offering you a challenging, rewarding, personalized educational opportunity.

Phi Theta Kappa

Phi Theta Kappa is the national community college scholastic honorary society whose objectives are to promote scholarship, develop character, and cultivate fellowship among talented community college students in the United States. For more information, visit

www.mc.maricopa.edu/organizations/student/honors/

International Education

The Office of International Education fosters global understanding by providing support services and programming that enhance the international efforts of MCC. The IE Office offers services for international students and scholars, works with study abroad programs, provides cross-cultural training, and serves as a resource for campus international initiatives.

The Office of International Student Services supports the academic, personal, and cultural growth of international students. An orientation program is offered to all international students to integrate them into their new environment. IE immigration advisors help international students maintain their legal status and inform them of any immigration regulations that will affect their stay in the United States. Students are also advised on their program of study, so they can successfully complete their academic goals.

In addition, IE Student Services coordinates workshops and programs that provide opportunities for students to improve their English, meet other students (international and American), staff, and faculty. The office helps students develop realistic goals, identify helpful resources, navigate the American college system, and connect with other successful students who are committed to the intellectual, cultural, and social life of the college.

The Study Abroad program works with faculty and students on MCC-sponsored study abroad experiences, prepares cross-cultural materials to foster understanding for students and faculty who are studying or working abroad, and offers support to faculty on grants, scholarships, and other international programs, such as the Arizona Sonora Student Exchange Program. The office enhances the international efforts of MCC by hosting dialogue days, international film festivals, international week, and other special projects.

It also manages logistical details for interns, international students, visitors, and scholars as well as special groups and events.

For additional information, please call 480-461-7758 or visit **www.mc.maricopa.edu/international**

Service-Learning

The Center for Service-Learning provides students with educational opportunities in community service through placement in government agencies, educational entities, civic organizations, and citizen advocacy groups. The Center also helps identify community needs by maintaining and developing partnerships among MCC, our students, and our 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 for a 1, 2, or 3 credit independent, open-entry/open-exit service-learning class in any one of 26 different academic disciplines and serve their choice of over 200 community partners. These individualized courses require a commitment of 50 contact hours per credit, reflection sessions, 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/servicelearning

Women of Courage

The Service-Learning Office has developed a partnership project called Women of Courage, which is a student-led mentoring program that assists students by providing one-on-one support as they face obstacles in their pursuit of a higher education. This program serves traditional and nontraditional students entering the higher educational system who want a stronger connection to the campus community. MCC students involved with this project seek an opportunity to give back to their community by supporting and encouraging others who are starting out on the path of higher education.

The Women of Courage program offers two types of mentoring. A Peer Mentor is a student who has been at MCC for at least one year. Peer mentors are trained in mentoring skills and then matched with either a student who is new to the college or is returning to school after an extended absence. The initiative is designed to provide one-on-one support services and direct information on campus resources for students as they face new and unique challenges.

A faculty or staff mentor is an MCC professor or staff member who is appointed to provide additional one-on-one support. This combined support system not only enhances the student's educational experience, but also fosters leadership skills and community networking opportunities.

For more information on Women of Courage, call 480-461-7394 or visit **www.mc.maricopa.edu/services/servicelearning/woc/index.htm**

Academic Support Services

Bookstore

Textbooks, supplies, general reading, gifts, and greeting cards, etc., are available at the college bookstore. Refunds with the proper receipt within a specified time period are given for materials purchased. Students may use Visa, MasterCard, American Express, Discover, in-state checks with proper ID, and cash to make purchases.

Hours are:
Monday - Thursday: 8:00 AM to 7:30 PM
Friday: 8:00 AM to 4:00 PM
Saturday: 9 AM to 1:00 PM
during Fall and Spring semesters, and all other times as posted.

You can also purchase your textbooks and other materials online. Follow these steps:

1. Type **www.mesa.bkstr.com** into the browser address (or if you register online, click on the bookstore icon).
2. Choose your list, department, course, and section.
3. Add books to your cart.
4. Continue shopping or proceed to checkout.
5. If you're a first-time user, register as instructed. If you've shopped online with the bookstore before, log in.
6. Complete your order.

www.mesa.bkstr.com

Computer Labs

MCC currently offers access to five multi-use computer labs at various locations including MCC at Southern and Dobson, MCC at Red Mountain, Country Club and Brown, the Multigenerational Center, and the Downtown Center on Centennial Way. The multi-use computer lab at MCC at Southern and Dobson is open to students currently enrolled in open-entry, self-paced computer classes and for students enrolled in structured computer classes, such as BPC110 or CIS150.

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. The Counseling Department assists students in managing educational and personal needs. Students are invited to take advantage of confidential services offered to help them achieve their full potential.

Courses offered through the Counseling Department are transferable to other colleges and universities, depending on the programs and policies of the transfer institution.

Counseling services are located in Building 36 at MCC at Southern and Dobson, and in the Mesquite Building at MCC at Red Mountain. Students are best served through an appointment system. To arrange for personalized services, call 480-461-7588.

The Information Commons

See **Library** under **Academic Department.**

Learning Enhancement Centers (Tutoring)

The Learning Enhancement Center at MCC at Southern and Dobson, 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 Center provides one-on-one and group tutoring with professional and peer tutors, study skill workshops, computer-assisted instruction, and study groups.

At MCC at Southern and Dobson, tutoring is available by appointment or on a drop-in basis at:

- The Paul A.Elsner Library
- The Music Building (Building 43)
- The Math/Science Learning Center (Building 7)
- The Math/CSC Center (Building 5)
- The Physical Sciences Building Center (Building 8)
- The PIRC Lab (Building 42)

The Academic Skills Center in EF1 provides additional tutoring and computer-assisted instruction for students taking communication, English, English as a second language, and reading courses below the 100-level.

At MCC at Red Mountain, 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 economics, French, mathematics, and Spanish is also available from the Online Tutoring link on the library website. You 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.

If you need tutoring services or have questions about tutoring, stop by the Learning Enhancement Center. To pose a question by email, go to the Ask a Tutor link on our webpage. Someone will respond within 24 hours. For more information on services and availability, call 480-461-7678 or visit

www.mc.maricopa.edu/library/LE/

Technology Support Services

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 ISP's (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.

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

Graduation Requirements

MCC offers you many academic programs to choose from, whether you plan to complete an associate degree or a certificate program. This section explains the policies and requirements that affect graduation. It also describes the different kinds of degrees and certificates you can choose from to meet your personal, academic, and professional goals.

Here you will find information on:

- **Graduation Policies**
- **Certificates and Degrees**
- **General Education**
- **Arizona General Education Curriculum (AGEC)**
- **Associate in Applied Science (AAS)**
- **Associate in Arts (AA)**
- **Associate in Arts – Elementary Education (AA-EE)**
- **Associate in Arts – Fine Arts (AAFA)**
- **Associate in Business – General Requirements (ABus-GR)**
- **Associate in Business – Special Requirements (ABus-SR)**
- **Associate in General Studies (AGS)**
- **Associate in Science (AS)**
- **Associate in Transfer Partnership (ATP)**
- **Academic Certificates**

General Education Outcomes

At MCC, we believe that general education courses contribute to the breadth and fullness of a college education. Our general education courses are designed to develop the following outcomes for our students:

Communication

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

Numeracy

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

Problem Solving/Critical Thinking

- Identify a problem or argument.
- Isolate facts related to the problem.
- Differentiate facts from opinions or emotional responses.
- Ascertain the author's conclusion.
- Generate multiple solutions to the problem.
- Predict consequences.
- Use evidence or sound reasoning to justify a position.

Scientific Inquiry

Demonstrate scientific inquiry skills related to:

- **Hypothesis:** Distinguish between possible and improbable or impossible reasons for a problem.
- **Prediction:** Distinguish between predictions that are logical or not logical based upon a problem presented.
- **Assumption:** Recognize justifiable and necessary assumptions based on information presented.
- **Interpretation:** Weigh evidence and decide if generalizations or conclusions based upon given data are warranted.
- **Evaluation:** Distinguish between probable and improbable causes, possible and impossible reasons, and effective and ineffective action based on information presented.

Arts and Humanities

- Demonstrate knowledge of human creations.
- Demonstrate an awareness that different contexts and/or worldviews produce different human creations.
- Demonstrate an understanding and awareness of the impact that a piece (artifact) has on the relationship and perspective of the audience.
- Demonstrate an ability to evaluate human creations.

Information Literacy

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

Cultural Diversity

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

Graduation Policies

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.

Continuous Enrollment

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 and 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 and 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)

Non-Continuous Enrollment

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.

   - Students are not obligated to enroll and earn course credit during summer terms, but summer enrollment may be used to maintain continuous enrollment status.

Example A:
- Admitted and earned course credit at a public community college or university – Fall '92 (Active)
- Nonattendance – Spring '93, Fall '93, Spring '94 (Inactive)
- Readmitted and earned course credit at a public community college – '94 (Active)
- Transferred to a university – Spring '95 (1994 or any subsequent catalog)

Example B:
- Admitted and earned course credit at a public community college or university – Fall '92 (Active)
- Nonattendance – Spring '93 (Inactive)
- Readmitted and 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)

Summer Readmission

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 and 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 and earned course credit at a public community college – Spring '96 (Active)
- Transferred to a university – Summer '96 (1994 or any subsequent catalog)

Institutional Transfer

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 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. Departments may accept such coursework, reject it, or request that the student revalidate its substance. The eight-year limit on coursework applies except when program accreditation agencies limit the life of coursework to less than eight years.

Departments may also require students to satisfy current major requirements rather than major requirements in earlier catalogs, when completing earlier requirements is no longer possible or educationally sound.

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 Maricopa Community Colleges Governing Board before the degree or certificate can be conferred. 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, 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 college granting the degree or certificate. In cases where the certificate requires fewer than 12 credit units, a minimum of 6 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.

   Nursing 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 2.00 at the college granting the degree.
5. Have a minimum cumulative grade point average of 2.00 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 and comply with 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 Maricopa college or center.
8. Have paid required degree or certificate application fee. See the **Fee Schedule** for charges.

Graduation Grade Point Average

Students must meet all requirements for graduation. Graduation requires a minimum grade point average of 2.00. Some specific programs have higher grade requirements. It is the student's responsibility to be aware of these program requirements.

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:

3.50 to 3.69	With distinction
3.70 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 college granting the degree will be designated as Honors Program graduates.

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 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.

Certificates and Degrees

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.

ASSOCIATE DEGREES

Maricopa Associate Degree programs require 60-64 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better. Your educational and professional interests and goals will determine which associate degree best meets your needs. Consult an academic advisor early in your program to determine which degree is right for you.

The Maricopa Community Colleges offer the following types of associate degrees:

- *Associate in Arts (AA)* – intended primarily as a transfer degree for students who wish to pursue a baccalaureate program in certain majors.
- *Associate in Arts-Elementary Education (AAEE)* – a statewide degree intended for students who plan to pursue a baccalaureate program in elementary education.
- *Associate in Arts-Fine Arts (AAFA)* – designed to prepare students to meet selective admission criteria for programs such as the Bachelor of Fine Arts, which may include a portfolio or performance requirement.
- *Associate in Applied Science (AAS)* – recommended for students who wish to gain a depth of technical expertise by completing an occupational program. The AAS degree is available in a number of different occupational fields.
- *Associate in Business (ABus)* – intended primarily as a transfer degree for students who wish to pursue a baccalaureate in certain business-related majors. Depending on your major, you may pursue an ABus with general requirements (ABus-GR) or an ABus with special requirements (ABus-SR).
- *Associate in General Studies (AGS)* – not intended for the transfer student, but recommended for students whose educational goals require flexibility.
- *Associate in Science (AS)* – intended primarily as a transfer degree for students who wish to pursue a baccalaureate program in majors that have extended requirements in math and/or science.
- *Associate in Transfer Partnership (ATP)* – intended specifically for students who have chosen both an academic major and a university to which they plan to transfer. The ATP constitutes the lower-division requirements of a baccalaureate program as agreed to by the Maricopa Community Colleges and the institution to which the student will transfer.

CERTIFICATES

In addition to our associate degree programs, we offer certificate programs that enable students to specialize or develop skills or knowledge in a particular field of study or occupational pursuit. These certificates are:

- *Certificate of Completion (CCL)* – a specialized program of study within an occupational field.
- *Academic Certificate* – a specialized program of study within a general education or academic discipline.

All candidates for a degree and/or certificate must complete the **General Graduation Requirements** as approved by the Maricopa Community Colleges Governing Board. **www.dist.maricopa.edu/academic/curric/curricrpts.php**

General Education

All of the Maricopa Community Colleges Associate Degree programs include a core of general education courses that develop knowledge and skills in a wide range of fields.

MARICOPA COMMUNITY COLLEGES GENERAL EDUCATION

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 their general education requirements, the Maricopa Community Colleges are 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 the Maricopa Community Colleges 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

Arizona General Education Curriculum (AGEC)

The Maricopa County Community College District's Arizona General Education Curriculum (Maricopa AGEC) is a 35-semester-credit general education program of study that fulfills lower-division general education requirements for students planning to transfer to any Arizona public community college or university. The Maricopa AGEC transfers as a block without loss of credit.

All credits used to satisfy the Maricopa AGEC will apply to graduation requirements of the university major for which the AGEC was designed, regardless of whether the credit was awarded for completion of coursework or for prior learning. For additional information on credit awarded for prior learning assessment, see **Credit for Prior Learning.**

For students planning to pursue an associate 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.
- The AGEC S is a component of the MCCCD Associate in Science.

PURPOSE OF THE MARICOPA AGECS

There are three types of Maricopa AGECs, and they correspond to different associate degrees. Designed to articulate with different academic majors, their requirements vary accordingly:

- **AGEC-A – corresponds to the Associate in Arts**
  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.

- **AGEC-B – corresponds to the Associate in Business** 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.
- **AGEC-S – corresponds to the Associate in Science** 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 either university chemistry, university physics, or general biology to satisfy the Natural Sciences (SQ/SG) requirement.

Additional information on academic majors can be accessed at: **www.abor.asu.edu/4_special_programs/atass/index.html**

1. Click on Student Information
2. Select Degrees and Pathways
3. Scroll down to the bottom of the page
4. Select the letter of the major you're interested in

AGEC POLICIES AND DESIGNATIONS

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.

The following policies govern how coursework can be applied to the 35-semester-credit AGEC requirement:

- Only courses numbered 100 and above which the student has completed with a grade of "C" or better can be applied to AGEC requirements. Credit units transferred from outside the Maricopa Community Colleges must be at a grade of "C" or better. (A grade of "C" equals 2.0 on a 4.0 grading scale or equivalent.)
- Only courses that transfer as equivalent courses, departmental elective credit (DEC), or general elective credit (Elective) at all Arizona public universities according to the Arizona CEG (Course Equivalency Guide) can be applied to AGEC requirements. 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.
- A minimum of 12 semester credits of coursework must be taken at any of the Maricopa colleges.
- Either a course or its modular equivalents can be used to satisfy AGEC requirements.
- If a course is cross-referenced, any of its prefixed versions can be used to satisfy AGEC requirements.
- The completed AGEC provides 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.
  - 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.
- 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.

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 at **www.dist.maricopa.edu/academic/curric/curricrpts.php**

- Select Curriculum Procedures Handbook – Programs
- Select Academic Programs
- Select AGEC Course Matrix

The 35 semester credits required for each of the three AGECs follow.

A. Core Areas: 35 credits

1. First-Year Composition (FYC) 6 credits

2. Literacy and Critical Inquiry [L] 3 credits

3. Mathematical Studies [MA/CS] 6 credits

To complete the Mathematical Studies requirement, select one course to satisfy Mathematics (MA), and a second course from Computer/Statistics/Quantitative Applications (CS).
Note: The Mathematics (MA) requirement differs for AGEC-A, AGEC-B, and AGEC-S.

AGEC-A requires:

a. Mathematics [MA] (3 credits) **AND**
Note: requires a course in college mathematics (MAT142) or college algebra (MAT150, MAT151, MAT152) or precalculus (MAT187) or any other mathematics course for which college algebra is a prerequisite.

b. Computer/Statistics/Quantitative Applications [CS] (3 credits)

AGEC-B requires:

a. Mathematics [MA] (3 credits) **AND**
Note: 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)

AGEC-S requires:

a. Mathematics [MA] (3 credits) **AND**
Note: requires a calculus course (MAT220 or MAT221) or any course for which MAT220 or MAT221 are prerequisites.

b. Computer/Statistics/Quantitative Applications [CS] (3 credits)

4. **Humanities and Fine Arts (HU) 6 credits**
Students are encouraged to choose courses from more than one discipline for a total of six semester credits.

5. **Social and Behavioral Sciences (SB) 6 credits**
Students are encouraged to choose courses from more than one discipline for a total of six semester credits.

6. **Natural Sciences (SQ/SG) 8 credits**
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 [SQ/SG] differs for AGEC-S. AGEC-S requires eight (8) semester credits of 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.

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 semester credits to complete any of the three 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)

Core Areas

First-Year Composition (FYC) 6 credits
A total of six semester credits 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) 3 credits
A total of three semester credits must be completed with a grade of "C" or better in the Literacy and Critical Inquiry Core area. In the Literacy and Critical Inquiry 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.

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 (MA/CS) 6 credits
A total of six semester credits must be completed with a grade of "C" or better in the Mathematical Studies Core Area. One course must be selected from Mathematics (MA). A second course must be selected from Computer/Statistics/Quantitative Applications (CS).

The Mathematical Studies requirement is intended to ensure that students have skill 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 skill 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.

AGEC-A Mathematics (MA)
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.

AGEC-B Mathematics (MA)
The AGEC-B Mathematics Core area requires a course in brief calculus or a higher level mathematics course.

AGEC-S Mathematics (MA)
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.

Computer/Statistics/Quantitative Applications (CS)
AGEC-A, B, and S (CS) options require 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.

Humanities and Fine Arts (HU) 6 credits
A total of six semester credits 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 for a total of six semester credits.

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) 6 credits
A total of six semester credits must be completed with a grade of "C" or better in the Social and Behavioral Sciences Core area. Students are encouraged to choose course work from more than one discipline for a total of six semester credits.

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) 8 credits
A total of eight semester credits 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.

SQ = Natural Science – Quantitative
SG = Natural Science – General

AGEC-A and B Natural Sciences (SQ)
The AGEC-A and AGEC-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.

AGEC-A and B Natural Sciences (SG)
The AGEC-A and AGEC-B Natural Sciences Core area requires a second laboratory course in the natural sciences, for example, anthropology, astronomy, biology, chemistry, experimental psychology, geology, microbiology, physical anthropology, physical geography, physics, or plant biology.

AGEC-S Natural Sciences (SQ), (SG)
The Natural Sciences requirement (SG/SQ) differs for AGEC-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.

Awareness Areas

Students must satisfy two Awareness areas: Cultural Diversity in 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. U.S. 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 oneself. Awareness of cultural diversity and its multiple sources can illuminate the collective past, present, and future, and can 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 that 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:

- Area studies that are concerned with an examination of culture-specific elements of a region of the world
- The study of a non-English language
- 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
- 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 that these are human events and that 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.

COURSES THAT SATISFY THE MARICOPA AGEC

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 at
www.dist.maricopa.edu/academic/curric/curricrpts.php

- Select Curriculum Procedures Handbook - Programs
- Select Academic Programs
- Select AGEC Course Matrix

Courses are listed in alphabetical order by prefix and by Core areas and Awareness areas that they satisfy. When selecting Mathematical Studies and Natural Sciences options, select from the appropriate AGEC-A, B, or S list.

AGEC Matrix

This matrix of courses complements and supports the AGEC A, B, and S information within the MCCCD college catalogs. Thus, courses that have gained a general education designation will be listed on this Matrix for users to access in the processes of advising students for transfer and curricular purposes.

The Matrix lists single courses and the general education area(s) satisfied by each course. Courses that meet general education designations through course combinations and/or through a specific sequence are also listed with the combinations connected by ampersands. Special notes regarding the combinations are also provided. The general education area(s) satisfied by the combined courses is listed at the end of the combination.

Example: GLG110 as a single course satisfies the Global [G] Awareness area. GLG110 & GLG111 combined satisfy Natural Sciences [SG] in the Core area. Thus, if a student chooses to take the GLG110 & GLG111 combination, the student will satisfy [G] due to the successful completion of GLG110 and, in addition, will satisfy the [SG] general education area by successfully completing the course combination of GLG110 and GLG111.

Students should consult an academic advisor to ensure appropriate course selection for general education purposes and transfer.

Maintenance of the Matrix

The MCCCD Curriculum Office maintains the Matrix on an ongoing basis. Action taken on MCCCD processed curriculum and changes to General Education Designations may impact the courses listed on the Matrix. When the Matrix is updated, the changes are communicated to MCCCD curriculum personnel as well as advisors as soon as the changes are approved. Future term updates are identified with a note immediately following the course listed on the Matrix.

Other Resources

Students seeking more detailed course information on any of the courses listed on the Matrix should access the Course Information, Quick Search, or Advanced Search on the main page of the District Curriculum Office website at
www.dist.maricopa.edu/academic/curric/

AGEC Matrix

Course #	Credit	Course Title	General Education Designation
AFR110	3	Introduction to African-American Studies	SB, C
AFR203	3	African-American History: The Slavery Experience	SB, C, H
AFR204	3	African-American History: Reconstruction to the Present	SB, C, H
AGB139	3	Agribusiness Computer Operations	CS
AGS164	4	Plant Growth and Development	SQ, SG
AIS101	3	Survey of American Indian Issues	SB, C, H
AIS105	3	Introduction to American Indian Studies	SB, C
AIS110	3	Navajo Government	C
AIS140	3	American Indian History	SB, C, H
AIS141	3	Sovereign Indian Nations	SB, C, H
AIS160	3	American Indian Law	C
AIS170	3	American Indian History of the Southwest	SB, C, H
AIS213	3	American Indian Religions	L, HU, C
AJS101	3	Intro To Criminal Justice	SB*
**Note: AJS101 will lose the SB General Education value effective Fall 2006.*			
AJS119	3	Computer Applications Justice Studies	CS
AJS123	3	Ethics & Administration Of Justice	HU
AJS162	3	Domestic Violence	SB
AJS200	3	Current Issues In Criminal Justice	SB
AJS225	3	Criminology	SB
AJS258	3	Victimology & Crisis Management	SB, C
AJS270	3	Community Relations	SB, C
AMS150	4	Digital Systems and Microprocessors	CS
ARB201	4	Intermediate Arabic I	G
ARB202	4	Intermediate Arabic II	G
ARH100	3	Intro To Art	HU
ARH101	3	Prehistoric Through Gothic Art	HU, G, H
ARH102	3	Renaissance Through Contemporary Art	HU, G, H
ARH115	3	History Of Photography	HU
ARH118	3	Intro To Chinese Art	HU, G
ARH145	3	History of American Indian Art	HU, C
ARH201	3	Art Of Asia	HU, G, H
ARH203	3	Art of Ancient Egypt	HU, H
ARH217	3	Mexican Art History	HU, H
ASB102	3	Intro/Cultural & Social Anthropology	SB, G
ASB202	3	Ethnic Relations in the United States	SB, C, H
ASB211	3	Women In Other Cultures	HU, SB, G
ASB214	3	Magic, Witchcraft & Healing	SB, G
ASB222	3	Buried Cities & Lost Tribes: Old World	HU, SB, G, H
ASB223	3	Buried Cities & Lost Tribes: New World	HU, SB, G, H
ASB230	3	Principles Of Archaeology	SB
ASB231	4	Intro To Archaeological Field Methods	SG
ASB235	3	Southwest Archaeology	SB, C, H
ASB238	3	Archaeology of North America	SB, H
ASB245	3	Indians Of The Southwest	SB, C, H
ASM104	4	Bones, Stones, and Human Evolution	SB, SG, H
ASM265	4	Laboratory Methods in Archaeology	SG
AST101 &	3	Survey of Astronomy	
AST102	1	Survey of Astronomy Laboratory	SG
AST111 &	3	Introduction To Astronomy I	
AST113	1	Astronomy I Laboratory	SQ, SG
AST112 &	3	Intro To Astronomy II	SQ, SG
AST114	1	Astronomy II Laboratory	SQ, SG
BIO100	4	Biology Concepts	SQ, SG
BIO101	4	Gen Bio (Non-Majors) Selected Topics	SQ, SG
BIO102	4	Gen Bio (Non-Majors) Additional Topics	SQ, SG
BIO105	4	Environmental Biology	SQ, SG
BIO107	4	Introduction to Biotechnology	SQ, G
BIO108	4	Plants & Society	SQ, SG, G
BIO109 &	3	Natural History Of The Southwest	
BIO110	1	Lab For Natural History Of Southwest	SG
BIO145	4	Marine Biology	SG
BIO156	4	Human Biology For Allied Health	SG
BIO160	4	Intro To Human Anatomy & Physiology	SG
BIO181	4	General Biology (Majors) I	SQ, SG
BIO182	4	General Biology (Majors) II	SQ, SG
BIO201	4	Human Anatomy & Physiology I	SG
BIO205	4	Microbiology	SG
BIO219	4	Geographic Information Systems and Global Positioning Systems in Environmental Investigations	CS
BIO241	4	Human Genetics	SG
BPC110	3	Computer Usage and Applications	CS
BPC217AM	3	Advanced Microsoft Access: Database Management	CS
CCS101	3	Chicana and Chicano Studies	L, C
CFS157	3	Marriage & Family Life	SB
CFS159	3	The Modern Family	SB
CFS176	3	Child Development	SB
CFS205	3	Human Development	SB
CFS242	3	Curriculum Planning For Diversity	C
CFS259	3	Sexuality Over The Life Span	SB
CHI201	5	Intermediate Chinese I	G
CHI202	5	Intermediate Chinese II	G
CHM107	3	Chemistry & Society	G
CHM107 &	3	Chemistry & Society	
CHM107LL	1	Chemistry & Society Lab	SQ, SG, G
CHM130 &	3	Fundamental Chemistry	
CHM130LL	1	Fundamental Chemistry Lab	SQ, SG
CHM150 &	4	General Chemistry I	
CHM151LL	1	General Chemistry I Lab	SQ, SQ
CHM151 &	3	General Chemistry I	
CHM151LL	1	General Chemistry I Lab	SQ, SG
CHM152 &	3	General Chemistry II	
CHM152LL	1	General Chemistry II Lab	SQ, SG
CHM154 &	3	General Chemistry II With Qual	
CHM154LL	2	General Chemistry II With Qual Lab	SQ, SG
CHM230 &	3	Fundamental Organic Chemistry	
CHM230LL	1	Fundamental Organic Chemistry Lab	SQ, SG
CIS105	3	Survey Computer Info Systems	CS
CIS158	3	COBOL Programming I	CS
CIS159	3	Visual Basic Programming I	CS
CIS162	3	C Programming I	CS
CIS162AA	3	C: Level I	CS
CIS162AB	3	C++: Level I	CS
CIS162AB &	3	C++: Level I	
MET105	3	Computer-Aided Drafting for Manufacturing	CS
CIS162AB &	3	C++: Level I	
MET105AA	3	Computer Aided Drafting I: AutoCAD	CS
CIS162AC	3	Visual C++: Level I	CS
CIS162AD	3	C#: Level I	CS
CIS163AA	3	Java Programming: Level I	CS
CIS163AA &	3	Java Programming: Level I	
DFT105AA	3	Computer Aided Drafting I: AutoCAD	CS
CIS163AA &	3	Java Programming: Level I	
MET105AA	3	Computer Aided Drafting I: AutoCAD	CS
CIS169	3	Introduction to Visual Basic for Applications	CS
CIS175JA	3	Java Programming for Non-C Programmers	CS
CIS217AM	3	Advanced Microsoft Access: Database Management	CS
CIS259	3	Visual Basic Programming II	CS
CIS262	3	C Programming II	CS
CNS101	3	Construction and Culture	HU, G, H
COM100	3	Intro To Human Communication	SB
COM100AA&	1	Intro Human Communication Part I	
COM100AB&	1	Intro Human Communication Part II	
COM100AC	1	Intro Human Communication Part III	SB
COM110	3	Interpersonal Communication	SB
COM110AA&	1	Interpersonal Communication Part I	
COM110AB&	1	Interpersonal Communication Part II	
COM110AC	1	Interpersonal Communication Part III	SB
COM207	3	Intro To Communication Inquiry	L
COM222	3	Argumentation	L
COM225	3	Public Speaking	L
COM230	3	Small Group Communication	L, SB
COM241	3	Performance of Literature	L, HU
COM250	3	Intro To Organizational Communication	SB
COM263	3	Elements Of Intercultural Communication	SB, C, G
CPD160	3	Intro to Multiculturalism	C
CRE101	3	Critical & Evaluative Reading I	L
CSC100	3	Introduction to Computer Science for Non-Comp Majors	CS
CSC100AA	3	Introduction to Computer Science for Non-Comp Majors	CS

GENERAL EDUCATION ABBREVIATIONS

CORE REQUIREMENTS

CS . . . . . Computer/Statistics/Quantitative Applications
FYC . . . . . First-Year Composition
HU . . . . . Humanities
L . . . . . Literacy and Critical Inquiry
MA . . . . . Mathematics
SB . . . . . Social and Behavioral Sciences
SG . . . . . Natural Sciences – General
SQ . . . . . Natural Sciences – Quantitative

AWARENESS REQUIREMENTS

C . . . . . Cultural Diversity in the United States
G . . . . . Global Awareness
H . . . . . Historical Awareness

General Education Values are subject to change. Please refer to http://www.maricopa.edu/academic/curric/ for the most up-to-date information.

AGEC Matrix

Course #	Credit	Course Title	General Education Designation
CSC100AB	4	Introduction to Computer Science (C++)	CS
CSC110	3	Introduction to Computer Science for Majors	CS
CSC110AA	3	Introduction to Computer Science for Majors	CS
CSC110AB	4	Introduction to Computer Science (Java)	CS
CSC150	3	Programming in C/C++	CS
CSC150AA	4	Programming in C/C++	CS
CSC180	3	Computing for Scientists, Engineers and Medical/Health Specialists	CS
CSC180AA	3	Computing for Scientists, Engineers and Medical/Health Specialists	CS
CSC180AB	4	Computing for Scientists, Engineers and Medical/Health Specialists	CS
CSC181	3	Applied Problem Solving With Visual BASIC	CS
CSC181AA	3	Applied Problem Solving with Visual BASIC	CS
CSC181AB	4	Applied Problem Solving with Visual BASIC	CS
CSC183	3	Applied Problem Solving With Fortran	CS
CSC200	3	Principles Of Comp Science (JAVA)	CS
CSC200AA	3	Principles Of Comp Science (JAVA)	CS
CSC200AB	4	Principles Of Comp Science (JAVA)	CS
CSC210	3	Data Structures & Algorithms (JAVA)	CS
CSC210AA	3	Data Structures & Algorithms (JAVA)	CS
CSC210AB	4	Data Structures & Algorithms (JAVA)	CS
DAH100	3	Intro To Dance	HU, G
DAH201	3	World Dance Perspectives	HU, G
DFT105	3	Computer Aided Drafting I	CS
DFT253	3	Computer Aided Drafting IIA	CS
ECE102 &	2	Engineering Analysis Tools and Techniques	
ECE103	2	Engineering Problem Solving and Design	CS
ECE102 &	2	Engineering Analysis Tools and Techniques	
ECE103AB	2	Engineering Problem Solving and Design	CS
ECE102AA &	2	Engineering Analysis Tools and Techniques	
ECE103	2	Engineering Problem Solving and Design	CS
ECE102AA &	2	Engineering Analysis Tools and Techniques	
ECE103AB	2	Engineering Problem Solving and Design	CS
ECH176	3	Child Development	SB
ECN111	3	Macroeconomic Principles	SB
ECN112	3	Microeconomic Principles	SB
ECN160	3	Economic History Of United States	SB, H
ECN212	3	The World Economy	SB, G
ECN250	3	World Economic Systems	SB, G
EDU221	3	Introduction to Education	SB
EDU222	3	Introduction to the Exceptional Learner	SB, C
EDU225	3	Foundations of Approaches to Serving English Language Learners (ELL)	C
EDU230	3	Cultural Diversity In Education	C
EDU235	3	Mexican-American Child In Classroom	C
EDU291	3	Children's Literature	HU
EDU292	3	The Art Of Storytelling	HU, C
EDU294	3	Multicultural Folktales	HU, C
ELE131 &	3	Digital Logic & Circuits	
ELE241	4	Microprocessor Concepts	CS
ELE150	4	Digital Systems/Microprocessors	CS
ELT241	4	Microcontrollers	CS
ELT282	3	Structured Assembly Lang Programming	CS
EMT258	3	Victimology & Crisis Management	SB, C
ENG101	3	First-Year Composition	FYC
ENG102	3	First-Year Composition	FYC
ENG107	3	First-Year Composition for ESL	FYC
ENG108	3	First-Year Composition for ESL	FYC
ENG111	3	Technical Writing	L
ENG200	3	Reading & Writing About Literature	L, HU
ENG213	3	Introduction to the Study of Language	L
ENG215	3	Strategies Of Academic Writing	L
ENG216	3	Persuasive Writing On Public Issues	L
ENG217	3	Personal & Exploratory Writing	L
ENG218	3	Writing About Literature	L
ENG260	3	Film Analysis	HU
ENH110	3	Intro To Literature	HU, C
ENH112	3	Chicano Literature	HU, C
ENH113	3	Writers & Current Issues	HU
ENH114	3	African-American Literature	HU, C
ENH201	3	World Literature Through Renaissance	HU, G, H
ENH202	3	World Literature After Renaissance	HU, G, H
ENH204	3	Intro to Contemporary Literature	HU
ENH205	3	Asian American Literature	HU, C
ENH206	3	Nature & Environmental Literature	HU
ENH214	3	Poetry Study	HU
ENH221	3	Survey Of English Lit Before 1800	HU
ENH222	3	Survey Of English Lit After 1800	HU, H
ENH230	3	Intro To Shakespeare	HU
ENH241	3	American Literature Before 1860	HU
ENH242	3	American Literature After 1860	HU
ENH250	3	Classical Backgrounds In Literature	HU
ENH251	3	Mythology	HU, G
ENH254	3	Literature & Film	L, HU
ENH255	3	Contemporary US Literature & Film	L, HU, C
ENH256	3	Shakespeare on Film	HU
ENH259	3	American Indian Literature	HU, C
ENH260	3	Literature Of The Southwest	HU, C
ENH270	3	19th Century American Fiction	HU
ENH275	3	Modern Fiction	HU
ENH284	3	19th Century Women Writers	HU, C
ENH285	3	Contemporary Women Writers	HU, C
ENH289	3	Literature from Contemporary Nobel Laureates	HU
ENH291	3	Children's Literature	HU
ENH294	3	Multicultural Folktales	HU, C
ENH295	3	Banned Books and Censorship	HU, C
FON143	3	Food and Culture	G
FON241	3	Principles of Human Nutrition	SG
FOR105	3	Forensic Science: Physical Evidence	SQ, SG
FRE201	4	Intermediate French I	G
FRE201AA	4	Intermediate French I	G
FRE202	4	Intermediate French II	G
FRE202AA	4	Intermediate French II	G
FRE265	3	Advanced French I	HU, G
FRE266	3	Advanced French II	HU, G
FSC258	3	Victimology & Crisis Management	SB, C
GBS220	3	Quantitative Methods in Business	MA
GBS221	3	Business Statistics	CS
GBS233	3	Business Communication	L
GBS280	3	Organizational Psychology	SB
GCU102	3	Intro To Human Geography	SB, G
GCU121	3	World Geography: Eastern Hemisphere	SB, G
GCU122	3	World Geography: Western Hemisphere	SB, G
GCU141	3	Intro To Economic Geography	SB, G
GCU221	3	Arizona Geography	SB, C, H
GCU223	3	Geography of Latin America	SB, G
GCU253	3	Intro/Cultural & Historical Geography	SB, G
GER201	4	Intermediate German I	G
GER201AA	4	Intermediate German I	G
GER202	4	Intermediate German II	G
GER202AA	4	Intermediate German II	G
GLG101	3	Intro To Geology I-Physical Lecture	G
GLG101 &	3	Intro To Geology I-Physical Lecture	
GLG103	1	Intro To Geology I - Physical Lab	SQ, SG, G
GLG102	3	Intro To Geology II-Historical Lecture	H
GLG102 &	3	Intro To Geology II-Historical Lecture	
GLG104	1	Intro To Geology II-Historical Lab	SG, H
GLG105	4	Intro To Planetary Science	SG
GLG110	3	Geologic Disasters and the Environment	G
GLG110 &	3	Geologic Disasters and the Environment	
GLG111	1	Geologic Disasters and the Environment Lab	SG, G
GPH111	4	Intro To Physical Geography	SQ, SG
GPH112 &	3	Intro To Physical Geography	
GPH113	1	Intro To Physical Geography Lab	SQ, SG
GPH210	3	Introduction to Environmental Geography	G
GPH211	3	Landform Processes	L
GPH212 &	3	Intro To Meteorology I	
GPH214	1	Intro To Meteorology Lab I	SQ, SG
GPH213 &	3	Intro To Climatology	
GPH215	1	Intro To Climatology Lab	SG
GPH220	3	Intro/Geographic Information Systems	CS
HCR210	3	Clinical Health Care Ethics	HU
HCR220	3	Health Care Organizations	H
HCR230	3	Culture and Health	CG
HEB201	4	Intermediate Hebrew I	G
HEB202	4	Intermediate Hebrew II	G
HES100	3	Healthful Living	SB
HIS100	3	History Western Civ to Middle Ages	S, BH
HIS101	3	History Western Civilization / Middle Ages-1789	HU, SB, H
HIS102	3	History Western Civ/1789 to Present	HU, SB, G, H
HIS103	3	United States History to 1870	HU, SB, H
HIS104	3	United States History 1870 to Present	SB, H
HIS105	3	Arizona History	SB, H
HIS105AA &	1	Arizona History Part I	
HIS105AB &	1	Arizona History Part II	

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AGEC Matrix

Course #	Credit	Course Title	General Education Designation
HIS105AC	1	Arizona History Part III	SB, H
HIS106	3	Southwest History	SB, C, H
HIS108	3	United States History 1945 to Present	SB, C, H
HIS109	3	Mexican American History & Culture	SB, C, H
HIS110	3	World History to 1500	SB, G, H
HIS111	3	World History 1500 to the Present	HU, SB, G, H
HIS113	3	History of Eastern Civilizations to 1850	SB, G, H
HIS114	3	History of Eastern Civilization 1850 to Present	SB, G, H
HIS135	3	Military History of the Southwest	SB, H
HIS140	3	American Indian History	SB, C, H
HIS145	3	History Of Mexico	SB, G, H
HIS170	3	American Indian History of the Southwest	SB, C, H
HIS173	3	United States Military History	SB, H
HIS201	3	History Of Women In America	SB, C, H
HIS203	3	African-American History I	SB, C, H
HIS204	3	African-American History II	SB, C, H
HIS209	3	The Chicano In 20th Century America	SB, C, H
HIS241	3	Latin American Civilization In The Colonial Period	SB, H
HIS242	3	Latin American Civilization Post-Colonial Period	SB, G, H
HIS243	3	World Religions	HU, G, H
HIS245	3	Geostrategy in History and Future	SB, H
HIS251	3	History Of England To 1700	SB, H
HIS252	3	History Of England 1700 To Present	SB, H
HIS272	3	History Of The Far East 1900 To Present	SB, G, H
HIS273	3	US Experience In Vietnam 1945-1975	SB, G, H
HIS277	3	The Modern Middle East	SB, G, H
HUM101	3	General Humanities	HU
(Note: Three (3) of the five (5) HUM105 modules must be taken to secure [HU, C] Credit.)			
HUM105AA	1	Cultural Perspective: African Ideas/Values	HU, C
HUM105AB	1	Cult Perspective: Native-American Ideas/Values	HU, C
HUM105AC	1	Cult Perspective: Asian Ideas/Values	HU, C
HUM105AD	1	Cult Perspective: Hispanic Ideas/Values	HU, C
HUM105AE	1	Cult Perspective: Mid-Eastern Ideas/Values	HU, C
HUM107	3	Humanities Through The Arts	HU
HUM108	3	Contemporary Humanities	HU, H*
HUM120	3	Cultural Viewpoints in the Arts	HU, C
HUM125	3	The Urban Experience	HU
(Note: Three (3) of the nine (9) HUM190 modules must be taken to secure [HU] Credit.)			
HUM190AA	1	Honors Forum	HU
HUM190AB	1	Honors Forum	HU
HUM190AC	1	Honors Forum	HU
HUM190AD	1	Honors Forum	HU
HUM190AE	1	Honors Forum	HU
HUM190AF	1	Honors Forum	HU
HUM190AG	1	Honors Forum	HU
HUM190AH	1	Honors Forum	HU
HUM190AI	1	Honors Forum	HU
HUM201	3	Humanities: Universal Themes	HU, G
HUM202	3	Humanities: Universal Themes	HU, G
HUM205	3	Intro To Cinema	HU, H
HUM205 &	3	Intro To Cinema	
TCM145 &	3	Intro To Motion Picture Production	
THE205	3	Intro To Cinema	HU, H
HUM206	3	Intro To Television Arts	HU
HUM208	3	Arts & World Views Of The Southwest	HU, C
HUM209	3	Women & Films	HU,C,H
HUM210	3	Contemporary Cinema	HU
HUM211AA	3	Foreign Films: Classics	HU,G
HUM211AB	3	Foreign Films: Japanese	HU, G
HUM211AC	3	Foreign Films: French	HU, G
HUM213	3	Hispanic Film	HU, G
HUM214	3	African-Americans in Film	HU, C
HUM250	3	Ideas & Values in the Humanities	L, HU, H
HUM251	3	Ideas and Values in the Humanities	L, HU, H
HUM260	3	Intercultural Perspectives	HU, C
HUM261	3	Asian Ideas & Values	HU, G, H
HUM292	3	The Art Of Storytelling	HU, C
IBS101	3	Introduction to International Business	G
IBS109	3	Cultural Dimensions of International Trade	SB, G
IFS101	3	Information Skills in the Digital Age	L
IGS291	3	Studies in Global Awareness	LG
IGS292	3	Studies in Cultural Diversity	C
IGS293	3	Studies in Historical Awareness	L, H
INT105	3	Introduction to Interior Design	HU, G
INT115	3	Historical Architecture & Furniture	HU, H
INT120	3	Modern Architecture and Furniture	HU, H
INT225	3	History Of Decorative Arts	HU

Course #	Credit	Course Title	General Education Designation
ITA201	4	Intermediate Italian I	G
ITA201AA	4	Intermediate Italian I	G
ITA202	4	Intermediate Italian II	G
ITA202AA	4	Intermediate Italian II	G
ITA226	3	Intermediate Italian Conversation II	G
JAS225	3	Statistics for Social Research/Justice & Government	CS
JPN201	5	Intermediate Japanese I	G
JPN202	5	Intermediate Japanese II	G
JRN201	3	Newswriting	L
JRN212	3	Broadcast Writing	L
JRN234	3	Feature Writing	L
LAT201	4	Intermediate Latin I	HU
LAT202	4	Intermediate Latin II	HU
MAT140	5	College Mathematics	MA
MAT141	4	College Mathematics	MA
MAT142	3	College Mathematics	MA
MAT150	5	College Algebra / Functions	MA
MAT151	4	College Algebra / Functions	MA
MAT151AA&	1	College Algebra / Functions I	
MAT151AB&	1	College Algebra / Functions II	
MAT151AC&	1	College Algebra / Functions III	
MAT151AD	1	College Algebra / Functions IV	MA
MAT152	3	College Algebra / Functions	MA
MAT172	3	Finite Mathematics	MA
MAT150 OR MAT151 OR MAT152 &			
MAT182	3	Plane Trigonometry	MA
MAT187	5	Precalculus	MA
MAT206	3	Elements of Statistics	CS
MAT212	3	Brief Calculus	MA
MAT216	3	Technical Calculus I	MA
MAT220	5	Analytic Geometry & Calculus I	MA
MAT221	4	Calculus With Analytic Geometry I	MA
MAT225	3	Elementary Linear Algebra	MA
MAT226	3	Technical Calculus II	MA
MAT227	3	Discrete Mathematical Structures	MA
MAT230	5	Analytic Geometry & Calculus II	MA
MAT231	4	Calculus With Analytic Geometry II	MA
MAT236	3	Technical Calculus III	MA
MAT240	5	Calc Analytic Geometry III	MA
MAT241	4	Calc Analytic Geometry III	MA
MAT251	4	Calculus for Life Science	MA
MAT261	4	Differential Equations	MA
MAT262	3	Differential Equations	MA
MCO120	3	Media & Society	SB
MCO220	3	Cultural Diversity & The Media	L, C
MHL140	3	Survey of Music History	HU, H
MHL143	3	Music In World Cultures	HU, G
MHL145	3	American Jazz & Popular Music	HU, C
MHL146	3	Survey Of Broadway Musicals	HU
MHL147	3	Music Of African-American Cultures	HU
MHL153	3	Rock Music & Culture	HU, H
MHL155	3	Survey of American Music	HU, C, H
PHI101	3	Intro To Philosophy	HU
PHI102	3	Intro To Philosophy	HU
PHI103	3	Intro To Logic	L, HU
PHI104	3	World Philosophy	HU, G
PHI105	3	Intro To Ethics	HU
PHI106	3	Critical Thinking & Problem Solving	L, HU
PHI109	3	Philosophy Of The Arts	HU
PHI201	3	History of Ancient Philosophy	HU, H
PHI212	3	Contemporary Moral Issues	HU
PHI213	3	Medical & Bio-Ethics	HU
PHI216	3	Environmental Ethics	HU, G

GENERAL EDUCATION ABBREVIATIONS

CORE REQUIREMENTS

CS . . . . . Computer/Statistics/Quantitative Applications
FYC . . . . . First-Year Composition
HU . . . . . Humanities
L . . . . . Literacy and Critical Inquiry
MA . . . . . Mathematics
SB . . . . . Social and Behavioral Sciences
SG . . . . . Natural Sciences – General
SQ . . . . . Natural Sciences – Quantitative

AWARENESS REQUIREMENTS

C . . . . . Cultural Diversity in the United States
G . . . . . Global Awareness
H . . . . . Historical Awareness

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AGEC Matrix

Course #	Credit	Course Title	General Education Designation
PHI218	3	Philosophy of Sexuality	HU
PHI224	3	Political Philosophy	HU
PHI225	3	African-American Religions	HU, C
PHI233AA	3	Metaphysics: An Introduction	HU
PHI233AB	3	Theory Of Knowledge	HU
PHI234AA	3	Plato	HU
PHI243	3	World Religions	HU, G, H
PHI244	3	Philosophy Of Religion	HU
PHI245	3	Intro To Eastern Philosophy	HU, G
PHI246	3	American Indian Euroamerican Comparative Worldview	HU
PHS110	4	Fundamentals Of Physical Science	SQ, SG
PHS120	4	Intro To Physical Science	SQ, SG, G
PHY101	4	Intro To Physics	SQ, SG
PHY111	4	General Physics I	SQ, SG
PHY112	4	General Physics II	SQ, SG
PHY115	5	University Physics I	SQ, SG
PHY116	5	University Physics II	SQ, SG
PHY121	4	University Physics I: Mechanics	SQ, SG
PHY131	4	University Physics II: Electricity & Magnetism	SQ, SG
PHY252	4	Un Physics III: Thermo Dynamics, Optics and Wave Phenomena	SQ, SG
POR102	5	Elementary Portuguese II	G
POR201	5	Intermediate Portuguese I	G
POR202	5	Intermediate Portuguese II	G
POS100	3	Intro To Political Science	SB
POS110	3	American National Government	SB
POS115	3	Issues In American Politics	SB
POS120	3	World Politics	SB, G
POS125	3	Issues In World Politics	SB, G
POS130	3	State & Local Government	SB
POS140	3	Comparative Government	SB, G
POS180	3	United Nations Study	G
POS210	3	Political Ideologies	SB
POS223	3	Civil Rights	SB, C
POS285	3	Public Policy	SB
PSY101	3	Intro To Psychology	SB
PSY132	3	Psychology & Culture	SB, C, G
PSY143	3	Lesbian, Gay and Bisexual Studies	C
PSY157	3	African/Black Psychology	SB, C, G
PSY215	3	Intro To Sport Psychology	SB
PSY218	3	Health Psychology	SB
PSY225	3	Psychology of Religion	SB, C, G
PSY230	3	Intro To Statistics	CS
PSY235	3	Psychology Of Gender Differences	SB, C
PSY240	3	Developmental Psychology	SB
PSY245	3	Psychology of Adult Development	SB
PSY250	3	Social Psychology	SB
PSY258	3	Domestic Problems & Crises	SB
PSY260	3	Psychology of the Personality	SB
PSY266	3	Abnormal Psychology	SB
PSY270	3	Personal & Social Adjustment	SB
PSY277	3	Psychology of Human Sexuality	SB
PSY280	3	Organizational Psychology	SB
PSY290AB	4	Research Methods	L, SG
PSY290AC	4	Research Methods	L, SG
PSY292	3	Psychology of Altered States of Consciousness	SB
REC120	3	Leisure & The Quality of Life	SB
REC160	3	Leisure & Society	SB
REL101	3	Intro to Religion	HU
REL201	3	Classics of Western Religions	HU, H
REL202	3	Classics of Asian Religions	HU, G
REL203	3	American Indian Religions	L, HU, C
REL205	3	Religion and the Modern World	L, HU, C
REL213	3	Medical & Bio-Ethics	HU
REL225	3	African-American Religions	HU, C
REL243	3	World Religions	HU, G, H
REL244	3	Philosophy of Religion	HU
REL246	3	American Indian Euroamerican Comparative Worldview	HU
REL250	3	History of Religion in Ireland	HU
REL270	3	Introduction to Christianity	HU
REL271	3	Introduction to the New Testament	HU
REL290	3	Women & Religion	HU, G
RUS201	4	Intermediate Russian	G
RUS201AA	4	Intermediate Russian	G
RUS202	4	Intermediate Russian	G
RUS202AA	4	Intermediate Russian	G
SBU200	3	Society and Business	SB, G
SMT150	4	Digital Systems and Microprocessors	CS
SOC101	3	Intro To Sociology	SB
SOC110	3	Drugs and Society	SB
SOC130	3	Human Sexuality	SB
SOC140	3	Racial & Ethnic Minorities	SB, C
SOC141	3	Sovereign Indian Nations	SB, C, H
SOC142	3	Sociology of The Chicano Community	SB, C
SOC143	3	Sociology of Afro-American Problems	SB, C
SOC157	3	Sociology of Marriage & Family	SB
SOC160	3	American Indian Law	C
SOC180	3	Social Implications of Technology	SB
SOC210	3	The Child in Society	SB
SOC212	3	Gender and Society	SB, C
SOC215	3	Sociology of Adolescence	SB
SOC240	3	Race and Ethnic Relations: American and Global Perspectives	SB, C
SOC245	3	Social Deviance	SB
SOC251	3	Social Problems	SB
SOC253	3	Social Class & Stratification	SB
SOC265	3	Sociology of Aging	SB
SOC270	3	Sociology of Health & Illness	SB
SPA201	4	Intermediate Spanish I	G
SPA201AA	4	Intermediate Spanish I	G
SPA202	4	Intermediate Spanish II	G
SPA202AA	4	Intermediate Spanish II	G
SPA203	4	Spanish For Spanish Speaking Students I	G
SPA204	4	Spanish For Spanish Speaking Students II	G
SPA241	3	Spanish and Spanish-American Film I	G
SPA242	3	Spanish and Spanish-American Film II	G
SPA265	3	Advanced Spanish I	HU
SPA266	3	Advanced Spanish II	HU
SPH150	3	Peninsular Spanish Lit In Translation	HU, G
SPH151	3	Latin American Lit In Translation	HU, G
SPH245	3	Hispanic Heritage In The Southwest	HU, C
STO292	3	The Art Of Storytelling	HU, C
STO294	3	Multicultural Folktales	HU, C
SWU102	3	Intro To Social Work	SB, H
SWU171	3	Introduction to Social Welfare	SB, H
SWU258	3	Victimology & Crisis Management	SB, C
SWU292	3	Effective Helping in a Diverse World	SB, C
TCM145	3	Intro To Motion Picture Production	HU
TCM145 &	3	Intro To Motion Picture Production	
THE205	3	Intro To Cinema	HU, H
TEC105	3	Clothing Selection	SB
TEC106	3	History of Fashion	SB
THE111	3	Intro To Theatre	HU
THE205	3	Intro To Cinema	HU, H
THE206	3	Intro To Television Arts	HU
THE210	3	Contemporary Cinema	HU
THE220	3	Modern Drama	L, HU
THE260	3	Film Analysis	HU
THP241	3	Performance of Literature	L, HU
WED110	3	Principles of Physical Fitness and Wellness	SB
WST100	3	Women & Society	SB, C
WST105	3	Women of Color in America	SB, C
WST110	3	Women & Gender: A Feminist Psychology	SB
WST120	3	Gender, Class, & Race	SB
WST160	3	Women and the Early American Experience	SB, C, H
WST161	3	American Women Since 1920	SB, C, H
WST209	3	Women & Films	HU, C, H
WST284	3	19th Century Women Writers	HU, C
WST285	3	Contemporary Women Writers	HU, C
WST290	3	Women & Religion	G
YAQ100	3	Yaqui Indian History and Culture	SB, C, H

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MA . . . . . Mathematics
SB . . . . . Social and Behavioral Sciences
SG . . . . . Natural Sciences – General
SQ . . . . . Natural Sciences – Quantitative

AWARENESS REQUIREMENTS

C . . . . . Cultural Diversity in the United States
G . . . . . Global Awareness
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Associate Degree Programs

ASSOCIATE IN APPLIED SCIENCE (AAS)

The Maricopa 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.

Shared programs are offered at multiple Maricopa colleges, but are not necessarily available at all colleges. The requirements are identical at all 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. 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.

The exception is the Nursing program. Students must apply for graduation from the college where they have successfully completed Block 4 of the Associate in Applied Science in Nursing.

Following is information on the General Education component of the AAS degree:

Core Areas **15 credits**
(With grade of "C" or better)

Demonstrate college-level skills in the following areas:

First-Year Composition **6 credits**
ENG101 or ENG107 **AND**
ENG102 or ENG108 **OR**
ENG111

Oral Communication **3 credits**
COM100 **OR**
COM100AA and 100AB and 100AC **OR**
COM110 **OR**
COM110AA and 110AB and 110AC or COM225 **OR**
COM230

Critical Reading **3 credits**
CRE101 or
CRE111 or equivalent as indicated by assessment

Mathematics **3 credits**
MAT102/105/120/121/122/122AA/122AB/122AC/126/142/150/151/151AA/151AB/151AC/151AD/152/156/162/167/172/182/187/212/216/220/221/225/226/227/230/231/236/241/262 or satisfactory completion of a higher level mathematics course.

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 211/222/223
COM	Communication 241
DAH	Dance Humanities 100/201
EDU	Education 291/292/294
ENG	English 200/260
ENH	English Humanities Any ENH course(s)
FRE	French 265/266
HCR	Health Care Related 210
HIS	History 101/243
HUM	Humanities Any HUM course(s)
INT	Interior Design 115/120/225
LAT	Latin 201/202
MHL	Music: History/Literature 140/143/145/146/147/153/155
PHI	Philosophy Any PHI course(s) except 113
REL	Religious Studies Any REL course(s)
SPA	Spanish 265/266
SPH	Spanish Humanities 150/151/245
STO	Storytelling 292/294
TCM	Telecommunication 145
THE	Theater 111/205/206/210/220/260
THP	Theater/Performance/Production 241
WST	Women's Studies 209/284/285

Social and Behavioral Sciences **3 credits**
Students are encouraged to choose courses from more than one discipline.

AIS	American Indian Studies 101/105/140/141/160/170
AFR	African American Studies 110/203/204
AJS	Administration of Justice Studies 101/200/225/258/259/270
ASB	Anthropology 100/102/211/214/222/223/230/235/238/245
ASM	Anthropology 104
CFS	Child/Family Studies 157/159/176/205/259
COM	Communications 100/100AA & 100AB & 100AC/110/110AA & 110AB & 110AC/230/250/263
ECH	Early Childhood Education 176
ECN	Economics Any ECN course(s)
EDU	Education 221/222
EMT	Emergency Medical Technology 258
FSC	Fire Science 258
FUS	Future Studies 101
GBS	General Business 280
GCU	Cultural Geography 102/121/122/141/221/253
HES	Health Science 100
HIS	History Any HIS course(s)

IBS	International Business 109
MCO	Mass Communications 120
PHI	Philosophy 243
POS	Political Science Any POS course(s)
PSY	Psychology 101/123/125/132/156/157/215/218/235/240/245/250/258/259/260/266/270/277/280/281/292
REC	Recreation 120/160
REL	Religious Studies 243
SBU	Society and Business 200
SOC	Sociology Any SOC course(s) except 242
SWU	Social Work 102/171//258/292
TEC	Textiles and Clothing 105/106
WED	Wellness Education 100/110
WST	Women's Studies 100/105/110/120/160
YAQ	Yaqui Indian History & 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. Consult with an advisor for course selection.

AGS	Agricultural Science 164
ASB	Anthropology 231
ASM	Anthropology 104, 265
AST	Astronomy 101/102/111/112/113/114
BIO	Biology 100/101/102/105/107/108/109/110/145/149AN/150/156/160/181/182/201/205/241/247
CHM	Chemistry 107/107LL/130/130LL/151/151LL/152/152LL/154/154LL/230/230LL
FON	Food and Nutrition 241
GLG	Geology Any GLG course(s) except 140/251MC
GPH	Physical Geography 111/112/113/212/213/214/215
ISS	Interdisciplinary Science Studies 111/112
PHS	Physical Science 110/120
PHY	Physics 101/111/112/115/116/121/131/252
PSY	Psychology 290AB/290AC

ASSOCIATE IN ARTS (AA)

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. The degree will transfer as a block without loss of credit to Arizona's public universities and other institutions with districtwide articulation agreements.

The semester credits used to satisfy the Maricopa 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 at:
az.transfer.org/cas/atass/student/modpath.html

The Associate in Arts (AA) requires a total of 60-64 semester credits for the program of study. The degree has two major components:

1. General Education, which includes the Arizona General Education Curriculum A (AGEC-A), and Maricopa Additional Requirements
2. General Electives

The degree transfers as a block without loss of credit to Arizona's public universities. All semester credits used to satisfy the Maricopa Associate in Arts will apply to university graduation requirements of the university major for which the AA was designed, regardless of whether the credit was awarded for completion of coursework or for prior learning. For information on credit awarded for prior learning assessment, see **Credit for Prior Learning.**

The 60-64 semester credits required for the Associate in Arts 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 at **www.dist.maricopa.edu/academic/curric/curricrpts.php**

- Select Curriculum Procedures Handbook - Programs
- Select Academic Programs
- Select AGEC Course Matrix

This list identifies courses in alphabetical order by prefix and indicates the Core areas and Awareness areas they satisfy. Courses in the Mathematics and Natural Sciences areas may include an A, B, and/or S character following the [MA], [SQ], [SG] general education designations. These characters refer to different types of AGECs that correspond to certain baccalaureate majors. Consult an academic advisor for help choosing the best courses to meet your academic goals.

I. Maricopa AGEC-A

A. Core Areas: 35 credits

1. First-Year Composition (FYC) **6 credits**

2. Literacy and Critical Inquiry (L) **3 credits**

3. Mathematical Studies (MA/CS) 6 credits

To complete the Mathematical Studies requirement, select one course to satisfy the Mathematics (MA) A and a second course from Computer/Statistics/Quantitative Applications (CS).

a) Mathematics (MA) A (3 credits)
Note: requires a course in college mathematics (MAT142) or college algebra (MAT150, MAT151, MAT152) or precalculus (MAT187) or any other mathematics course designated with the MA general education value and for which college algebra is a prerequisite.

AND

b) Computer/Statistics/Quantitative Applications (CS) (3 credits)

4. Humanities and Fine Arts (HU) 6 credits

5. Social and Behavioral Sciences (SB) 6 credits

6. Natural Sciences (SQ/SG) 8 credits

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.

B. Awareness Areas

Students must satisfy two Awareness areas:

Cultural Diversity in the United States (C) **AND**
Global Awareness (G) **OR**
Historical Awareness (H)

C. Maricopa Additional Requirements 0-6 credits

Students must satisfy Oral Communication and Critical Reading areas for a total of six (6) semester credits.

1. 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 and COM100AB and COM100AC (SB) (3 credits) **OR**
COM110 (SB) (3 credits) **OR**
COM110AA and COM110AB and COM110AC (SB) (3 credits) **OR**
COM225 (L) (3 credits) **OR**
COM230 (L) (SB) (3 credits)

2. Critical Reading
A total of three (3) semester credits is required for the Critical Reading area. However, if students select a Critical Reading course that satisfies both the Critical Reading area and an area within the Core, or 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 3-29 credits

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 to 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 at:
az.transfer.org/cas/students/transfer_guides.htm

Select Maricopa courses that are acceptable as equivalent courses, departmental elective credits (DEC), or general elective credits (Elective) at all Arizona public universities according to the Arizona CEG within the AZCAS. Consult an advisor for help choosing the courses that best meet your academic goals.

Some university majors require students to demonstrate fourth-semester proficiency at the 202 course level to satisfy the Non-English Language Requirements. Consult the Arizona Transfer Pathway Guides and/or the University Transfer Guides to determine if this requirement applies to your intended major and university. 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.

AA Total Credits 60-64 credits

ASSOCIATE IN ARTS – ELEMENTARY EDUCATION (AA-EE)

The AA-EE is designed for the student who plans to transfer to an Elementary Education program at an Arizona public higher education 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. All semester credits applied to the Maricopa Associate in Arts in Elementary Education also apply to graduation requirements of the university major for which the AA-EE was designed, regardless of whether the credit was awarded for completion of coursework or for prior learning. For additional information on credit awarded for prior learning assessment, see **Credit for Prior Learning.**

The Maricopa Associate in Arts in Elementary Education (AA–EE) 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

A. Arizona General Education Curriculum-A (AGEC-A)
B. Additional Maricopa Requirements

II. Elementary Education Requirements

A. Education Foundations
B. Electives for Arizona Professional Teacher Standards

Requirements of the AA-EE

- Completion of 60-63 semester credits in courses numbered 100 and above with a grade of "C" or better
- Governed by the following policies to enable students to satisfy AGEC-A requirements without exceeding the 35 semester credits:

  1. Courses can satisfy a Core area requirement and one or more Awareness areas simultaneously.
  2. Courses can satisfy an Elementary Education requirement and one or more Awareness areas simultaneously.

- A course cannot satisfy more than one Core area requirement.
- 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 listed in the CEG/AZCAS (Course Equivalency Guide/Arizona Course Applicability System) 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 both at the Maricopa Community Colleges and the institutions to which our students transfer, students have the option to petition for general education evaluations and/or general education designations.

**Note: The Second Summer 2000 term is the last term that the course evaluation and/or the general education designation as listed in the printed Course Equivalency Guide (CEG) is valid for the academic year in which the student completes the course. Summer session is included with the previous academic year.*

- All courses applied to AGEC-A must transfer as equivalent courses, departmental elective credits, or general elective credits (E) at all Arizona public universities according to the CEG within the CAS.
- Follows graduation policies within the college catalog.
- Either a course or its modular equivalents can satisfy the Associate in Arts in Elementary Education requirements.
- If a course is cross-referenced, any of its prefixed versions can be used to satisfy AGEC requirements.
- Provides exemption from Arizona public university admission requirements for students who complete the AA-EE 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.
- 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 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, the student should consult with an advisor.

I. Maricopa General Education Requirements

A. Maricopa AGEC-A

1. Core Areas **35-38 credits**

a. First-Year Composition (FYC) **6 credits**
ENG101/102 OR ENG107/108

b. Mathematics Studies (MA) and Computer/Statistics/Quantitative Applications (CS) **6 credits**

1) MA – MAT142 College Mathematics, or higher
Note: MAT150, MAT151, MAT152, MAT156, and MAT157 are excluded.

AND

2) CS – CIS105 Survey of Computer Information Systems, **OR** BPC110 Computer Usage and Applications

c. Literacy and Critical Inquiry (L) **3 credits**
1) Select 3 credits from the following courses:

COM225 Public Speaking **OR**
COM230 Small Group Communication

d. Humanities and Fine Arts (HU) 6 credits

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
THE220 Modern Drama
DAH100 Introduction to Dance
DAH201 World Dance Perspectives

e. Social and Behavioral Sciences (SB) 6 credits

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
ECN111 Macroeconomic Principles
ECN112 Microeconomic Principles
POS110 American National Government
ECH/CFS176 Child Development

f. Natural Sciences – Science-Quantitative (SQ) and Science-General (SG) 8 credits

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.

Select SQ and SG courses from the following categories:

1. Life Sciences **AND**
2. Physical Sciences **OR** Earth/Space Sciences

2. Awareness Areas 0 credits

The MARICOPA AA-EE 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. Maricopa Additional Requirements 0-3 credits

a) Oral Communication
Satisfied by COM225 **OR** COM230 taken for L 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, BPC, ENG, ENH, 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 MAT150, MAT151, MAT152, MAT156, and MAT157

   Any Foreign Language course(s)

   Any Natural Science course(s)

   CFS/ECH176 Child Development

AA-EE Total Credits **60-63 credits**

ASSOCIATE IN ARTS, FINE ARTS – ART

The Maricopa County Community Colleges 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

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 include a portfolio or performance requirement.

The semester credits used to satisfy the MCCCD Associate in Arts, Fine Arts - Art degree will 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 at **az.transfer.org/cas/atass/student/modpath.html**

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 60 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better.
- 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 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 (XXXDEC), or general elective credit (Elective) at all Arizona public universities. The course 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.dist.maricopa.edu/academic/curric/**
- 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 - Arts 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.

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 at **www.dist.maricopa.edu/academic/curric/**

This list identifies the courses in alphabetical 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 Requirements

A. MCCCD AGEC-A

1. Core Areas — 35 credits

a. First-Year Composition (FYC) — **6 credits**

b. Literacy and Critical Inquiry [L] — **3 credits**

c. Mathematical Studies [MA/CS] — **6 credits**

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 precalculus (MAT187) 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 credits**

Students are encouraged to choose course work from more than one discipline for a total of six semester credits.

Select the following:
ARH101 Prehistoric Through Gothic Art — 3 credits

e. Social and Behavioral Sciences [SB] — **6 credits**

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 credits**

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 — **3 credits**

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 [L] [SB] (3 credits)

b. Critical Reading — **3 credits**

A total of three (3) semester credits is required for the Critical Reading area. However, if students complete CRE 101 and apply it to AGEC-A Core Requirements or if 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

		Credits
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
ART132	Photography II	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 credits

ASSOCIATE IN ARTS, FINE ARTS – DANCE

The Maricopa County Community Colleges 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

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 include a portfolio or performance requirement.

The semester credits used to satisfy the MCCCD Associate in Arts, Fine Arts - Dance degree will 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 at **az.transfer.org/cas/atass/student/modpath.html**

Academic Policies that Govern the Associate in Arts, Fine Arts – Dance

- 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 60 semester credits in courses numbered 100 and above to be completed with a grade of "C" or better;
- 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 courses 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 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 (XXXDEC), 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 at **www.dist.maricopa.edu/academic/curric/**
- 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 at **www.dist.maricopa.edu/academic/curric/**

This list identifies the courses in alphabetical 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

A. MCCCD AGEC-A

1. Core Areas — 35 credits

a. First-Year Composition (FYC) — **6 credits**

b. Literacy and Critical Inquiry [L] — **3 credits**

c. Mathematical Studies [MA/CS] — **6 credits**

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 precalculus (MAT187) 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 credits**

Students are encouraged to choose course work 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 credits**

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 credits**

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	4
BIO201	Human Anatomy and Physiology I	4

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 credits**

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 [L] [SB] (3 credits)

b. Critical Reading **3 credits**

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

		Credits
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:

		Credits
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:

		Credits
DAH+++++	Any DAH prefixed course EXCEPT DAH100 or DAH201 if selected to satisfy the AGEC 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
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

Associate in Arts, Fine Arts – Dance
Total Credits **64 credits**

ASSOCIATE IN ARTS, FINE ARTS – THEATRE

The Maricopa County Community Colleges 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

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 include a portfolio or performance requirement.

The semester credits used to satisfy the MCCCD Associate in Arts, Fine Arts - Theatre will 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 at **az.transfer.org/cas/atass/student/modpath.html**

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.
- 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 courses 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 (XXXDEC), 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 at **www.dist.maricopa.edu/academic/curric/**
- 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.

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 at **www.dist.maricopa.edu/academic/curric/**

This list identifies the courses in alphabetical 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

- MCCCD AGEC-A
- MCCCD Additional Requirements

A. MCCCD AGEC-A

1. Core Areas 35 credits

a. First-Year Composition (FYC) 6 credits

b. Literacy and Critical Inquiry [L] 3 credits
THE220 Modern Drama

c. Mathematical Studies [MA/CS] 6 credits
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 precalculus (MAT187) 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 credits
Students are encouraged to choose course work from more than one discipline for a total of six semester credits.

THE205 Introduction to Cinema

e. Social and Behavioral Sciences [SB] 6 credits
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 credits
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 credits
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 [L] [SB] (3 credits)

b. Critical Reading 3 credits
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

		Credits
THE111	Introduction to Theatre	3
THP112	Acting I	3
THP115	Theatre Makeup	3
THP201	Theatre Production I	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:

		Credits
HUM/THE206	Introduction to Television Arts	3
HUM/THE210	Contemporary Cinema	3
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 credits

ASSOCIATE IN BUSINESS – GENERAL REQUIREMENTS (ABUS-GR)

The ABus-GR degree is designed for students who plan to transfer to Arizona's public universities in 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.

The degree transfers as a block without loss of credit to Arizona's public universities and other institutions with districtwide articulation agreements. All semester credits used to satisfy the Maricopa Associate in Business General Requirements will apply to university graduation requirements of the university major for which the ABus-GR was designed, regardless of whether the credit was awarded for completion of coursework or for prior learning. For additional information on credit awarded for prior learning assessment, see **Credit for Prior Learning.**

The Maricopa 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:

1. Maricopa General Education, which includes AGEC-B
2. Common Lower Division Program Requirements
3. General Electives

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 at **www.dist.maricopa.edu/academic/curric/curricrpts.php**

- Select Curriculum Procedures Handbook - Programs
- Select Academic Programs
- Select AGEC Course Matrix

Requirements of the ABus-GR

I. Maricopa General Education

A. Maricopa AGEC-B

1. Core Areas 35 credits

a. First-Year Composition (FYC) 6 credits

b. Literacy and Critical Inquiry (L) 3 credits

c. Mathematical Studies (MA/CS) 6 credits

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
   Note: Students are encouraged to select GBS221 or CIS105 to satisfy (CS).

d. Humanities and Fine Arts (HU) 6 credits

e. Social and Behavioral Sciences (SB) 6 credits

f. Natural Sciences (SQ/SG) 8 credits

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. Consult with an advisor for appropriate course selection.

2. Awareness Areas

Students must satisfy 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 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 6-7 credits

* ACC111 and ACC230 and ACC240 **OR**
**ACC211 and ACC212
* MCCCD ACC250 or ACC211 may be taken in lieu of ACC111.
**MCCCD ACC111 and ACC112 together are equivalent to ACC211.

CIS105 (CS)	3 credits
ECN111 (SB)	3 credits
ECN112 (SB)	3 credits
GBS205	3 credits
GBS220 or MAT172 (MA)	3 credits
GBS221 (CS)	3 credits

Business Elective 3 credits

Select from the following options:

CIS158	(CS) COBOL Programming I
CIS159	(CS) Visual Basic Programming I
CIS162AA	(CS) C: Level I
CIS162AB	(CS) C++: Level I
CIS162AC	(CS) Visual C++: Level I
CIS162AD	C#: Level 1
CIS163AA	(CS) Java Programming: Level I
GBS151	Introduction to Business
GBS233	(L) Business Communication
MGT251	Human Relations in Business
MGT253	Owning and Operating a Small Business
REA179	Real Estate Principles I

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, consult an advisor.

ABus-GR Total Credits 62-63 credits

ASSOCIATE IN BUSINESS – SPECIAL REQUIREMENTS (ABUS-SR)

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 at:
www.abor.asu.edu/4_special_programs/atass/index.html

- Select Student Information
- Select Degrees and Pathways
- Scroll down to the bottom of the page
- Select the first letter of the major you're interested in

The Associate in Business – Special Requirements transfers as a block without loss of credit to Arizona's public universities and other institutions with districtwide articulation agreements. All semester credits used to satisfy the Maricopa Associate in Business Special Requirements will apply to university graduation requirements of the university major for which the ABus-SR was designed, regardless of whether the credit was awarded for completion of coursework or for prior learning. For additional information on credit awarded for prior learning assessment, see **Credit for Prior Learning.**

The Maricopa 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:

1. Maricopa General Education, which includes the AGEC-B
2. Common Lower Division Program Requirements
3. General Electives

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 at
www.dist.maricopa.edu/academic/curric/curricrpts.php

- Select Curriculum Procedures Handbook - Programs
- Select Academic Programs
- Select AGEC Course Matrix

Requirements of the ABus-SR

I. Maricopa General Education

A. Maricopa AGEC-B

1. Core Areas **35 credits**

a. First-Year Composition (FYC) **6 credits**

b. Literacy and Critical Inquiry (L) **3 credits**

c. Mathematical Studies (MA/CS) **6 credits**

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)
   MAT212, Brief Calculus, or a higher level mathematics course

AND

2. Computer/Statistics/Quantitative Applications (CS)
   Note: Students are encouraged to select GBS221 or CIS105 to satisfy (CS).

d. Humanities and Fine Arts (HU) **6 credits**

e. Social and Behavioral Sciences (SB) **6 credits**

f. Natural Sciences (SQ/SG) **8 credits**

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. Consult an advisor for appropriate course selection.

2. Awareness Areas

Students must satisfy 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 **6-7 credits**

* ACC111 and ACC230 and ACC240 **OR**
** ACC211 and ACC212
* MCCCD ACC250 or ACC211 may be taken in lieu of ACC111.
** MCCCD ACC111 and ACC112 together are equivalent to ACC211.

Programming I (Visual Basic) **3 credits**
CIS159 [CS]

Programming II (Java) **3 credits**
CIS163AA
GBS205
GBS220 or MAT172 [MA]
GBS221 [CS]
ECN111 [SB]
ECN112 [SB]

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, consult an advisor.

ABus-SR Total Credits **62-63 credits**

ASSOCIATE IN GENERAL STUDIES (AGS)

The Associate in General Studies (AGS) 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.

The Maricopa Associate in General Studies:

- 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.
- A course can simultaneously satisfy one Core area and one Distribution area. Courses that meet this criterion are in bold print and underscored in the Core areas and Distribution areas.
- A course cannot satisfy more than one Core area, even if it is approved for more than one Core area.
- A course cannot satisfy more than one Distribution area, even if it is approved for more than one Distribution area.

Requirements of the AGS

General Education Core Areas
16 credits with grade of C or better

First-Year Composition **6 credits**
ENG101/107 and 102/108

Oral Communication **3 credits**
COM 100/100AA and 100AB and
100AC/110/110AA and
110AB and 110AC/225/230

Critical Reading **3 credits**
CRE101 or equivalent as indicated by assessment

Mathematics **3 credits**
MAT102/105/120/121/122/122AA/122AB/
122AC/126/142/150/151/151AA/151AB/
151AC/151AD/152/156/162/172/182/187/
206/212/216/220/221/225/226/227/230/231/
236/240/241/262/ **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. Contact an advisor for help with course selection.

ACC	Accounting 115/115AA/115AB/ 115BA/115BB
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 117/119/205
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
BPC	Business-Personal Computers Any BPC course(s)
CFS	Child/Family Studies 180
CIS	Computer Information Systems Any CIS course(s)
CSC	Computer Science Any CSC course(s)
CTR	Court Reporting 101/102
DFT	Drafting Technology 103/105/any 105 module/150/151/200/201/251/any 251 module/253/any 253 module/any 254 module/any 256 module
ECE	Engineering Science 102/102AA/103/103AB/139
ECH	Early Childhood Education 238
EEE	Electrical Engineering 120
ELE	Electronics 115/150/181/241/243/245/281
ELT	Electronic Technology 131/131AA/131AB/ 241/243/249/273/281/282
ENG	English 100AE
FON	Food & Nutrition 100/100AA/100AC/ 100AD/140BC
GPH	Physical Geography 219/220
HRM	Hotel Restaurant Management 126
JRN	Journalism 133
LAS	Legal Assisting 229
LBT	Library Technology 106
MAT	Mathematics 206
MET	Manufacturing Technology 105AA/140/264
MTC	Music Theory/Composition 191
NET	Networking Technology 181/181AA/181AB/247
OAS	Office Automation Systems 111AA/111AB/ 113/113AA&113AB/119/130/any 130 module/any 135 module/any 235 module
PSY	Psychology 230
QCT	Quality Control Technology 274
SBS	Small Business 211
SMT	Semiconductor Manufacturing Technology 131/131AA/131AB/150
TCM	Telecommunications 106
TVL	Travel Agent Technology 203/205
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 211/222/223
COM	Communication 241
DAH	Dance Humanities 100/201
EDU	Education 291/292/294
ENG	English 200/260
ENH	English Humanities Any ENH course(s)
FRE	French 265/266
HCR	Health Care Related 210
HIS	History 101/109/243
HUM	Humanities Any HUM course(s)
INT	Interior Design 105/115/120/225
LAT	Latin 201/202
MHL	Music: History/Literature 140/141/142/143/145/146/147/153/155
PHI	Philosophy Any PHI course(s) except 113
REL	Religious Studies Any REL course(s)
SPA	Spanish 265/266
SPH	Spanish Humanities 150/151/245
STO	Storytelling 292/294
TCM	Telecommunication 145
THE	Theater 111/205/206/210/220/260
THP	Theater/Performance/Production 241
WST	Women's Studies 209/284/285

Social and Behavioral Sciences **9 credits**

Students are encouraged to choose courses from more than one discipline. Select nine (9) credits from the following:

AIS	American Indian Studies 101/105/140/141/160/170
AFR	African American Studies 110/203/204
AJS	Administration of Justice Studies 101/119/200/225/258/259/270
ASB	Anthropology 100/102/202/211/214/222/223/230/235/238/245
ASM	Anthropology 104
CFS	Child/Family Studies 157/159/176/205/259
COM	Communication 100/100AA & 100AB & 100AC/110/110AA & 110AB & 110AC/230/250/263
ECH	Early Childhood Education 176
ECN	Economics Any ECN course(s)
EDU	Education 221/222
EMT	Emergency Medical Technology 258
FUS	Future Studies 101
GBS	General Business 280
GCU	Cultural Geography 102/121/122/141/221/223/253
HES	Health Science 100
HIS	History Any HIS course(s)
IBS	International Business 109
MCO	Mass Communications 120
PHI	Philosophy 243
POS	Political Science Any POS course(s)
PSY	Psychology 101/123/132/156/157/215/218/235/240/245/250/258/259/260/266/270/277/280/281/292
REC	Recreation 120/160
REL	Religious Studies 243
SBU	Society and Business 200
SOC	Sociology Any SOC course(s) except 242
SWU	Social Work 102/271/292
TEC	Textiles and Clothing 105/106
WED	Wellness Education 100/110
WST	Women's Studies 100/105/110/120/160/161
YAQ	Yaqui Indian History & 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, consult an advisor.

AGS	Agricultural Science 164/183
ASB	Anthropology 231
ASM	Anthropology 104/265
AST	Astronomy 101/102/111/112/113/114
BIO	Biology 100/101/102/105/107/108/109/110/145/149AF/149AH/149AI/149AJ/149AK/149AL/149AM/149AN/150/156/160/181/182/201/205/241/247
CHM	Chemistry 107/107LL/130/130LL/151/151LL/152/152LL/154/154LL/230/230LL
FON	Food and Nutrition 241 with lab
GLG	Geology Any GLG course(s)
GPH	Physical Geography 111/112/113/210/211/212 & 214/213 & 215
ISS	Interdisciplinary Science Studies 111/112
PHS	Physical Science 110/120
PHY	Physics 101/111/112/115/116/121/131/252
PSY	Psychology 290AB/290AC

Literacy and Critical Inquiry **3 credits**

AIS	American Indian Studies 213
CCS	Chicana and Chicano Studies 101
COM	Communication 207/222/225/230/241
CRE	Critical Reading 101
DAH	Dance Humanities 201
ENG	English 111/200/213/215/216/217/218
ENH	English Humanities 254/255
FON	Food & Nutrition 206
GBS	General Business 233
GPH	Physical Geography 211/212 & 214
HCR	Health Care Related 220
HUM	Humanities 250/251
IGS	Integrated Studies 290AA & 290AB/291/293
JRN	Journalism 201/212/234
MCO	Mass Communications 220
MHL	Music: History/Literature 140
PHI	Philosophy 103/106/225
POS	Political Science 115
PSY	Psychology 290AB/290AC
REL	Religious Studies 101/203/205/225
THE	Theater 220
THP	Theater Performance/Production 241

Elective Courses 15-16 credits

May select courses from prefixes already chosen for General Education Distribution Area requirements to develop depth in one or more subject areas.

AGS Total Credits minimum of 60

ASSOCIATE IN SCIENCE (AS)

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. The degree will transfer as a block without loss of credit to Arizona's public universities and other institutions with districtwide articulation agreements.

The semester credits used to satisfy the Maricopa 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 at **az.transfer.org/cas/atass/student/modpath.html**

The Associate in Science requires a total of 60-64 semester credits for the program of study. The degree has two major components:

1. General Education, which includes the AGEC-S and Maricopa Additional Requirements
2. General Electives

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 at **www.dist.maricopa.edu/academic/curric/curricrpts.php**

- Select Curriculum Procedures Handbook - Programs
- Select Academic Programs
- Select AGEC Course Matrix

Requirements of the AS

I. Maricopa General Education

A. Maricopa AGEC-S

1. Core Areas **35 credits**

a. First-Year Composition (FYC) **6 credits**

b. Literacy and Critical Inquiry (L) **3 credits**

c. Mathematical Studies (MA/CS) **6 credits**

1) Mathematics [MA] S (3 credits)
Select a calculus course MAT220 or MAT221, or any mathematics course for which MAT220 or MAT221 is a prerequisite.

AND

2) Computer/Statistics/Quantitative Applications (CS) (3 credits)

d. Humanities and Fine Arts (HU) **6 credits**

e. Social and Behavioral Sciences (SB) **6 credits**

f. Natural Sciences (SQ/SG) **8 credits**

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 as appropriate to the major

2. Awareness Areas

Students must satisfy two Awareness areas: Cultural Diversity in the United States (C) **AND** Global Awareness (G) **OR** Historical Awareness (H)

B. Maricopa Additional Requirements 0-6 credits

Students must satisfy Oral Communication and Critical Reading areas for a total of six (6) semester credits. However, it is not necessary for students to exceed the thirty-five semester credits required in order to complete the Maricopa Additional Requirements because courses can satisfy a Core area and Maricopa Additional Requirements simultaneously. Therefore, no additional semester credits are required to satisfy Oral Communication and Critical Reading.

1. 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) **OR**
COM100AA and COM100AB and COM100AC (SB) **OR**
COM110 (SB) **OR**
COM110AA and COM110AB and COM110AC (SB) **OR**
COM225 (L) OR COM230 (L) (SB)

2. Critical Reading
A total of three (3) semester credits is required for the Critical Reading area.

However, if students select a Critical Reading course that satisfies both the Critical Reading area and an area within the Core, or 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 3-29 credits

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 at **az.transfer.org/cas/students/transfer_guides.htm**

Select Maricopa courses that are acceptable as equivalent courses, departmental elective credits (DEC), or general elective credits (Elective) at all Arizona public universities according to the Arizona CEG within the AZCAS. For appropriate course selection, consult an advisor.

For some majors, students must demonstrate fourth-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 if this requirement applies to the intended major and university where 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.

AS Total Credits **60-64 credits**

ASSOCIATE IN TRANSFER PARTNERSHIP (ATP)

The Maricopa County Community College District Associate in Transfer Partnership (ATP) degree is designed to meet the needs of 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)
- Humanities and Fine Arts/Social and Behavioral Sciences or related area general studies 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 60 credit hours.

The MCCCD ATP degrees are accessible at **www.dist.maricopa.edu/academic/curric/**

Select 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 ensure 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 before 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 with the appropriate baccalaureate degree-granting institution academic advisor. Upon completion of 36 hours, students 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

Maricopa General Education Core **19 credits**

Approved Lower Division Transfer Courses (Major dependent with variable maximum to be determined by receiving baccalaureate degree-granting institution)

ATP Total Credits **60 minimum**

Associate in Transfer Partnership degrees are available in the following areas:

- Accountancy
- American Indian Studies
- Computer Information Systems
- Construction
- Early Childhood Education
- Exercise and Wellness
- General Business
- Housing and Urban Development
- K-12 Classroom Instructional Support
- Kinesiology
- Nursing
- Nutrition
- Psychology
- Recreation
- Social Work

Academic Certificates

The Maricopa Academic Certificate 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 a student for employment in a specific occupation.

The content of an Academic Certificate 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 education requirements.

The Academic Certificate:

- 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 in this catalog
- Treats all prefixes of cross-referenced courses as equivalent
- Treats a course or its modular equivalents as identical in satisfying certificate requirements
- Does not guarantee block transfer value of courses
- In most cases, should not be a subset of an existing transfer degree
- May be governed by admission criteria established by the college
- Is usually specific to one of the Maricopa colleges

You can see a list of Academic Certificates that are currently available at **www.dist.maricopa.edu/academic/curric/progmc.php**

COMMUNICATION SKILLS FOR ENGLISH LANGUAGE LEARNERS

The Academic Certificate in Communication Skills for English Language Learners (ELL) is an interdisciplinary program of study designed to extend tradition ESL coursework. It provides ELLs 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.

Program Notes

- *+ indicates course has a prerequisite*
- *If choosing BPC110 or CIS105, only one can be used*
- *COM259, if taken in required course area, cannot be used in restricted area*

Program Prerequisites **None**

Required Courses **24 credits**

ENG101	First-Year Composition (3) **OR**	
ENG107	First-Year Composition for ESL (3)	3 credits
ENG102	First-Year Composition (3) **OR**	
ENG108	First-Year Composition for ESL (3)	3 credits
COM110	Interpersonal Communication	3 credits
COM120	Pronunciation of American Speech	3 credits
+COM221	Oral Fluency in American Speech	3 credits
+COM230	Small Group Communication	3 credits
+COM259	Communication in Business and Professions (3) **OR**	
+COM282AC	Volunteerism for Speech Communication: A Service Learning Experience (3)	3 credits
CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment	3credits

Restricted Electives **6-9 credits**

BPC110	Computer Usage and Applications	3 credits
CIS105	Survey of Computer Information Systems	3 credits
+COM259	Communication in Business and Professions	3 credits
+GBS233	Business Communication	3 credits
+ENG111	Technical Writing	3 credits
IBS109	Cultural Dimension for International Trade	3 credits
+SWU292	Effective Helping in a Diverse World	3 credits

ORAL COMMUNICATION FLUENCY FOR ENGLISH LANGUAGE LEARNERS

The Academic Certificate in Oral Communication Fluency for English Language Learners (ELL) is a concentrated program of study in communication and oral fluency designed to extend traditional ESL coursework. It provides ELLs 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.

Program Note

- *+ indicates course has a prerequisite*

Program Prerequisites — None

Required Courses — 18 credits

COM110	Interpersonal Communication	3 credits
COM120	Pronunciation of American Speech	3 credits
+COM221	Oral Fluency in American Speech	3 credits
+COM230	Small Group Communication	3 credits
COM263	Intercultural Communication	3 credits
+COM282AC	Volunteerism for Speech Communication: A Service Learning Experience	3 credits

COMMUNICATION COMPETENCE IN THE WORKPLACE

The Academic Certificate 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.

Program Notes

- *+ indicates course has a prerequisite*
- *If choosing BPC110 or CIS105, only one can be used*
- *COM259, if taken in required course area, cannot be used in restricted area*

Program Prerequisites — None

Required Courses — 24 credits

ENG101	First-Year Composition (3) **OR**	
ENG107	First-Year Composition for ESL (3)	3 credits
ENG102	First-Year Composition (3) **OR**	
ENG108	First-Year Composition for ESL (3)	3 credits
COM110	Interpersonal Communication	3 credits
+COM225	Public Speaking	3 credits
+COM230	Small Group Communication	3 credits
+COM259	Communication in Business and Professions (3) **OR**	
+COM282AC	Volunteerism for Speech Communication: A Service Learning Experience (3)	3 credits
COM263	Elements of Intercultural Communication	3 credits
CRE101	Critical and Evaluative Reading I (3) **OR** equivalent as indicated by assessment	3 credits

Restricted Electives — 6-9 credits

BPC110	Computer Usage and Applications	3 credits
CIS105	Survey of Computer Information Systems	3 credits
+COM259	Communication in Business and Professions	3 credits
+GBS233	Business Communication (3)	3 credits
+SWU292	Effective Helping in a Diverse World	3 credits
+ENG111	Technical Writing	3 credits
IBS109	Cultural Dimension for International Trade	3 credits

GLOBAL CITIZENSHIP

The interdisciplinary Academic Certificate 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; 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.

Program Note

- *+ indicates course has prerequisite and/or corequisites*

Required Courses — 7 credits

GLO298AA Special Projects — 1 credit

Select 6 credits from the following courses: — 6 credits

ASB102	Introduction to Cultural and Social Anthropology (3)	
GCU121	World Geography I: Eastern Hemisphere (3)	
GCU122	World Geography II: Western Hemisphere (3)	
POS120	World Politics (3)	
SOC101	Introduction to Sociology (3)	
+SWU292	Effective Helping in a Diverse World (3)	

Restricted Electives — 8-9 credits

Select 8-9 credits from one of the four tracks:

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 credits
ASM104	Bones, Stones, and Human Evolution	4 credits
BIO105	Environmental Biology	4 credits
BIO107	Introduction to Biotechnology	4 credits
CHM107	Chemistry and Society	3 credits
GLG110	Geological Disasters and the Environment	3 credits
GPH111	Introduction to Physical Geography	4 credits
+GPH210	Introduction to Environmental Geography	3 credits
PHS120	Introduction to Physical Science: Astronomy, Meteorology, Geology and Oceanography	4 credits
SOC180	Social Implications of Technology	3 credits

WOMEN'S STUDIES

The Academic Certificate in Women's Studies serves different types of students, including those who already have degrees but are interested in exploring Women's Studies, those who plan to pursue another academic major but want to develop specialization in Women's Studies, and those who plan to major in Women's Studies at a university.

There are many academic opportunities for those interested in pursuing women's studies, including BA degree programs at ASU, NAU, and UA. With careful planning and advisement, students can incorporate the Women's Studies certificate into an Associate in Arts degree for transfer into a university program.

For more information on the Women's Studies program, events, and courses, contact Dr. Nancy Hellner, Program Director, at **480-461-7636.**

The Academic Certificate in Women's Studies is a 15-credit program that is designed to be as flexible as possible so that students can choose courses that best suit their personal interests and academic goals.

Program Prerequisites — None

Required Course

WST100	Women and Society	3 credits

Restricted Electives

Select 12 credits from the following courses:

ASB211	Women in Other Cultures	3 credits
ENH/WST284	19th Century Women Writers	3 credits
ENH/WST285	Contemporary Women Writers	3 credits
HIS201	History of Women in America	3 credits
HLR/WST286	Women and Health	3 credits
HUM/WST209	Women and Film	3 credits
* PSY235	Psychology of Gender Differences	3 credits
* PSY258	Domestic Problems and Crisis	3 credits

REL/WST290	Women and Religion	3 credits
SOC212	Women and Men in Changing Society	3 credits
WST105	Women of Color	3 credits
WST110	Women and Gender: A Feminist Psychology	3 credits
WST120	Gender, Class, and Race	3 credits
WST128	Law and Violence Against Women	3 credits
WST160	Women and Early American Experience	3 credits
WST161	American Women Since 1920	3 credits
* WST195	Preparation for Social Research in WST	3 credits
WST200	Essential Feminist Writing	3 credits
WST261	Native Women's Literature: The Americas	3 credits

** These courses have a prerequisite of PSY101 Introduction to Psychology.*

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 course work.

The District also supports professional development for certified teachers through the offering of course work, 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 course work, degrees, and/or programs at all 10 Maricopa Colleges.

TEACHER EDUCATION OPTIONS

Instructional Aide/Associate/ Paraprofessional Preparation

- *Associate in Arts in Elementary Education (AAEE):* designed for the student who plans to transfer to an Elementary Education program (also 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)
- *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 and 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 and PC)
- *Associate in Transfer Partnership (ATP)* in K-12 Classroom Instructional Support: designed for the student planning to become an Instructional Associate/ Paraprofessional in K-12. Transfers as a block without loss of credit to Charter Oak State College. (Offered at EMCC, MCC, and 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 and PC)

Elementary Education Teacher Preparation

- *Associate in Arts in Elementary Education (AAEE):* designed for the student who plans to transfer to an Elementary Education program (also 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)
- *Associate in Transfer Partnership (ATP) in Elementary Education:* designed for students planning to transfer into Elementary Education at Arizona State University Main and Arizona State University West. Transfers as a block without loss of credit. (Offered at all 10 Maricopa Community Colleges)
- *Baccalaureate Partnership Program with Charter Oak State College:* designed for students in elementary education who will transfer to Charter Oak State College after completing 90 credits at the community college. (Offered at RSC)

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)
- *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)

Elementary, Secondary, and Special Education Teacher Preparation

- *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 four-semester plan with courses selected to enhance students' knowledge of teaching as a career and to prepare for certification. (Offered at MCC)
- *Teachers Today and Tomorrow (T3):* this two-semester interdisciplinary learning community combines English, education, and technology. After two semesters, education courses along with technology courses designed for teacher education majors complement the general education courses required for university transfer. (Offered at CGCC and Williams Campus)
- *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 10 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)

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 and SCC)
- *Master's Degree Partnership with Walden University:* Up to 12 credits of the post-baccalaureate teacher prep program can apply toward the 30 credits required for an online MS in Education Degree. (Offered at RSC and 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 and 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 and 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 course work required for those with valid Arizona teaching certificates to qualify for the Reading Specialist Endorsement in Arizona. (Offered at MCC and PC)
- *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 School. (All courses offered online at RSC; MCC offers Reading and ESL on campus)

Note: Refer to specific college catalog for degree, program, and course information. Students are strongly encouraged to seek academic advisement prior to enrolling.

EARLY CHILDHOOD EDUCATION AND FAMILY STUDIES OPTIONS

It is important to note that there is a wide range of difference in educational requirements for early childhood education teachers, both locally and nationally. Given this, it is important that you check with the contact person at the college you are planning to attend prior to enrolling in course work.

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)
- *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 individuals to assume entry-level positions within nursery schools, preschools, and day care centers. (Offered at SCC)
- *Associate in Applied Science (AAS) in Child Development:* includes a sequence of interactive classes and a variety of field experiences. 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 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, MCC, and SCC)

- *Associate in Applied Science (AAS) in Family Resources:* 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 Education:* designed for students planning on becoming a certified teacher in Early Childhood Education (birth through 3rd grade). Transfers as a block without loss of credit to Northern Arizona University. (Offered at GCC, MCC, PC, PVCC, RSC, and SCC)

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 childhood 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 nursery schools, preschools, and day care centers. (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) in Child Care:* designed to increase understanding of the education and care of young children. (Offered at MCC)
- *Certificate of Completion (CCL) in Classroom Management for Infants, Toddlers, and Preschool Children:* designed for understanding infants, toddlers and 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 Family Support:* designed to enhance the education and career of individuals interested in working with families or in agencies that provide services to families, or those who are presently involved with families or their supporting agencies. (Offered at PC)
- *Certificate of Completion (CCL) in Infant/Toddler Development:* prepares individuals to serve children from birth through age three and their families. (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, and SCC)
- *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: Refer to specific college catalog for degree, program, and course information. Students are strongly encouraged to seek academic advisement prior to enrolling.

College Contact Information for Education Programs

Chandler Gilbert Community College (CGCC)

Teacher Education:
Sharon Fagan (Pecos Campus) **480-732-7124**
sharon.fagan@cgcmail.maricopa.edu

Dr. Brenda Larson (Williams Campus) **480-988-8804**
Brenda.larson@cgcmail.maricopa.edu

Estrella Mountain Community College (EMCC)

Teacher Education:
Marsha Carlen **623-935-8479**
marsha.carlen@emcmail.maricopa.edu

Early Childhood Education:
Marsha Carlen **623-935-479**
marsha.carlen@emcmail.maricopa.edu

GateWay Community College (GWCC)

Teacher Education:
Elizabeth Skinner **602-286-8736**

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:
Transfer Services **480-461-7452 or 480-654-7600**

Dr. Richard Malena **480-461-7890**
richard.malena@mcmail.maricopa.edu

Early Childhood Education:
Dr. Diana Abel **480-461-7305**
diana.abel@mcmail.maricopa.edu

Dr. Christine Osgood **480-461-7938**
osgood@mail.mc.maricopa.edu

Paradise Valley Community College (PVCC)

Teacher Education:
Dr. Barbara Carlile **602-787-6659**
barbara.carlile@pvmail.maricopa.edu

Early Childhood Education:
Christie Colunga **602-787-7731**
christie.colunga@pvmail.maricopa.edu

Phoenix College (PC)

Teacher Education:
Ofelia Canez **602-285-7657**

Early Childhood Education:
Alverta McKenzie **602-285-7292**

Rio Salado College (RSC)

Teacher Education: **480-517-8580**
academic.advisement@email.rio.maricopa.edu

Early Childhood Education: **480-517-8580**
academic.advisement@email.rio.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**

COLLEGE OF ATTENDANCE

Completion of teacher education course work for the various degrees, certificates, and programs available can be met through the completion of teacher education course work 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 COURSE WORK

Students taking Teacher Education Courses are expected to:

- Receive a grade of "C" or better in all course work.
- 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.
- 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 (UA), or Northern Arizona University (NAU) to obtain a teacher education degree may also take their prerequisite course work at any Maricopa college. For information on transferability of course work that meets the universities' requirements for admission into their teacher preparation baccalaureate programs, students must contact an adviser at that college/university.

TEACHER EDUCATION SCHOLARSHIPS

The National Center for Teacher Education (NCTE) has created scholarships for teacher education students attending the Maricopa Community Colleges. Currently there are four $500 scholarship awards available for each of the 10 Maricopa colleges.
Visit **http://www.dist.maricopa.edu/academic/teachered/scholarship.html** for additional information.

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/Scholarship/05-06scholarship.php** 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, and 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.

Career and Technical Programs

MCC offers a wide variety of Associate in Applied Science (AAS) Degrees and Certificate of Completion (CCL) programs to help you prepare for a new career or enhance your skills in your current career. These programs emphasize skills and knowledge needed in today's workforce. This section describes those programs and their individual requirements.

Register by phone
480.461.7700

VIsit us online
www.mc.maricopa.edu

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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 Certificates/Degrees

- **Associate in Applied Science in Administration of Justice Studies**
- **Associate in Applied Science in Emergency Management**
- **Certificate of Completion in Emergency Management**
- **Associate in Applied Science in Judicial Studies**
- **Certificate of Completion in Judicial Studies**
- **Associate in Applied Science in Police Science**
- **Certificate of Completion in Police Science**
- **Certificate of Completion in Victimology**
- **Certificate of Completion in Forensic Investigation**

ASSOCIATE IN APPLIED SCIENCE IN ADMINISTRATION OF JUSTICE STUDIES (64 CREDITS)

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 parole, 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 other AJS courses) OR	
JUD+++++	Judicial Studies (Note: any JUD course)	15-18

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

+ Indicates course has prerequisite

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 (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
AJS200 or AJS258 or AJS270 recommended.
Natural Sciences
Any approved general education course from the Natural Sciences area 4

ASSOCIATE IN APPLIED SCIENCE IN EMERGENCY MANAGEMENT (64 CREDITS)

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
AJS/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 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 in the Natural Sciences area 4

CERTIFICATE OF COMPLETION IN EMERGENCY MANAGEMENT (18 CREDITS)

The Certificate of Completion (CCL) 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 (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
AJS/FSC224 Incident Command Systems 3

ASSOCIATE IN APPLIED SCIENCE IN JUDICIAL STUDIES (64 CREDITS)

The Associate in Applied Science (AAS) degree in Judicial Studies develops skills and knowledge necessary for pursuing a career in the court system. In addition, the program is wall tailored for those currently employed within the court allowing them to enhance or expand their job skills. The curriculum combines General Education with judicial studies coursework.

+ Indicates course has prerequisite

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
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)

AJS+++	Administration of Justice Studies	
LAS+++	Legal Assisting	
POS+++	Political Science	6-9

General Education Requirements (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
(AJS200 or AJS225 recommended)

Natural Sciences

Any approved general education course from the Natural Sciences area . . . 4

CERTIFICATE OF COMPLETION IN JUDICIAL STUDIES (15 CREDITS)

The Certificate of Completion (CCL) in Judicial Studies is a concentrated program of study that explores court issues. It provides an excellent overview of the court processes and builds skills necessary for a successful career in the court. Many of the JUD courses are offered on-line.

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 IN POLICE SCIENCE (64 CREDITS)

The Associate in 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.

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+++	Administration of Justice Studies OR approved course	
JUD+++++	Any Judicial Studies course	3-6

General Education Requirements (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 (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 a higher level mathematics course	3

+ Indicates course has prerequisite

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

CERTIFICATE OF COMPLETION IN POLICE SCIENCE (18 CREDITS)

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 IN VICTIMOLOGY (15 CREDITS)

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 work 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 IN FORENSIC INVESTIGATION (18 CREDITS)

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
AJS/EMT/ FSC/SWU258	Victimology and Crisis Management	3
AJS275	Criminal Investigation I	3
AJS290AI	Theories of Criminal Behavior	1
AJS290AU	Child Abuse Investigation.	1
AJS290BH	Sex Crimes Investigation	1

Agriculture/Animal Science Certificates/Degrees

- **Associate in Applied Science in Agribusiness**
- **Certificate of Completion in Pest Management Aide**
- **Certificate of Completion in Animal Science Aide**
- **Certificate of Completion in Animal Science Specialist**

ASSOCIATE IN APPLIED SCIENCE IN AGRIBUSINESS (64 CREDITS)

The Associate in Applied Science (AAS) in Agribusiness prepares students for a career as technicians, supervisors, managers, or owners of farm, ranch, and dairy operations. Graduates may also work in the food production, manufacture and distribution industries as well as in governmental agencies at local, state and federal levels. The two-year degree transfers directly to the bachelor of science in Agribusiness at ASU East as well as the bachelor of science degree in Agricultural Technologies at the University of Arizona.

Required Courses (11 credits)

AGB139	Agribusiness Computer Operations	3
AGS164	Plant Growth and Development	4
AGS260	Origin and Composition of Soils	3

Restricted Electives

Students will choose one of the three tracks (19-27 credits)

Track I – Pest Management (19 credits)

AGS170	Pesticides	.5
AGS171	Insect Identification	.5
AGS172	Household Pests	.5
AGS173	Wood Destroying Pests.	.5
AGS174	Regulations: Federal and State	.5
AGS175	Pesticide Safety and Use of Equipment	.5
AGS176	Environment and Toxicology of Pesticides	.5
AGS177	Aquatic Pest Control	.5
AGS178	General Pest Control	.5
AGS179	Terrestrial Weed Control	.5

+ Indicates course has prerequisite

AGS183	Urban Plant Identification and Use	3
AGS268	Insect, Weed and Pest Control	4
AGS284	Lawn and Turf Care	3
AGS296WD	Cooperative Education	4

Track II – Animal Science (27 credits)

AGB132	Agribusiness Accounting and Office Mgmt	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
ANS290	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 to Equine Science	3

Free Electives (4-9 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 & Fine Arts		
	Any approved general education course in the Humanities and Fine Arts area	3
Social and Behavioral Sciences		
ECN111	Macroeconomic Principles	3
Natural Sciences		
CHM130	Fundamental Chemistry (3) AND	
CHM130LL	Fundamental Chemistry Laboratory (1)	4

CERTIFICATE OF COMPLETION IN PEST MANAGEMENT AIDE (13 CREDITS)

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	.5
AGS171	Insect Identification	.5
AGS172	Household Pests	.5
AGS173	Wood Destroying Pests	.5
AGS174	Regulations: Federal and State	.5
AGS175	Pesticide Safety and Use of Equipment	.5
AGS176	Environment and Toxicology of Pesticides	.5
AGS177	Aquatic Pest Control	.5
AGS178	General Pest Control	.5
AGS179	Terrestrial Weed Control	.5
AGS268	Insect, Weed and Pest Control	4

CERTIFICATE OF COMPLETION IN ANIMAL SCIENCE AIDE (16 CREDITS)

The Certificate of Completion (CCL) in Animal Science Aide prepares students to work as farm hands, herdsmen, technicians, or supervisors in farm, ranch, and dairying. In addition, the program prepares students for jobs with government agencies or other agencies involved with the technical phases of the animal science industry.

Required Courses (16 credits)

AGB139	Agribusiness Computer Operations	3
AGS164	Plant Growth and Development	4
ANS110AA	Introduction to Animal Science	3
ANS115	Livestock Selection and Evaluation	3
ANS222	Animal Anatomy and Physiology	3

CERTIFICATE OF COMPLETION IN ANIMAL SCIENCE SPECIALIST (32 CREDITS)

The Certificate of Completion (CCL) in Animal Science Specialist prepares students to work as technicians, supervisors, managers, or owners in farm, ranch, or dairy operations. In addition, the program prepares students for jobs with government agencies or other agencies involved with the technical phases of the animal science industry.

Required Courses (32 credits)

AGS165AA	Crop Science	3
AGS260	Origin and Composition of Soils	4
ANS212	Livestock Production and Management	3
ANS213	Animal Feeding	3
ANS223	Animal Diseases	3

+ Indicates course has prerequisite

Apparel Merchandising and Design Certificates/Degrees

- **Associate in Applied Science in Apparel Merchandising and Design**
- **Certificate of Completion in Costume Design & Production**
- **Certificate of Completion in Image Consultant**
- **Certificate of Completion in Retail Sales Manager**

ASSOCIATE IN APPLIED SCIENCE IN APPAREL MERCHANDISING AND DESIGN (64 CREDITS)

The Associate in Applied Science (AAS) in Apparel Merchandising and Design prepares students for entry-level positions in the 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 (15 credits)

TEC105	Clothing Selection	3
TEC109	Introduction to Fashion Merchandising	3
TEC111	Clothing Construction	3
TEC151	Display and Visual Merchandising	3
TEC222	Textiles	3

Restricted Electives (23-24 credits)

Students will select one of two tracks

Track I – Apparel Merchandising (23-24 Credits)

ACC109	Accounting Concepts	3
BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3) OR	
+GBS233	Business Communication (3) OR	
+MGT230	Management and Leadership II (3) OR	
MGT251	Human Relations in Business (3) OR	
MGT253	Owning and Operating a Small Business (3) OR	
MKT267	Principles of Salesmanship (3) OR	
TEC106	History of Fashion (3) OR	
+TEC274AB	Fashion Merchandising Study Tour (2)	2-3
MGT229	Management and Leadership I	3
MKT/TEC200	Retail Buying	3
MKT263	Advertising Principles	3
MKT268	Merchandising	3
MKT271	Principles of Marketing	3
+TEC296WC	Cooperative Education	3

Track II – Apparel Design (23-24 credits)

TEC106	History of Fashion	3
+TEC124	Advanced Clothing Construction	3
+TEC127	Computer-Assisted Fashion Design	2
TEC134	Fashion Illustration I	3
+TEC225	Pattern Design I	3
+TEC226	Draping for Fashion Design	3
+TEC236	Portfolio Development	1
+TEC271AC	Fashion Design Internship	3
+ART113	Color (3) OR	
+TEC135	Fashion Illustration II (3) OR	
+TEC223	Tailoring (3) OR	
+TEC230	Pattern Design II (3) OR	
+TEC274AB	Fashion Merchandising Study Tour (2)	2-3

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

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 (Note: 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 (3) OR Equivalent as indicated by assessment OR approved math course which are required in a specific AAS program OR satisfactory completion of a higher mathematics course	3-5

Humanities & 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

PSY101	Introduction to Psychology	3

Natural Sciences

Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION IN COSTUME DESIGN & PRODUCTION (30 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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
TEC296WC	Cooperative Education (3) OR	
THP201AA	Theatre Production I (3)	3

CERTIFICATE OF COMPLETION IN IMAGE CONSULTANT (30 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (30 credits)

+ART113	Color (3) OR	
INT135	Color (3)	3
COM110	Interpersonal Communication	3
FON100	Introductory to Nutrition	3
PSY132	Psychology and Culture	3
TEC105	Clothing Selection	3
TEC222	Textiles	3
TEC245	Wardrobe Strategies	3
TEC250	Apparel Quality Analysis	3
TEC271++	Fashion Design Internship (any module)	6

CERTIFICATE OF COMPLETION IN RETAIL SALES MANAGER (30 CREDITS)

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 Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (30 credits)

BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
MGT229	Management and Leadership I	3
MGT253	Owning and Operating a Small Business	3
MKT267	Principles of Salesmanship	3
MKT268	Merchandising	3
TEC151	Display and Visual Merchandising	3
TEC222	Textiles	3
TEC250	Apparel Quality Analysis	3
+TEC271++	Fashion Design Internship (any module)	3
TQM101	Quality Customer Service	3

Architecture Certificates/Degrees

- **Associate in Applied Science in Architecture**
- **Certificate of Completion in Residential Drafting CADD Level II**
- **Certificate of Completion in Commercial Drafting CADD Level II**
- **Certificate of Completion in Architectural Detailing CADD Level III**
- **Certificate of Completion in Architectural CADD Level III**

+ Indicates course has prerequisite

ASSOCIATE IN APPLIED SCIENCE IN ARCHITECTURE (67 CREDITS)

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 companies/agency.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites (3-5 credits)

GTC107	Technical Mathematics I (3) OR
MAT120	Intermediate Algebra (5) OR
MAT121	Intermediate Algebra (4) OR
MAT122	Intermediate Algebra (3) 3-5

Required Courses (18-20 credits)

ARC120	Design Fundamentals I 3
CNS130	Construction Drawing Foundation 3
CNS180	Building Construction Methods, Materials, & Equipment 3
CNS181	Cost Estimating I 3
DFT224	Landscape Architectural Drafting 3
GTC108	Technical Mathematics II (3) OR
MAT150	College Algebra / Functions (5) OR
MAT151	College Algebra / Functions (4) OR
MAT152	College Algebra / Functions (3) 3-5

Restricted Electives

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	Design Foundation 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
+ARC282++	Volunteerism for Architecture: A Service Learning Experience 1-3
+ARC290++	Architecture Internship 1-3
BLT262	Introduction International Residential Code (IRC). 3
+BPC170	Computer Maintenance I: A+ Prep. 3
CIS105	Survey of Computer Information Systems (3) OR
CSC180	Computing for Scientists, Engineers and Medical/Health Specialists (3). 3
+CIS190	Introduction to Local Area Networks . . . 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	Design Foundation I 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
BLT262	Introduction International Residential Code (IRC). 3
+BPC170	Computer Maintenance I: A+ Prep. 3
CIS105	Survey of Computer Information Systems (3) OR
CSC180	Computing for Scientists, Engineers and Medical/Health Specialists (3). 3
+CIS190	Introduction to Local Area Networks . . . 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

+ Indicates course has prerequisite

BLT262	Introduction International Residential Code (IRC)	3
BLT263	General Building Code	3
+BPC170	Computer Maintenance I: A+ Prep	3
CIS105	Survey of Computer Information Systems (3) OR	
CSC180	Computing for Scientists, Engineers and Medical/Health Specialists (3)	3
+CIS190	Introduction to Local Area Networks	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
REA179	Real Estate Principles I	3
+REA180	Real Estate Principles II	3
+REA281	Principles of Real Estate Law	3
+REA282	Real Estate Finance	3
+REA284	Real Estate Appraisal	3
+REA285	Real Estate Selling	3
+REA286	Advance Real Estate Appraisal	3

General Studies (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 GTC108, in required courses area . . . 0

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 from the Social and Behavioral Sciences area . . . 3

Natural Sciences

PHY111 General Physics I . . . 4

CERTIFICATE OF COMPLETION IN RESIDENTIAL DRAFTING CADD LEVEL II (21 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites

Certificate of Completion in Computer Aided Designs & Drafting CADD Level I . . . 9

Required Courses (18 credits)

+ARC161	Residential Architecture Drafting	3
+ARC162	Advanced Residential Architecture Drafting	3
+ARC225	Fundamentals of Architectural Detailing	3
+ARC290AC	Architecture Internship	3
BLT262	Introduction International Residential Code (IRC)	3
CNS130	Construction Drawing Foundation	3

CERTIFICATE OF COMPLETION IN COMMERCIAL DRAFTING CADD LEVEL II (21 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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites

Certificate of Completion in Computer Aided Designs & Drafting CADD Level I . . . 9

Required Courses (21 credits)

+ARC163	Commercial Architecture Drafting	3
+ARC164	Advanced Commercial Architecture Drafting	3
+ARC226	Advanced Architectural Detailing	3
+ARC290AC	Architecture Internship	3
BLT263	General Building Code	3
CNS130	Construction Drawing Foundation	3
CNS180	Building Construction Methods, Materials, & Equipment	3

+ Indicates course has prerequisite

CERTIFICATE OF COMPLETION IN ARCHITECTURAL DETAILING CADD LEVEL III (27 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites

Certificate of Completion in Computer Aided Designs & Drafting CADD Level I 9

Required Courses (27 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
+ARC290AC	Architecture Internship	3
CNS130	Construction Drawing Foundation	3
CNS180	Building Construction Methods, Materials, & Equipment	3

CERTIFICATE OF COMPLETION IN ARCHITECTURAL CADD LEVEL III (27 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisite

Certificate of Completion in Computer Aided Designs & Drafting CADD Level I 9

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
+ARC290AC	Architecture Internship	3
CNS130	Construction Drawing Foundation	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 Technology Certificates/Degrees

- **Associate in Applied Science in Automotive Performance Technology**
- **Certificate of Completion in Air Conditioning**
- **Certificate of Completion in Automotive Electrical Systems**
- **Certificate of Completion in Brakes, Alignment, Suspension and Steering**
- **Certificate of Completion in Engine Performance and Diagnosis**
- **Certificate of Completion in Transmissions and Power Trains**

ASSOCIATE IN APPLIED SCIENCE IN AUTOMOTIVE PERFORMANCE TECHNOLOGY (69 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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++	Auto Tech Internship (1-3) (any module) OR	1-3
AUT282++	Volunteerism for Automotive: A Service-Learning Experience (1-3) (any module) OR	1-3
AUT296++	Cooperative Education (1-4) (any module) OR	1-4
AUT298++	Special Projects (1-3) (any module)	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	
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	0
Humanities & 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 IN AIR CONDITIONING (13 CREDITS)

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 IN AUTOMOTIVE ELECTRICAL SYSTEMS (13 CREDITS)

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 IN BRAKES, ALIGNMENT, SUSPENSION AND STEERING (15 CREDITS)

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 IN ENGINE PERFORMANCE AND DIAGNOSIS (17 CREDITS)

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

+ Indicates course has prerequisite

CERTIFICATE OF COMPLETION IN TRANSMISSIONS AND POWER TRAINS (11 CREDITS)

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 in Biotechnology**
- **Certificate of Completion in Biotechnology**

ASSOCIATE IN APPLIED SCIENCE IN BIOTECHNOLOGY (64 CREDITS)

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)

High school diploma or GED

+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
+CHM260LL	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 0

Mathematics

Met by MAT courses in program prerequisites area 0

Humanities & 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 0

CERTIFICATE OF COMPLETION IN BIOTECHNOLOGY (41 CREDITS)

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.

+ Indicates course has prerequisite

Program Requirements
Students must earn a grade of "B" or better in BIO212AA, BIO212AB, BIO212AC.

Program Prerequisites
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
+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 in Business
- Certificate of Completion in International Trade
- Certificate of Completion in Management
- Certificate of Completion in Marketing
- Certificate of Completion in Project Management
- Certificate of Completion Computer Applications: Microsoft Office Specialist/Basic
- Certificate of Completion Computer Applications: Microsoft Office Specialist/Advanced
- Certificate of Completion in Technology Support Analyst Level I
- Certificate of Completion in Technology Support Analyst Level II
- Certificate of Completion in Real Estate
- Certificate of Completion in Retail Management
- Certificate of Completion in Salesmanship
- Certificate of Completion in Small Business
- Associate in Applied Science in Organizational Management
- Certificate of Completion in Organizational Leadership

ASSOCIATE IN APPLIED SCIENCE IN BUSINESS (65 CREDITS)

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 business, technology support analyst, web technology, project management, or small business. The program includes both General Education and business coursework.

Program Notes
**BPC110 is required for Track 7.

Required Courses (29 credits)

ACC109	Accounting Concepts	3
**BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
GBS151	Introduction to Business (3) OR	
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	2

Restricted Electives (11-15 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 (15 credits)

MGT147	Supply Chain Management	3
MGT229	Management and Leadership I	3
MGT276	Personnel/Human Resources Management	3
TQM220	Leadership and Enpowerment Strategies	2
TQM230	Teamwork Dynamics	2
TQM235	Motivation, Evaluation, and Recognition Systems	2

+ Indicates course has prerequisite

Track III - Marketing (15 credits)

MKT101	Introduction to Public Relations (3) OR	
+MKT277	Advanced Sales (3)	3
MKT263	Advertising Principles	3
MKT267	Principles of Salesmanship	3
MKT268	Merchandising	3
+MKT273	Marketing Research	3

Track IV - Management Information Systems (15 credits)

CIS117DM	Microsoft Access (3) OR	
CIS276	Database Management Systems (3)	3
CIS150AB	Object-Oriented Programming	3
+CIS159	Visual Basic Programming I	3
CIS169	Introduction to VB for Applications (3) OR	
+CIS259	Visual Basic Programming II (3)	3
CIS225AB	Object-Oriented Analysis & Design	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	
REA284	Real Estate Appraisal	3
REA286	Advanced Real Estate Appraisal (3) OR	
REA288	Real Estate Investment Strategy (3)	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 - Technology Support Analyst (15 credits)**

(Note: **BPC110 is required for track seven.)

BPC/OAS111AA	Computer Keyboarding I	1
BPC/CIS121AE	Windows Operating System: Level I	1
BPC125	Microcomputer Set-up and Maintenance	1
BPC/CIS133AA	The Internet/World Wide Web: Level I	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
GBS104	Quality Telephone Techniques	1
ITS172	Viruses and Other Malicious Software	1

Track VIII - Web Technology (11 credits)

CIS133DA	Internet/Web Development Level I	3
+CIS233AB	Internet Web Publishing: Front Page Level I	1
+CIS233AC	The Internet Web Publishing: Dreamweaver Level I	1
+CIS233DA	Internet/Web Development Level II	3
+CIS235	e-Commerce	3

Track IX - Project Management (14 credits)

BPC/CIS224	Project Management Microsoft Project for Windows	3
+MGT241	Principles of Project Management	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

Track X - Small Business (13-14 credits)

+ACC115	Computerized Accounting	2
CIS131AA	Doing Business on the Internet	1
+CIS233AB	Internet Web Publishing: Front Page 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

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 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	
MAT121	Intermediate Algebra (4) OR	
MAT122	Intermediate Algebra Accelerated (3) OR 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 prerequisite

CERTIFICATE OF COMPLETION IN INTERNATIONAL TRADE (21-23 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.

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	
FRE+++	Any FRE/French course (3-4) OR	
GER+++	Any GER/German course (3-4) OR	
ITA+++	Any ITA/Italian course (3-4) OR	
JPN+++	Any JPN/Japanese course (3-5) OR	
SPA+++	Any SPA/Spanish course (3-4)	3-5

CERTIFICATE OF COMPLETION IN MANAGEMENT (32-34 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (21 credits)

GBS151	Introduction to Business	3
GBS205	Legal, Ethical, and Regulatory Issues/Business	3
+GBS233	Business Communication	3
MGT229	Management and Leadership I	3
+MGT230	Management and Leadership II	3
MGT251	Human Relations in Business	3
MKT271	Principles of Marketing	3

Restricted Electives (11-13 credits)

Group I - Computer

CIS105	Survey of Computer Information Systems (3) OR	
BPC110	Computer Usage and Applications (3)	3

Group II - Communication

COM100	Introduction to Human Communication (3) OR	
COM110	Interpersonal Communication (3) OR	
COM225	Public Speaking (3) OR	
COM230	Small Group Communication (3)	3

Group III - Total Quality Management

TQM101	Quality Customer Service (3) OR	
TQM201	Total Quality Concepts (2) OR	
TQM214	Principles of Process Improvement (2)	2-3

Group IV - Accounting

ACC107	Bookkeeping Theory and Practice (4) OR	
ACC109	Accounting Concepts (3) OR	
ACC111	Accounting Principles (3)	3-4

CERTIFICATE OF COMPLETION IN MARKETING (32-34 CREDITS)

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 want to advance and update their training.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (21 credits)

GBS205	Legal, Ethical & Regulatory Issues/Business	3
+GBS233	Business Communication	3
MGT229	Management and Leadership I (3) OR	
MGT251	Human Relations in Business (3)	3
MKT263	Advertising Principles	3
MKT267	Principles of Salesmanship	3
MKT268	Merchandising	3
MKT271	Principles of Marketing	3

Restricted Electives (11-13 credits)

Group I - Computer

CIS105	Survey of Computer Information Systems (3) OR	
BPC110	Computer Usage and Applications (3)	3

Group II - Communication

COM100	Introduction to Human Communication (3) OR	
COM110	Interpersonal Communication (3) OR	
COM225	Public Speaking (3) OR	
COM230	Small Group Communication (3)	3

Group III - Total Quality Management

TQM101	Quality Customer Service (3) OR	
TQM201	Total Quality Concepts (2) OR	
TQM214	Principles of Process Improvement (2)	2-3

+ Indicates course has prerequisite

Group IV - Accounting

ACC107	Bookkeeping Theory and Practice (4) OR
ACC109	Accounting Concepts (3) OR
ACC111	Accounting Principles (3) 3-4

CERTIFICATE OF COMPLETION IN PROJECT MANAGEMENT (14 CREDITS)

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 Notes

Students must earn a grade of "C" or better for all courses required within the program.

Program Prerequisites (0-2 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
+MGT241	Principles of Project Management 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

CERTIFICATE OF COMPLETION IN COMPUTER APPLICATIONS: MICROSOFT OFFICE SPECIALIST/BASIC (16-21 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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
BPC135DK	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 COMPUTER APPLICATIONS: MICROSOFT OFFICE SPECIALIST/ADVANCED (19-21 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

+ Indicates course has prerequisite

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
BPC/OAS123	Introduction to Speech Recognition (SR)	1
BPC133AA	Internet/Web Development Level I-A	1
+BPC133BA	Internet/Web Development Level I-B	1
+CIS233AA	Internet/Web Development Level III	1
+CIS233BA	Internet/Web Development Level IIII	1
+OAS103AA	Computer Typing: Skill Building I	1

CERTIFICATE OF COMPLETION IN TECHNOLOGY SUPPORT ANALYST LEVEL I (16 CREDITS)

The Certificate of Completion (CCL) in Technology Support Analyst Level I is designed to prepare students who are interested in becoming part of the support system to any office configuration. The curriculum will equip students with marketable skills for adaptation to the specific tasks of the automated office.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (16 credits)

BPC110	Computer Usage and Applications	3
BPC121AE	Windows Operating System: Level I	1
BPC111AA	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 IN TECHNOLOGY SUPPORT ANALYST LEVEL II (17 CREDITS)

The Certificate of Completion (CCL) in Technology Support Analyst Level II is designed to provide students with advanced office application skills to prepare them for advancement to higher level positions within the office environment.

Required Courses (17 credits)

BPC122AE	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	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

CERTIFICATE OF COMPLETION IN REAL ESTATE (18 CREDITS)

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).

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

REA179 is a pre-licensing course. It does not count toward continuing education clock hours.

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

+ Indicates course has prerequisite

REA283	Property Management (3) OR	
REA284	Real Estate Appraisal (3)	3
REA286	Advanced Real Estate Appraisal (3) OR	
REA288	Real Estate Investment Strategy (3)	3

CERTIFICATE OF COMPLETION IN RETAIL MANAGEMENT (33 CREDITS)

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.

Program Notes

Students must earn a "C" or better in all courses within the program.

Required Courses (33 credits)

ACC111	Accounting Principles I	3
BPC110	Computer Usage & Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
ENG101	First-Year Composition (3) OR	
ENG107	First-Year Composition for ESL (3)	3
GBS110	Human Relations in Business and Industry (3) OR	
MGT251	Human Relations in Business (3)	3
GBS131	Business Calculations (3) OR	
MAT102	Mathematical Concepts & Applications (3)	3
GBS233	Business Communication	3
COM110	Interpersonal Communication (3) OR	
IND133	Speaking in Business (3)	3
MGT101	Techniques of Supervision (3) OR	
MGT229	Management and Leadership (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

CERTIFICATE OF COMPLETION IN SALESMANSHIP (18 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (18 credits)

COM100	Introduction to Human Communication (3) OR	
COM230	Small Group Communication (3)	3
+GBS233	Business Communication	3
MGT251	Human Relations in Business	
MKT267	Principles of Salesmanship	3
+MKT277	Advanced Sales	3
TQM101	Quality Customer Service	3

CERTIFICATE OF COMPLETION IN SMALL BUSINESS (13-14 CREDITS)

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 in their own businesses.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

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

ASSOCIATE IN APPLIED SCIENCE IN ORGANIZATIONAL MANAGEMENT (61 CREDITS)

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.

+ Indicates course has prerequisite

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.

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 IN ORGANIZATIONAL LEADERSHIP (17-18 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course in the required courses area.

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) OR
GBS233	Business Communications (3) 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 Technician Training Certificates/Degrees

- **Associate in Applied Science in Caterpillar Technician Training**

ASSOCIATE IN APPLIED SCIENCE IN CATERPILLAR TECHNICIAN TRAINING (73 CREDITS)

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 Notes

Students must earn a grade of "C" or better for all courses in program.

Program Prerequisites (0-3 credits)

GTC129 Manufacturing Welding (3) OR
permission of instructor

Required Courses (52 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

+ Indicates course has prerequisite

General Education Requirements (21-23 credits)

First-Year Composition
- ENG101 First-Year Composition (3) AND
- ENG111 Technical Writing (3) 6

Oral Communication
- COM110 Interpersonal Communication (3) OR
- COM110AA Interpersonal Communication I (1) AND
- COM110AB Interpersonal Communication II (1) AND
- COM110AC Interpersonal Communication III (1) . . . 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 & 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 Relations, recommended 3

Natural Sciences (Waived)

Child and Family Studies Certificates/Degrees

- **Associate in Applied Science in Early Care and Education**
- **Certificate of Completion in Early Care Specialist**
- **Associate in Applied Science in Family Life Education**
- **Certificate of Completion in Parent Education**
- **Certificate of Completion in Adolescent Development**
- **Certificate of Completion in Adult Aging and Development**
- **Certificate of Completion in Child and Family Organizations Management and Administration**

ASSOCIATE IN APPLIED SCIENCE IN EARLY CARE AND EDUCATION (64 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (36 credits)

- CFS102 Emergency Care for Child Care Providers. 1
- CFS176 Child Development 3
- CFS178 Survey of Early Childhood Education . . 3
- +CFS212 Creative Activities for the Young Child . . 3
- EED200 Foundations of Early Childhood Education 3
- EED212 Guidance, Management and the Environment. 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

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 satisfactory 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

+ Indicates course has prerequisite

Natural Sciences
Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION IN EARLY CARE SPECIALIST (30 CREDITS)

The Certificate of Completion (CCL) in Early Care Specialist curriculum prepares students for entry level position in early childhood programs. The sequence of coursework is designed to increase understanding of education and care of young children.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (27 credits)

CFS102	Emergency Care for Child Care Providers	1
CFS176	Child Development	3
CFS178	Survey of Early Childhood Education	3
+CFS212	Creative Activities for the Young Child	3
EED212	Guidance, Management and the Environment	3
EED215	Early Learning: Health, Safety, Nutrition and Fitness (3) OR	
EED220	Child, Family, Community & Culture (3) OR	
EED222	Introduction to the Exceptional Young Child (3)	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 credits)

Students must select courses from any combination of the following prefixes for a total of 3 credits.

+CFS+++++	Note: (Any CFS Course)	3
+ECH+++++	Note: (Any ECH Course)	3
+EED+++++	Note: (Any EED Course)	3
+ITD+++++	Note: (Any ITD Course)	3

ASSOCIATE IN APPLIED SCIENCE FAMILY LIFE EDUCATION (65 CREDITS)

The Associate in Applied Science (AAS) in Family Life Education will prepare individuals to enter the family life education, human development, or child and family organizations field at the paraprofessional level. Students at a paraprofessional level can expect to find employment opportunities in adoption and foster care, adult day care centers, crisis intervention programs, group and halfway houses, hospice care, senior citizen centers, social service agencies (both private and State/local government), facilities for the disabled and developmentally challenged individuals, community mental health clinics, psychiatric facilities, shelters and other child and family, community-based organizations.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (40 credits)

BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
CFS205	Human Development	3
CFS210	Family Life Education	3
CFS250	Social Policy and Families	3
+CFS258	Families in Society	3
+CFS259	Sexuality over the Life Span	3
CFS240	Human Behavior in Context	3
+FCS250	Portfolio Development and Professional Writing	3
+FCS260	Family and Consumer Science Internship	1
FON100	Introductory Nutrition	3

Students must complete one of the following blocks:

Block One - Parent Education (12 credits)

CFS190	Home-Based Visitation	3
CFS220	Introduction to Parenting and Family Development	3
CFS225	Foundations of Parent Education	3
CFS243	Cross-Cultural Parenting (3) OR	
EED276	Global Child Development (3)	3

Block Two – Adolescent Development (12 credits)

CFS183	Contemporary Issues in Adolescence	3
CFS249	Transition to Adulthood	3
CFS277	Adult-Adolescent Interaction	3
PSY101	Introduction to Psychology	3

Block Three - Adult Development and Aging (12 credits)

CFS247	Family Ties and Aging	3
CFS249	Transition to Adulthood	3
CFS251	Transitions: Work to Retirement	3
CFS252	Contemporary Issues in Aging	3

+ Indicates course has prerequisite

Block Four – Child and Family Organizations Management and Administration (12 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
CFS209	Child and Family Organizations: Project Management	3

General Education (25 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	3

Mathematics

+MAT102	Mathematical Concepts/Applications (3) OR	
+MAT122	Intermediate Algebra (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 from the Humanities and Fine Arts area . . . 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 IN PARENT EDUCATION (19 CREDITS)

The Certificate of Completion (CCL) in Parent Education will prepare individuals to enter the family life education with a focus on parent education. Students at a paraprofessional level can expect to find employment opportunities in adoption and foster care, crisis intervention programs, social service agencies (both private and state/local government), and other child and family, community-based organizations.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (19 credits)

BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
CFS190	Home-Based Visitation	3
CFS220	Introduction to Parenting and Family Development	3
CFS225	Foundations of Parent Education	3
CFS243	Cross-Cultural Parenting (3) OR	
EED276	Global Child Development (3)	3
+FCS250	Portfolio Development and Professional Writing	3
+FCS260	Family and Consumer Science Internship	1

CERTIFICATE OF COMPLETION IN ADOLESCENT DEVELOPMENT (19 CREDITS)

The Certificate of Completion (CCL) in Adolescent Development will prepare individuals to enter the family life education, human development, or child and family organizations field at the paraprofessional level. Students at a paraprofessional level can expect to find employment opportunities in adoption and foster care, crisis intervention programs, group and halfway houses, social service agencies (both private and state/local government), facilities for the disabled and developmentally challenged individuals, community mental health clinics, psychiatric facilities, shelters and other child and family, community-based organizations.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (19 credits)

BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
CFS183	Contemporary Issues in Adolescence	3
CFS249	Transition to Adulthood	3
CFS277	Adult-Adolescent Interaction	3
FCS250	Portfolio Development and Professional Writing	3
FCS260	Family and Consumer Science Internship	1
PSY101	Introduction to Psychology	3

CERTIFICATE OF COMPLETION IN ADULT AGING AND DEVELOPMENT (19 CREDITS)

The Certificate of Completion (CCL) in Adult Aging and Development will prepare individuals to enter the family life education, human development, or child and family organizations field at the paraprofessional level. Students at a paraprofessional level can expect to find employment opportunities in adult day care centers, crisis intervention programs, group and halfway houses, hospice care, senior citizen centers, social service agencies (both private and state/local government), facilities for the disabled and developmentally challenged individuals, community mental health clinics, psychiatric facilities, shelters and other child and family, community-based organizations.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

+ Indicates course has prerequisite

Required Courses (19 credits)

BPC110	Computer Usage and Applications (3) OR
CIS105	Survey of Computer Information Systems (3) 3
CFS247	Family Ties and Aging 3
CFS249	Transition to Adulthood 3
CFS251	Transitions: Work to Retirement. 3
CFS252	Contemporary Issues in Aging 3
+FCS250	Portfolio Development and Professional Writing 3
+FCS260	Family and Consumer Science Internship. 1

CERTIFICATE OF COMPLETION IN CHILD AND FAMILY ORGANIZATIONS MANAGEMENT AND ADMINISTRATION (19 CREDITS)

The Certificate of Completion (CCL) in Child and Family Organizations Management and Administration will prepare individuals to enter the family life education, human development, or child and family organizations field at the paraprofessional level. Students at a paraprofessional level can expect to find employment opportunities within management and administration of programs such as: adoption and foster care, adult day care centers, crisis intervention programs, group and halfway houses, hospice care, senior citizen centers, social service agencies (both private and State/local government), facilities for the disabled and developmentally challenged individuals, community mental health clinics, psychiatric facilities, shelters and other child and family, community-based organizations.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (19 credits)

BPC110	Computer Usage and Applications (3) OR
CIS105	Survey of Computer Information Systems (3) 3
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
CFS209	Child and Family Organizations: Project Management 3
+FCS250	Portfolio Development and Professional Writing 3
+FCS260	Family and Consumer Science Internship. 1

Community Health Advocate Certificates/Degrees

- **Certificate of Completion in Community Health Advocate, Diabetes**

CERTIFICATE OF COMPLETION IN COMMUNITY HEALTH ADVOCATE, DIABETES (13 CREDITS)

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.

Program Notes:

Students must earn a grade of "C" or better in all courses within the program.

Program Prerequisites (5 credits)

HCC130AA	Health Care Today (.5) AND
HCC130AB	Workplace Behavior in Health Care (.5) AND
HCC130AC	Personal Wellness and Safety (.5) AND
HCC130AD	Communication & Teamwork/ Health Care Organizations (.5) AND
HCC130AE	Legal Issues in Health Care (.5) AND
HCC130AF	Decision Making in the Health Care Setting (.5) 3
HCC146	Common Medical Terminology for Health Care Workers. 2

Required Courses (8 credits)

+CHA101	Introduction to Diabetes 2
+CHA102	Preventative Stages of Diabetes . . . . . 3 (Note: CHA102 has a course fee $25.00.)
+CHA103	Transcultural Advocacy 3

+ Indicates course has prerequisite

Computer Information Systems Certificates/Degrees

- Associate in Applied Science in Computer Information Systems
- Certificate of Completion in Computer Programming
- Associate in Applied Science in Programming and System Analysis
- Certificate of Completion in Programming and System Analysis
- Associate in Applied Science in Web Technology
- Certificate of Completion in Web Developer
- Certificate of Completion in Web Designer Associate
- Certificate of Completion in Web Designer
- Certificate of Completion in Web Server Administrator

ASSOCIATE IN APPLIED SCIENCE IN COMPUTER INFORMATION SYSTEMS (63 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (32-33 credits)

ACC111	Accounting Principles I	3
CIS105	Survey of Computer Information Systems	3
CIS117DM	Microsoft Access: Database Management (3) OR	
+CIS276	Data Base 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 & Fine Arts

Any approved general education course in the Humanities and Fine Arts area 3

Social and Behavioral Sciences

ECN111	Macroeconomic Principles (3) OR	
ECN112	Microeconomic Principles (3)	3

Natural Sciences

Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION IN COMPUTER PROGRAMMING (27 CREDITS)

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.

+ Indicates course has prerequisite

Required Courses (21 credits)

CIS105	Survey of Computer Information Systems 3
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)

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). 1-3

ASSOCIATE IN APPLIED SCIENCE (AAS) PROGRAMMING AND SYSTEM ANALYSIS (62-63 CREDITS)

The Associate in Applied Science (AAS) 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 Notes

Students must earn a grade of "C" or better for all courses required within the program.

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	Microsoft Command Line Operations (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
+CIS162AA	C: Level 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
+CIS224	Project Management Microsoft Project for Windows 3
+CIS250	Management Information Systems 3
+CIS259	Visual Basic Programming II 3
+CIS262	C Programming II. 3
+CIS262AA	C: Level 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 (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) 6

+ Indicates course has prerequisite

Oral Communication
Any approved general education course in the Oral Communication area 3
Critical Reading
Met by CRE101 in Program Prerequisites area 0
Mathematics
+MAT212 Brief Calculus 3
Humanities and Fine Arts
Any approved general education course in the Humanities and Fine Arts area 3
Social and Behavioral Sciences
ECN111 Macroeconomic Principles (3) OR
ECN112 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 IN PROGRAMMING AND SYSTEM ANALYSIS (25-26 CREDITS)

The Certificate of Completion (CCL) 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 Notes

Students must earn a grade of "C" or better for all courses required within the program.

Program Prerequisites (3 credits)

+ENG101 First-Year Composition (3) OR
+ENG107 First-Year Composition for ESL (3) OR equivalent 3

Required Courses (25-26 credits)

BPC/CIS117 DM 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 Microsoft Command Line Operations (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
+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

Select two courses from the following programming languages:
+CIS159 Visual Basic Programming I (3)
+CIS162 C Programming I (3)
+CIS162AA C: Level I (3)
+CIS162AB C++: Level I (3)
+CIS162AC Visual C ++: Level I (3)
+CIS162AD C# Level I (3)
+CIS163AA Java Programming: Level I (3). 6

ASSOCIATE IN APPLIED SCIENCE IN WEB TECHNOLOGY (64 CREDITS)

The Associate in Applied Science (AAS) in Web Technology is designed for students who want entry-level employment in one of the following areas: web technician, website designer, web developer, web programmer, web server administrator, web marketing manager, and web e-commerce manager.

Required Courses (35-39 credits)

CIS105 Survey of Computer Information Systems 3
BPC/CIS133DA Internet/Web Development Level I. 3
+CIS166AA Introduction to Java Scripting 3
+CIS233DA Internet/Web Development Level II 3
BPC/CIS224 Project Management Microsoft Project for Windows (3) OR
TQM240 Project Management in Quality Organizations (2) 2-3
TQM101 Quality Customer Service. 3

Select one of three tracks:

Track I - Web Designer (20 credits)

+CIS233AB Internet Web Publishing: Front Page Level I 1
+CIS233AC The Internet Web Publishing: Dreamweaver Level I 1
CIS120DF Computer Graphics: Adobe Photoshop . . 3
CIS120DC Computer Graphics: Macromedia Flash . . 3
+CIS235 e-Commerce 3
+CIS243++ Internet/Web Development Level III . . . 3

Select 6 credits from the following courses:
CIS220DC Advanced Web Programming with Macromedia Flash 3
+CIS234 XML Application Development 3
+CIS276 Database Management Systems 3

+CIS108	Electronic Portfolio Development (1) OR
+CIS282++	Volunteerism for Computer Information Systems: A Service-Learning Experience (1-3) OR
+CIS290++	Computer Information Systems Internship (1-3) OR
CIS298++	Special Projects (1-3) OR
CWE198++	Career/Work Experience (1-3). 1-3

Track II - Web Server Administrator (18 credits)

+CIS190	Introduction to Local Area Networks . . . 3
+CIS276	Database Management Systems 3

Select 12-13 credits from the following courses:

CIS126DA	UNIX Operating System (3) AND
+CIS226AA	Internet/Intranet Server Administration-UNIX (3) 6
CIS126DL	Linux Operating System (3) AND
CIS238DL	Linux System Administration (3) 6
+CIS191DL	Microsoft Windows NT System Administration (3) AND
+CIS226AB	Internet/Intranet Server Administration-Windows (3) 6
+CIS166AB	Web Scripting with Perl/CGI 3
+CIS166AE	Web Scripting with PHP: Hypertext Preprocessor (PHP) 3
+CIS108	Electronic Portfolio Development (1) OR
+CIS282++	Volunteerism for Computer Information Systems: A Service-Learning Experience (1-3) OR
+CIS290++	Computer Information Systems Internship (1-3) OR
CIS298++	Special Projects (1-3) OR
CWE198++	Career/Work Experience (1-3). 1-3
MST150++	Microsoft Windows (3) AND
MST152++	Microsoft Windows Server (4) 6-7

Track III - Web Developer (21 credits)

+CIS150AB	Object-Oriented Programming Fundamentals 3
+CIS234	XML Application Development 3
+CIS225AB	Object-Oriented Analysis and Design . . 3
+CIS276	Database Management Systems 3

Select 9 credits from the following courses:

CIS120DC	Computer Graphics: Macromedia Flash. 3
+CIS159	Visual Basic Programming 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
+CIS259	Visual Basic Programming 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
CIS298++	Special Projects (1-3) OR
CWE198++	Career/Work Experience (1-3) OR
+CIS108	Electronic Portfolio Development (1). . 1-3

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 & Fine Arts

Any approved general education course in the Humanities and Fine Arts area 3

Social and Behavioral Sciences

ECN111	Macroeconomic Principles (3) OR
ECN112	Microeconomic Principles (3) 3

Natural Sciences

Any approved general education course from the Natural Sciences area 4

CERTIFICATE OF COMPLETION IN WEB DEVELOPER (35-36 CREDITS)

The Certificate of Completion (CCL) 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (26-27 credits)

CIS105	Survey of Computer Information Systems 3
BPC/CIS133DA	The Internet/Web Development Level I . . 3
BPC/CIS224	Project Management Microsoft Project for Windows (3) OR
TQM240	Project Management in Quality Organizations (2) 2-3
CIS150AB	Object-Oriented Programming Fundamentals 3
CIS166AA	Introduction to JavaScript. 3
CIS225AB	Object-Oriented Analysis and Design . . 3

+ Indicates course has prerequisite

+ CIS233DA	Internet/Web Development Level II	3
CIS234 XML	Application Development	3
CIS276	Database Management Systems	3

Restricted Electives (9 credits)

CIS120DC	Computer Graphics: Macromedia Flash	3
+CIS159	Visual Basic Programming 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
+CIS259	Visual Basic Programming II	3
+CIS263AA	Java Programming Level II	3
+CIS108	Electronic Portfolio Development (1) OR	
+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)	1-3

CERTIFICATE OF COMPLETION IN WEB DESIGNER ASSOCIATE (14 CREDITS)

The Certificate of Completion (CCL) in Web Designer Associate 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (14 credits)

CIS105	Survey of Computer Information Systems	3
BPC/CIS133DA	Internet/Web Development Level I	3
+CIS233AB	Internet Web Publishing: FrontPage Level I	1
+CIS233AC	The Internet Web Publishing: Dreamweaver Level I	1
+CIS233DA	Internet/Web Development Level II	3
+CIS108	Electronic Portfolio Development (1) OR	
+CIS282++	Volunteerism for Computer Information Systems: A Service-Learning Experience (1-3) OR	
+CIS290++	Computer Information Systems Internship (1-3) OR	
CIS298++	Special Projects (1-3) OR	
CWE198++	Career/Work Experience (1-3)	3

CERTIFICATE OF COMPLETION IN WEB DESIGNER (29 CREDITS)

The Certificate of Completion (CCL) in 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (29 credits)

CIS105	Survey of Computer Information Systems	3
BPC/CIS133DA	Internet/Web Development Level I	3
CIS120DF	Computer Graphics: Adobe Photoshop	3
CIS120DC	Computer Graphics: Macromedia Flash	3
+CIS166AA	Introduction to Java Scripting	3
+CIS233AB	Internet Web Publishing: FrontPage Level I	1
+CIS233AC	The Internet Web Publishing: Dreamweaver Level I	1
+CIS233DA	Internet/Web Development Level II	3
+CIS235	e-Commerce	3
CIS243++	Internet/Web Development Level III	3
+CIS108	Electronic Portfolio Development (1) OR	
+CIS282++	Volunteerism for Computer Information Systems: A Service-Learning Experience (1-3) OR	
+CIS290++	Computer Information Systems Internship (1-3) OR	
CIS298++	Special Projects (1-3) OR	
CWE198++	Career/Work Experience (1-3)	3

CERTIFICATE OF COMPLETION IN WEB SERVER ADMINISTRATOR (27-28 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

+ Indicates course has prerequisite

Required Courses (21 credits)

CIS105	Survey of Computer Information Systems 3
BPC/CIS133DA	Internet/Web Development Level I. 3
+CIS166AA	Introduction to Java Scripting 3
CIS166AB	Web Scripting with Perl/CGI (3) OR
CIS166AE	Web Scripting with PHP: Hypertext Preprocessor (PHP) (3) 3
+CIS190	Introduction to Local Area Networks . . . 3
+CIS233DA	Internet/Web Development Level II 3
+CIS276	Database Management Systems 3

Restricted Electives (6-7 Credits)

CIS126DA	UNIX Operating System (3) AND
+CIS226AA	Internet/Intranet Server Administration-UNIX (3) 6
CIS126DL	Linux Operating System (3) AND
+CIS238DL	Linux System Administration (3) 6
+CIS191DL	Microsoft Windows NT System Administration (3) AND
+CIS226AB	Internet/Intranet Server Administration Windows (3) 6
MST150++	Microsoft Windows Professional (3) AND
+MST152++	Microsoft Windows Server (3-4). 6-7

Construction Certificates/Degrees

- **Associate in Applied Science in Construction**
- **Certificate of Completion in Construction Drafting I**
- **Certificate of Completion in Construction Drafting II**
- **Certificate of Completion in Construction Drafting III**
- **Certificate of Completion in Computer Aided Design & Drafting CADD Level I**
- **Certificate of Completion in Surveying & Civil Drafting CADD Level II**
- **Certificate of Completion in Construction Drafting CADD Level III**
- **Certificate of Completion in Home Inspection**
- **Certificate of Completion in Building Inspection**
- **Certificate of Completion in Plan Review**
- **Certificate of Completion in Pre-Contractor Licensing**

ASSOCIATE IN APPLIED SCIENCE IN CONSTRUCTION (67 CREDITS)

The Associate in Applied Science (AAS) in Construction prepares students to work as technicians in the areas related to construction drafting or 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 constructions. An inspection technician may work for a home inspection, building inspection, or plan review company/agency reviewing and inspecting home and/or other types of buildings. A management technician may work in various construction companies/agencies managing field or office by planning, scheduling, cost estimating, and attending to safety issues.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites (3-5 credits)

GTC107	Technical Mathematics I (3) OR
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	Construction Drawing Foundation 3
CNS175	Working Drawing Analysis; Blueprint Reading 3
CNS180	Building Construction Methods, Materials, and Equipment 3
CNS181	Cost Estimating I 3
GTC108	Technical Mathematics II 3
MAT150	College Algebra/Functions (5) OR
MAT151	College Algebra/Functions (4) OR
MAT152	College Algebra/Functions (3) 3-5

Restricted Electives

Students will choose one of the three tracks:

Track I - Construction Drafting (27 credits)

+ARC161	Residential Architectural Drafting 3
+ARC162	Advanced Residential Architectural Drafting. 3
+ARC163	Commercial Architectural Drafting 3
+ARC164	Advanced Commercial Architectural Drafting. 3
BLT262	Introduction International Residential Code (IRC). 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

+ Indicates course has prerequisite

+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
+CNS282++	Volunteerism for Construction: A Service-Learning Experience	1-3
+CNS290++	Construction Internship	1-3
MGT253	Owning and Operating a Small Business	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
BLT263	Building Codes	3
+BPC170	Computer Maintenance I: A+ Prep	3
+CNS200	Construction Management: Field Operation	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
+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

Track III - Construction Management (27 credits)

BLT121	Electrical Codes	3
BLT127	Plumbing Codes	3
BLT128	Mechanical Codes	3
BLT263	Building Codes	3
+CET101	Surveying I	3
+CET102	Surveying II	3
+CNS200	Construction Management: Field Operation	3
+CNS201	Construction Management: Office Operation	3
+CNS260	Strength of Materials	3
+CNS282++	Volunteerism for Construction: A Service-Learning Experience	1-3
+CNS290++	Construction Internship	1-3
+COM225	Public Speaking	3
ECN111	Macroeconomic Principles	3
ECN112	Microeconomic Principles	3
GBS206	Business Law (UCC)	3
+GBS221	Business Statistics	3
MGT253	Owning and Operating a Small Business	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 & 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

PHY111 General Physics I 4

CERTIFICATE OF COMPLETION IN CONSTRUCTION DRAFTING I (15 CREDITS)

The Certificate of Completion (CCL) in Construction Drafting I prepares students to interpret directions and engineering data, and develop sketches and plans appropriate to the residential construction industry.

Required Courses (12 credits)

DFT121	Introduction to Architectural Drafting	3
DFT122	Residential Architectural Drafting	3
GTC107	Technical Mathematics I	3
GTC122	Building Materials	3

Restricted Electives (3 credits)

AGL181	Landscape Construction Techniques	3
AGL189	Landscape Design I	3
CET101AA	Plane Surveying I	3
DFT126	Building Trades Blueprint Reading	3
DFT216	Descriptive Geometry	3
DFT221	Architectural Rendering: Pen and Ink, Technical Techniques	3
DFT222	Architectural Rendering: Color, Freehand Techniques	3
DFT223	Structural Steel Detailing	3
DFT254AA	Computer Aided Drafting II: Auto CAD	3
DFT256AA	Computer Aided Drafting III: Auto CAD	3

GTC106AA	Industrial Safety	2
GTC121	Construction Estimating I	3
INT105	Introduction to Interior Design	3
MGT253	Owning and Operating a Small Business	3

CERTIFICATE OF COMPLETION IN CONSTRUCTION DRAFTING II (27 CREDITS)

The Certificate of Completion (CCL) in Construction Drafting II prepares students to interpret directions and engineering data, and develop sketches and plans for building both residential and commercial structures. This certificate advances the knowledge and skills gained in Level I of the Construction Drafting Technology curriculum.

Program Prerequisites (15 credits)

Certificate of Completion in Construction Drafting I 15

Required Courses (9 credits)

DFT123	Commercial Architectural Drafting	3
DFT124	Advanced Commercial Architectural Drafting	3
GTC108	Technical Mathematics II	3

Restricted Electives (3 credits)

AGL181	Landscape Construction Techniques	3
AGL189	Landscape Design I	3
CET101AA	Plane Surveying I	3
DFT126	Building Trades Blueprint Reading	3
DFT216	Descriptive Geometry	3
DFT221	Architectural Rendering: Pen and Ink, Technical Techniques	3
DFT222	Architectural Rendering: Color, Freehand Techniques	3
DFT223	Structural Steel Detailing	3
DFT254AA	Computer Aided Drafting II: Auto CAD	3
DFT256AA	Computer Aided Drafting III: Auto CAD	3
GTC106AA	Industrial Safety	2
GTC121	Construction Estimating I	3
INT105	Introduction to Interior Design	3
MGT253	Owning and Operating a Small Business	3

CERTIFICATE OF COMPLETION IN CONSTRUCTION DRAFTING III (36 CREDITS)

The Certificate of Completion (CCL) in Construction Drafting III prepares students to interpret directions and engineering data as well as building codes requirements, and develop sketches and plans for building both residential and commercial structures. The Level III technician uses both manual drafting and computer aided design applications. This certificate is the most advanced level in the series of certificates leading toward the Associate in Applied Science in Construction Drafting Technology. Through careful selection of electives, students can develop specialization in landscape design, structural steel detailing, architectural rendering, or construction management.

Program Prerequisites (27 credits)

Certificate of Completion in Construction Drafting II 27

Required Courses (6 credits)

BLT263	Building Codes	3
DFT252AA	Computer Aided Drafting I: Auto CAD	3

Restricted Electives (3 credits)

AGL181	Landscape Construction Techniques	3
AGL189	Landscape Design I	3
CET101AA	Plane Surveying I	3
DFT126	Building Trades Blueprint Reading	3
DFT216	Descriptive Geometry	3
DFT221	Architectural Rendering: Pen and Ink, Technical Techniques	3
DFT222	Architectural Rendering: Color, Freehand Techniques	3
DFT223	Structural Steel Detailing	3
DFT254AA	Computer Aided Drafting II: Auto CAD	3
DFT256AA	Computer Aided Drafting III: Auto CAD	3
GTC106AA	Industrial Safety	2
GTC121	Construction Estimating I	3
INT105	Introduction to Interior Design	3
MGT253	Owning and Operating a Small Business	3

CERTIFICATE OF COMPLETION IN COMPUTER AIDED DESIGN & DRAFTING CADD LEVEL I (9 CREDITS)

The Certificate of Completion (CCL) in Computer Aided Design & Drafting CADD Level I prepares the student to work as a computer draft person construction or architecture related design and drafting company/agency. In this program students develop knowledge and skills required to perform introductory computer drafting responsibilities.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (9 credits)

CNS130	Construction Drawing Foundation	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

+ Indicates course has prerequisite

CERTIFICATE OF COMPLETION IN SURVEY & CIVIL DRAFTING CADD LEVEL II (21 CREDITS)

The Certificate of Completion (CCL) in Survey & Civil Drafting CADD Level II prepares students to work as a construction drafting technician for civil and surveying related company/agency. The students will be equipped with the knowledge and skills of two software applications to perform various construction drafting (computer and board) related responsibilities for surveying, civil, and construction related work.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites

Certificate of Completion in Computer Aided Designs & Drafting CADD Level I 9

Required Courses (21 credits)

+ CET101	Surveying I	3
+ CET102	Surveying II	3
CNS130	Construction Drawing Foundation	3
+ CNS250	Civil Drafting I: Land Development	3
+ CNS251	Civil Drafting II: Land Development	3
+ CNS252	Civil Drafting III: Land Development	3
+ CNS290AC	Construction Internship	3

CERTIFICATE OF COMPLETION IN CONSTRUCTION DRAFTING CADD LEVEL III (21 CREDITS)

The Certificate of Completion (CCL) in Construction Drafting CADD Level III prepares the student as an advanced construction draft person for construction related design and drafting companies and agencies. Students will develop knowledge, skills and techniques of three popular computer software applications. Students will be able to perform various construction drafting related functions for architecture, civil, and construction works.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites

Certificate of Completion in Computer Aided Designs & Drafting CADD Level I 9

Required Courses (21 credits)

+ ARC150	Architectural Desktop I	3
+ ARC161	Residential Architecture Drafting I	3
+ ARC163	Commercial Architecture Drafting I	3
CNS130	Construction Drawing Foundation	3
+ CNS250	Civil Drafting I: Land Development	3
+ CNS251	Civil Drafting II: Land Development	3
+ CNS290AC	Construction Internship	3

CERTIFICATE OF COMPLETION IN HOME INSPECTION (21 CREDITS)

The Certificate of Completion (CCL) in Home Inspection prepares students for a career in home inspection. The certificate provides students with eligibility seeking Arizona State Home Inspection certification. In addition to completion of the courses in this certificate students must also acquire additional hours of mentored home inspections in order to sit for the state certification exam.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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
+ CNS290AC	Construction Internship	3

CERTIFICATE OF COMPLETION IN BUILDING INSPECTION (21 CREDITS)

The Certificate of Completion (CCL) in Building Inspection prepares students for a career in building inspection. The program prepares student who are seeking jobs in public/governmental agencies as inspector in various areas of the building inspection field. The student develops knowledge/skills required to work as building inspector in general building code compliance inspection or in specific area code compliances such as mechanical, electrical, plumbing, structural, etc.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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
+ CNS290AC	Construction Internship	3

+ Indicates course has prerequisite

CERTIFICATE OF COMPLETION IN PLAN REVIEW (27 CREDITS)

The Certificate of Completion (CCL) in Plan Review prepares students for a career in plan reviewing. The program prepares students who are seeking jobs in public agencies/governmental or private companies who work in these capacities for plan review field. The student develops knowledge/skills required to review residential and commercial building plans.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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	Construction Drawing Foundation	3
CNS180	Building Construction Methods, Materials, and Equipment	3
+ CNS285	Introduction to Residential Plan Review	3
+ CNS286	Introduction to Commercial Plan Review	3
+ CNS290AC	Construction Internship	3

CERTIFICATE OF COMPLETION IN PRE-CONTRACTING LICENSING (21 CREDITS)

The Certificate of Completion (CCL) in Pre-Contracting Licensing prepares student for a career as a general contractor. Before one is able to practice as a general contractor the State of Arizona requires that a passing score is obtained on the general contractor's exam. This certificate provides knowledge and skills required to sit for the state general contracting exam.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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
+ CNS290AC	Construction Internship	3

Culinary Studies Certificates/Degrees

- **Associate in Applied Science in Culinary Studies**
- **Certificate of Completion in Culinary Studies**

ASSOCIATE IN APPLIED SCIENCE IN CULINARY STUDIES (65-68 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (35 credits)

Students who have earned credit for FON117 should consult with the Program Director.

FON100	Introductory Nutrition	3
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 Cuisines (3) OR	
FON184	Pacific Rim Cuisine (3) OR	
FON218	Commercial Baking: Classical Desserts (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

+ Indicates course has prerequisite

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
- ECN111 Macroeconomic Principles (3) OR
- ECN112 Microeconomic Principles (3) OR
- PSY101 Introduction to Psychology (3) OR
- SOC101 Introduction to Sociology (3) 3

Natural Sciences
- Any approved General Education course in the Natural Sciences area 4

CERTIFICATE OF COMPLETION IN CULINARY STUDIES (35 CREDITS)

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)

Students who have earned credit for FON117 should consult with the Program Director.

FON100	Introductory Nutrition	3
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 Cuisines (3) OR	
FON184	Pacific Rim Cuisine (3) OR	
FON218	Commercial Baking: Classical Desserts (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

Dental Certificates/Degrees

- **Associate in Applied Science in Dental Assisting**
- **Certificate of Completion in Dental Assisting**
- **Associate in Applied Science in Dental Hygiene**

ASSOCIATE IN APPLIED SCIENCE IN DENTAL ASSISTING (64.5-68.5 CREDITS)

The Associate in Applied Science (AAS) degree in Dental Assisting prepares students to perform a variety of skills including but not limited to exposing x-rays, assisting the dentist, performing laboratory procedures, and educating patients. A Certificate of Completion (CCL) is also available. The Dental Assisting program is accredited by the Commission on Dental Accreditation of the American Dental Association (211 E. Chicago Ave., Chicago, IL 60611-2678; (312) 440-4653). Graduates are eligible to take the Dental Assisting National Board (216 E. Ontario St., Chicago, IL 60611) Certification Exams for the designation CDA (Certified Dental Assisting), the Arizona State Certification in Radiation Health and Safety Exam, and the Arizona Coronal Polishing Certification (AZCP).

Program Notes

Students must earn a grade of "C" or better in 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 prerequisite

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.
Application and acceptance into the Dental Hygiene Program.

Program Prerequisites (7.5-11.5 credits)

(Note: The credit hour range is subject to change depending on the student's educational experiences.)

Option 1 (7.5 credits)

(Note: HCC courses are waived for students who have completed an Associate in Applied Science degree or higher degree in a health science discipline from a regionally accredited institution of higher education recognized by Maricopa County Community College District.)

BIO160	Introduction to Anatomy and Physiology	4
+ENG101	First-Year Composition (3) OR	
+ENG107	First-Year Composition for ESL (3)	3
HCC109	CPR for the Health Care Provider (.5) OR current CPR certification at the health care provider or professional rescuer level	.5

Option 2 (11.5 credits)

BIO160	Introduction to Anatomy and Physiology	4
+ENG101	First-Year Composition (3) OR	
+ENG107	First-Year Composition for ESL (3)	3
HCC130	Fundamentals in Health Care Delivery (3) OR	
HCC130AA	Health Care Today (.5) AND	
HCC130AB	Workplace Behavior in Health Care (.5) AND	
HCC130AC	Personal Wellness and Safety (.5) AND	
HCC130AD	Communication and Team Work in Healthcare Organizations (.5) AND	
HCC130AE	Legal Issues in Health Care (.5) AND	
HCC130AF	Decision Making Health in Care Setting (.5)	3
+HCC145AA	Medical Terminology for Health Care Workers	1
HCC109	CPR for the Health Care Provider (.5) OR current CPR certification at the health care provider or professional rescuer level	.5

Required Courses (41 credits)

BIO162	Microbiology Concepts for Allied Health	2
+DAE101	Pre Clinical Dental Assisting	2
+DAE102	Pre Clinical Dental Assisting Lab	1
+DAE104	Preventive Dentistry	2
+DAE106	Clinical Dental Assisting	4
+DAE107	Clinical Dental Assisting Laboratory	2
+DAE/DHE114	Emergency Medicine	2
+DAE/DHE122	Dental Anatomy, Embryology and Histology	2
+DAE/DHE124	Dental Radiography	2
+DAE131	Dental Radiography Laboratory	2
+DAE140	Dental Issues Seminar	1
+DAE144	Pharmacology	1
+DAE145	Oral Pathology	2
+DAE151	Survey of Dental Office Management	2
+DAE/DHE203	Dental Materials	2
+DAE/DHE204	Dental Materials Laboratory	1
+DAE224	General Clinical Practice	1
+DAE225	Pediatric Clinical Practice	1
+DAE226	Periodontal Clinical Practice	1
+DAE227	Orthodontic Clinical Practice	1
+DAE228	Oral and Maxillofacial Surgery Clinical Practice	1
PSY101	Introduction to Psychology	3
SOC101	Introduction to Sociology	3

General Education Requirements (15 credits)

First-Year Composition

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

MAT102 OR equivalent as indicated by assessment OR satisfactorycompletion of a higher mathematics course. 3

Humanities & Fine Arts

Any approved General Education course in the Humanities & Fine Arts area 3

Social and Behavioral Sciences

(Met by PSY101 and SOC101 in Required Courses area)

Natural Sciences

(Met by BIO160 in Program Prerequisite area)

+ Indicates course has prerequisite

CERTIFICATE OF COMPLETION IN DENTAL ASSISTING (40.5-44.5 CREDITS)

The Certificate of Completion (CCL) in Dental Assisting prepares students to perform a variety of skills including but not limited to exposing x-rays, assisting the dentist, performing laboratory procedures, and educating patients. The Dental Assisting program is accredited by the Commission on Dental Accreditation of the American Dental Association (211 E. Chicago Ave., Chicago, IL 60611-2678; (312) 440-4653). Graduates are eligible to take the Dental Assisting National Board (216 E. Ontario St., Chicago, IL 60611) Certification Exams for the designation CDA (Certified Dental Assistant), the Arizona State Certification in Radiation Health and Safety Exam, and the Arizona Coronal Polishing Certificate (AZCP).

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

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.
Application and acceptance into the Dental Hygiene Program.

Option 1 (7.5 credits)

HCC courses are waived for students who have completed an Associate in Applied Science degree or higher degree in a health science discipline from a regionally accredited institution of higher education recognized by Maricopa County Community College District.

BIO160	Introduction to Anatomy and Physiology 4
+ENG101	First-Year Composition (3) OR
+ENG107	First-Year Composition for ESL (3) 3
HCC109	CPR for the Health Care Provider (.5) OR current CPR certification at the health care provider or professional rescuer level 5

Option 2 (11.5 credits)

BIO160	Introduction to Anatomy and Physiology 4
+ENG101	First-Year Composition (3) OR
+ENG107	First-Year Composition for ESL (3) 3
HCC109	CPR for the Health Care Provider (.5) OR (Note: Current CPR certification at the health care provider or professional rescuer level). 5
HCC130	Fundamentals in Health Care Delivery (3) OR
HCC130AA	Health Care Today (.5) AND
HCC130AB	Workplace Behavior in Health Care (.5) AND
HCC130AC	Personal Wellness and Safety (.5) AND
HCC130AD	Communication and Team Work in Healthcare Organizations (.5) AND
HCC130AE	Legal Issues in Health Care (.5) AND
HCC130AF	Decision Making in Health Care Setting (.5) 3
+HCC145AA	Medical Terminology for Health Care Workers. 1

Required Courses (33 credits)

+DAE101	Pre Clinical Dental Assisting 2
+DAE102	Pre Clinical Dental Assisting Laboratory. . 1
+DAE104	Preventive Dentistry 2
+DAE106	Clinical Dental Assisting 4
+DAE107	Clinical Dental Assisting Laboratory . . . 2
+DAE/DHE114	Emergency Medicine 2
+DAE/DHE122	Dental Anatomy, Embryology and Histology 2
+DAE/DHE124	Dental Radiography 2
+DAE131	Dental Radiography Laboratory 2
+DAE140	Dental Issues Seminar 1
+DAE144	Pharmacology 1
+DAE145	Oral Pathology 2
+DAE151	Survey of Dental Office Management . . . 2
+DAE/DHE203	Dental Materials 2
+DAE/DHE204	Dental Materials Laboratory 1
+DAE224	General Clinical Practice 1
+DAE225	Pediatric Clinical Practice 1
+DAE226	Periodontal Clinical Practice 1
+DAE227	Orthodontic Clinical Practice 1
+DAE228	Oral and Maxillofacial Surgery Clinical Practice 1

ASSOCIATE IN APPLIED SCIENCE IN DENTAL HYGIENE (92.5-96.5 CREDITS)

The Associate in Applied Science (AAS) degree in Dental Hygiene Program 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, IL 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 in 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.

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.
Application and acceptance into the Dental Hygiene Program.

Program Prerequisites (34.5-38.5 credits)

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.

Option 1 (34.5 credits)

HCC courses are waived for students who have completed an Associate in Applied Science degree or higher degree in a health science discipline from a regionally accredited institution of higher education recognized by Maricopa County Community College District.

BIO162	Microbiology Concepts for Allied Health	2
+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	.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 & Evaluative Reading (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 & Fine Arts area 3

Natural Sciences
BIO160 Introduction to Human Anatomy & Physiology 4

Social and Behavioral Sciences
PSY101 Introduction to Psychology (3) AND
SOC101 Introduction to Sociology (3) 6

OR

Option 2 (34.5 credits)

HCC courses are to be waived for the student who has 6 months documented experience as a dental assistant or in other related dental patient care activities. Prospective students with health care licensure are also exempt from the HCC courses for the Dental Hygiene program.

BIO162	Microbiology Concepts for Allied Health	2
+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	.5

+ Indicates course has prerequisite

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 & Evaluative Reading (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 & Fine Arts area 3
Natural Sciences
BIO160 Introduction to Human Anatomy & Physiology 4
Social and Behavioral Sciences
PSY101 Introduction to Psychology (3) AND
SOC101 Introduction to Sociology (3) 6

OR

Option 3 (38.5 credits)

BIO162 Microbiology Concepts for Allied Health 2
+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 5
HCC130 Fundamentals in Health Care Delivery (3) OR
HCC130AA Health Care Today (.5) AND
HCC130AB Workplace Behavior in Health Care (.5) AND
HCC130AC Personal Wellness and Safety (.5) AND
HCC130AD Communication and Teamwork in Health Care Organizations (.5) AND
HCC130AE Legal and Ethical Issues in Health Care (.5) AND
HCC130AF Decision Making in the Health Care Setting (.5) 3
+HCC145AA Medical Terminology for Health Care Workers I 1

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 & Evaluative Reading (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 & Fine Arts area 3
Natural Sciences
BIO160 Introduction to Human Anatomy & Physiology 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 II 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

Direct Care Practice Certificates/Degrees

- **Associate in Applied Science in Direct Care Practice**
- **Certificate of Completion in Direct Care Practice**

+ Indicates course has prerequisite

ASSOCIATE IN APPLIED SCIENCE IN DIRECT CARE PRACTICE (64 CREDITS)

The Associate in Applied Science (AAS) degree in Direct Care Practice prepares students for entry-level positions as care providers in health and child welfare agencies and advances the knowledge and skills of those who are already working in the field of health and human services. The program combines specialized coursework in direct care practices with a General Education curriculum.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Admission Criteria

All students are required to submit a completed physical examination form, fingerprint screening, and CPR Certification prior to field placement. All immunizations indicated on the form must be current. When this form is on file, the college Records Office will issue a waiver clearing the student for field placement.

Program Prerequisites

High school diploma or GED and CPR Certification.

Required Courses (39 credits)

+DCP102	Introduction to Practice of Direct Care	3
+DCP104	Health, Medications and Safety	2
+DCP106	Behavioral Management Skills	3
+DCP108	Information Management	2
+DCP110	Site Management	2
+DCP111	Practicum I: Onsite Supervised Practice	3
HCC130	Fundamentals in Health Care Delivery (3) OR	
HCC130AA	Health Care Today (.5) AND	
HCC130AB	Workplace Behavior in Health Care (.5) AND	
HCC130AC	Personal Wellness and Safety (.5) AND	
HCC130AD	Communication & Teamwork/ Health Care Organizations (.5) AND	
HCC130AE	Legal Issues in Health Care (.5) AND	
HCC130AF	Decision Making in the Health Care Setting (.5)	3
HCC145AA	Medical Terminology for Health Care Workers I	1
PSY101	Introduction to Psychology	3
+PSY240	Developmental Psychology	3
+PSY241	Understanding and Changing Behavior	3
+PSY242	Understanding and Changing Behavior Lab	1
+PSY266	Abnormal Psychology	3
+PSY280	Organizational Psychology	3
PSY298AA	Special Projects	1
PSY298AC	Special Projects	3

Restricted Electives (3 credits)

SWU102	Introduction to Social Work	3

General Education Requirements (25 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 (3) OR	
+CRE111	Critical Reading for Business and Industry (3) OR equivalent as indicated by assessment	3
Mathematics		
+MAT102	Mathematical Concepts/Applications	3
Humanities & Fine Arts		
PHI212	Applied Ethics	3
Social and Behavioral Sciences		
REC120	Leisure and the Quality of Life	3
Natural Sciences		
BIO160	Introduction to Human Anatomy and Physiology	4

CERTIFICATE OF COMPLETION IN DIRECT CARE PRACTICE (19 CREDITS)

The Certificate of Completion (CCL) in Direct Care Practice prepares students for entry-level positions as care providers in health and child welfare agencies and advances the knowledge and skills of those who are already working in the field of health and human services.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Admission Criteria

All students are required to submit a completed physical examination form, fingerprint screening, and CPR Certification prior to field placement. All immunizations indicated on the form must be current. When this form is on file, the college Records Office will issue a waiver clearing the student for field placement.

Program Prerequisites

High school diploma or GED and CPR Certification.

Required Courses (19 credits)

+DCP102	Introduction to Practice of Direct Care	3
+DCP104	Health, Medications and Safety	2
+DCP106	Behavioral Management Skills	3
+DCP108	Information Management	2
+DCP110	Site Management	2
+DCP111	Practicum I: Onsite Supervised Practice	3
HCC130AA	Health Care Today (.5) AND	
HCC130AB	Workplace Behavior in Health Care (.5) AND	
HCC130AC	Personal Wellness and Safety (.5) AND	

+ Indicates course has prerequisite

HCC130AD	Communication & Teamwork/ Health Care Organizations (.5) AND	
HCC130AE	Legal Issues in Health Care (.5) AND	
HCC130AF	Decision Making in the Health Care Setting (.5)	3
HCC145AA	Medical Terminology for Health Care Workers I	1

Drafting Certificates/Degrees

- **Associate in Applied Science in Electro/ Mechanical Drafting**
- **Certificate of Completion in Electro/ Mechanical Drafting**
- **Certificate of Completion in Computer Aided Drafting**
- **Certificate of Completion in Mechanical Drafting**

ASSOCIATE IN APPLIED SCIENCE IN ELECTRO/MECHANICAL DRAFTING (66-67 CREDITS)

The Associate in Applied Science (AAS) degree 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 Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites

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
GTC246	Advanced CAD/CAM CNC Programming	3
GTC266	Solids Modeling	3
QCT270	Measurements for Quality Control 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

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 IN ELECTRO/MECHANICAL DRAFTING (43 CREDITS)

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.

+ Indicates course has prerequisite

Program Notes
Students must earn a grade of "C" or better for each course listed in the required courses area.

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
+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 IN COMPUTER AIDED DRAFTING (18 CREDITS)
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.

Program Notes
Students must earn a grade of "C" or better for each course listed in the required courses area.

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 IN MECHANICAL DRAFTING (34 CREDITS)
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.

Program Notes
Students must earn a grade of "C" or better for each course listed in the required courses area.

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 Certificates/Degrees

- **Associate in Applied Science in Instructional Assistance**
- **Certificate of Completion in Instructional Assistance**
- **Certificate of Completion in English as a Second Language Endorsement**
- **Certificate of Completion in Bilingual Endorsement**
- **Certificate of Completion in Reading Specialist Endorsement**

ASSOCIATE IN APPLIED SCIENCE IN INSTRUCTIONAL ASSISTANCE (62 CREDITS)
The Associate in Applied Science (AAS) degree 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.

Program Notes
Students must earn a grade of "C" or better in all courses within the program.

Program Prerequisites
Proficiency in Spanish required for students taking Track III.

Required Courses (33-35 credits)

+CFS176	Child Development	3
EDU221	Introduction to Education	3
EDU225	Serving English Language Learners (ELL)	3
EDU230	Cultural Diversity in Education	3

+ Indicates course has prerequisite

Select one of the following tracks:

Track I - Teacher Assisting (21-23 credits)

EDU161	Family Centered Services	3
EDU222	Introduction to the Exceptional Learner	3
+EDU210	Methods for Working with the ESL Student	3
EDU292	The Art of Storytelling	3
EDU296WC	Cooperative Education	3
	Any foreign language	6-8

Track II - ESL Teacher Aide (21-23 credits)

+EDU210	Methods for Working with the ESL Student	3
+EDU213	Reading and Writing Strategies in an ESL/Bilingual Setting	3
+EDU216	Introduction to Assessment of Linguistically Diverse Learners	3
+EDU245	Internship in Bilingual/ESL Education	3
+ENG213	Introduction to the Study of Language	3
	Any foreign language course(s) or credit by examination	6-8

Track III - Bilingual Teacher Aide (23 credits)

Proficiency in Spanish is required for students taking Track III.

+EDU211	Methods for Working with the Bilingual Student	3
+EDU212	English as a Second Language for Bilingual Students	3
+EDU216	Introduction to Assessment of Linguistically Diverse Learners	3
+EDU245	Internship in Bilingual/ESL Education	3
+ENG213	Introduction to the Study of Language	3
+SPA103	Elementary Spanish for Spanish Speakers I	4
+SPA104	Elementary Spanish for Spanish Speakers II	4

Track IV - Special Education Teacher Aide (23 credits)

EDU161	Family Centered Services	3
+EDU206	Classroom Strategies for the Exceptional Learner	3
EDU222	Introduction to the Exceptional Learner	3
EDU270	Learning and the Brain	3
EDU296WC	Cooperative Education	3
SLG101	American Sign Language I or higher-level course	4
SLG102	American Sign Language II or higher-level course	4

Restricted Electives (4-6 credits)

ARH217	Mexican Art History	3
ASB222	Buried Cities and Lost Tribes: Old World (3) OR	
ASB223	Buried Cities and Lost Tribes: New World (3)	3
ASB245	Indians of the Southwest	3
CFS116	Discipline and Guidance	3
CFS212	Creative Activities for the Young Child	3
CFS278	Early Childhood Education	3
CFS280	Children with Special Needs in Early Childhood Education	3
ECH274	Books and Verse for the Young Child	1
ECH275	Literacy Development of the Young Child	1
ECH277	Language and Literacy for the Bilingual Child	1
ECH279	Early Childhood Curriculum Development	1
EDU160	Introduction to Developmental Disabilities	3
EDU260	Technology in Education Overview	3
ENH112	Chicano Literature	3
HIS109	Mexican American History and Culture	3
HIS145	History of Mexico	3
POS221	Arizona Constitution	1
SOC140	Racial and Ethnic Minorities	3
SOC142	Sociology of Chicano Community	3
SWU271	Introduction to Social Welfare	3
THP211	Creative Drama	3

General Education Requirements (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

+COM225	Public Speaking (3) OR	
+COM230	Small Group Communication (3)	3

Critical Reading

CRE101	Critical and Evaluative Reading (3) OR equivalent as indicated by assessment.	3

Mathematics

+MAT102	Mathematical Concepts/ Applications (3) OR satisfactory completion of a higher-level mathematics course.	3

Humanities and Fine Arts

EDU291	Children's Literature	3

Social and Behavioral Sciences

POS110	American National Government	3

Natural Sciences

Any approved general education course from the Natural Sciences area 4

+ Indicates course has prerequisite

CERTIFICATE OF COMPLETION IN INSTRUCTIONAL ASSISTANCE (28 CREDITS)

The Certificate of Completion (CCL) in Instructional Assistance curriculum provides coursework which focuses on meeting the educational needs of learners. Program requirements include coursework in foundations of education and language as well as practical application coursework, including a practicum within a classroom setting. All Certificate Program requirements can be used toward completion of the Instructional Assistance AAS Program.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.

Required Courses (28 credits)

CFS176	Child Development	3
EDU221	Introduction to Education	3
EDU225	Serving English Language Learners (ELL)	3
EDU230	Cultural Diversity in Education	3
ENG101	First-Year Composition (3) OR	
ENG107	English for Speakers of Other Languages (3)	3

Select one of the following tracks:

Track I - Teacher Assisting (13 credits)

+EDU210	Methods for Working with the ESL Student	3
EDU222	Introduction to the Exceptional Learner	3
EDU296WC	Cooperative Education	3
	Any foreign language	4

Track II - ESL Teacher Aide (13 credits)

+EDU210	Methods for Working with the ESL Student	3
+EDU245	Internship in Bilingual/ESL Education	3
+ENG213	Introduction to the Study of Language	3
	Any foreign language	4

Track III - Bilingual Teacher Aide (13 credits)

+EDU211	Methods for Working with the Bilingual Student	3
+EDU245	Internship in Bilingual/ESL Education	3
+ENG213	Introduction to the Study of Language	3
+SPA103	Elementary Spanish for Spanish Speakers I	4

Track IV - Special Education Teacher Aide (13 credits)

+EDU206	Classroom Strategies for the Exceptional Learner	3
EDU222	Introduction to the Exceptional Learner	3
EDU296WC	Cooperative Education	3
SLG101	American Sign Language I (4) OR higher-level course	4

CERTIFICATE OF COMPLETION IN ESL ENDORSEMENT (27 CREDITS)

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 endorsements in Arizona.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.

Required Courses (27 credits)

EDU220	Introduction to Serving English Language Learners (ELL)	3
EDU230	Cultural Diversity in Education	3
+EDU233	Structured English Immersion (SEI) AND English as a Second Language (ESL) Teaching Methods	3
+EPD243	English Immersion (SEI) and English as a Second Language (ESL) Setting	3
+EPD246	Teaching and Assessment of English Language Learners (ELL)	3
+EDU247	Practicum for ESL/Bilingual Teachers	3
+ENG213	Introduction to the Study of Language	3
ARB+++	Any ARB/Arabic course (3-4)	
FRE+++	Any FRE/French course (3-4)	
GER+++	Any GER/German course (3-4)	
ITA+++	Any ITA/Italian course (3-4)	
JPN+++	Any JPN/Japanese course (3-4)	
SPA+++	Any SPA/Spanish course (3-4)	6

CERTIFICATE OF COMPLETION IN BILINGUAL ENDORSEMENT (29 CREDITS)

The Certificate of Completion (CCL) in Bilingual Endorsement prepares certified teachers to earn the Bilingual 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 the bilingual teacher through a combination of courses in methodology and practicum experience in a bilingual classroom. This program includes all coursework required for those with valid Arizona teaching certificates to qualify for Bilingual Endorsement in Arizona.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.

+ Indicates course has prerequisite

Required Courses (29 credits)

EDU220	Introduction to Serving English Language Learners (ELL)	3
EDU230/	Cultural Diversity in Education	3
+EPD241	Methods for Teaching the Bilingual Student	3
+EPD242/	Strategies for Bilingual Students	3
+EPD246	Teaching and Assessment of English Language Learners (ELL)	3
+EPD247	Practicum for ESL/Bilingual Teachers	3
+ENG213	Introduction to the Study of Language	3
+SPA103	Elementary Spanish for Spanish Speakers I or higher	4
+SPA104	Elementary Spanish for Spanish Speakers II or higher	4

CERTIFICATE OF COMPLETION IN READING SPECIALIST ENDORSEMENT (15 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (9 credits)

EDU270AA	Elementary Reading and Decoding (3) OR	
EDU270AB	Secondary Reading and Decoding	3
+EPD275	Diagnosis and Remediation of Reading for K-12	3
+EPD279	Reading Practicum K-12	3

Restricted Electives (6 credits)

(Note: *Strongly suggested if not taken in required course area)

+EDU243	English Immersion (SEI) and English as a Second Language (ESL) Setting	3
*EDU270AA	Elementary Reading and Decoding	3
*EDU270AB	Secondary Reading and Decoding	3
EDU271	Phonics Based Reading and Decoding	3
EDU/ENH291	Children's Literature	3

Electromechanical Certificates/Degrees

- **Associate in Applied Science in Electromechanical Automation Technology**
- **Certificate of Completion in Electromechanical Automation Technology**

ASSOCIATE IN APPLIED SCIENCE IN ELECTROMECHANICAL AUTOMATION TECHNOLOGY (65 CREDITS)

The Associate in Applied Science (AAS) degree 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 Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites (6 credits)

ELE100	Concepts of Electricity and Electronics	3
ELE101	Beginning Algebra for Technology	3

Required Courses (48 credits)

DFT114	Machine Trades Blueprint Reading	3
ELE105	Algebra/Trigonometry for Technology	5
ELE111	Circuit Analysis I	4
ELE121	Solid-State Devices and Circuits I	4
ELE131	Digital Logic and Circuits	3
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
GTC272	Automated Control Systems (PLC Application)	3
GTC273	Industrial Automation Controls and System Integration	3

General Education Requirements (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

+ Indicates course has prerequisite

Critical Reading
CRE101 Critical and Evaluative Reading I (3) OR equivalent as indicated by assessment . . 3
Mathematics
Met by ELE105 in required courses area 0
Humanities & 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. PSY125 Leadership and Group Relations, recommended 3
Natural Sciences
Met by ELE111, ELE121, ELE131, ELE223, in required courses area 0

CERTIFICATE OF COMPLETION IN ELECTROMECHANICAL AUTOMATION TECHNOLOGY (34 CREDITS)

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 Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (34 credits)

DFT114	Machine Trades Blueprint Reading	3
ELE105	Algebra/Trigonometry for Technology	5
ELE111	Circuit Analysis I	4
ELE121	Solid-State Devices and Circuits I	4
ELE131	Digital Logic and Circuits	3
ELE181	Computer Programming for Technology	3
GTC106	Industrial Safety	2
GTC181	Introduction to Fluid Power	3
GTC185	Electro-Mechanical Devices	4
GTC209	Automated Manufacturing	3

Electronics Technology Certificates/Degrees

- **Associate in Applied Science in Electronics Technology**
- **Certificate of Completion in Electronics Technology**
- **Associate in Applied Science in Electronics Engineering Technology**

ASSOCIATE IN APPLIED SCIENCE IN ELECTRONICS TECHNOLOGY (71 CREDITS)

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 Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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 Requirements (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 0
Humanities & 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 Dynamics recommended.

+ Indicates course has prerequisite

Natural Sciences
Met by ELE111, ELE112, ELE121, ELE131 in required courses area 0

CERTIFICATE OF COMPLETION IN ELECTRONICS TECHNOLOGY (33 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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

ASSOCIATE IN APPLIED SCIENCE IN ELECTRONICS ENGINEERING TECHNOLOGY (70 CREDITS)

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 Notes

Students must earn a grade of "C" or better in all courses within the program.

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 from the Social and Behavioral Sciences area 3

Natural Sciences
Met by PHY111 AND PHY112 OR CHM130 AND CHM130LL in required courses area 0

+ Indicates course has prerequisite

Emergency Medical Technology Certificates/Degrees

- **Certificate of Completion in Basic Emergency Medical Technology**
- **Certificate of Completion in Intermediate Emergency Medical Technology**

CERTIFICATE OF COMPLETION IN BASIC EMERGENCY MEDICAL TECHNOLOGY (8 CREDITS)

The Certificate of Completion (CCL) in Basic Emergency Medical Technology is the first in a sequence of related emergency medical programs that prepare students for entry-level positions in the emergency health care field and qualify students for state licensing sanctioned by the Arizona Department of Health Services.

Required Courses (8 credits)

EMT/FSC104	Basic Emergency Medical Technology	8

CERTIFICATE OF COMPLETION IN INTERMEDIATE EMERGENCY MEDICAL TECHNOLOGY (18 CREDITS)

The Certificate of Completion (CCL) in Intermediate Emergency Technology program provides advanced knowledge and skills for those seeking career advancement in the emergency health care field. The program qualifies the student for state licensing sanctioned by the Arizona Department of Health Service.

Program Prerequisites (8 credits)

Certificate of Completion in Basic Emergency Medical Technology 8

Required Courses (18 credits)

EMT208	Intermediate Emergency Medical Technology	16
+EMT/FSC238	Vehicular Extrication and Patient Stabilization	2

(Note: Certificates may contain additional course requirements.)

Fire Science Certificates/Degrees

- **Associate in Applied Science in Fire Science Technology**
- **Certificate of Completion in Basic Firefighter**
- **Certificate of Completion in Driver Operator**
- **Certificate of Completion in Fire Officer I**
- **Associate in Applied Science in Emergency Management**
- **Certificate of Completion in Emergency Management**

ASSOCIATE IN APPLIED SCIENCE IN FIRE SCIENCE TECHNOLOGY (69-71 CREDITS)

The Associate in Applied Science (AAS) degree in Fire Science Technology 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. The program combines coursework in fire science with a General Education curriculum.

Program Requirements

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (40 credits)

FSC102	Fire Department Operations I	11
FSC105	Hazardous Materials First Responder	3
FSC108	Fundamentals of Fire Prevention	3
FSC111	Emergency Vehicle Driver Operator	2
FSC117	Fire Apparatus	3
FSC118	Fire Hydraulics	3
FSC202	Supervisory Training for Firefighters	3
+FSC204	Firefighting Tactics and Strategy	3
FSC205	Command Strategies for Major Emergencies	3
+FSC208	Firefighter Safety and Building Construction	3
FSC214	Human Resource Management for Fire Service	3

Restricted Electives (4 credits)

FSC+++	Any approved FSC prefixed course	4

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	
ENG111	Technical Writing (3)	6

+ Indicates course has prerequisite

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 Reading for Business, and Industry (3) OR equivalent by assessment 3

Mathematics
- MAT102 Mathematical Concepts/ Applications (3) OR
- MAT120 Intermediate Algebra (5) 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 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
- Any approved general education course from the Social and Behavioral Sciences area
- SOC101 Introduction to Sociology recommended . . 3

Natural Sciences
- Any approved general education course from the Natural Sciences area

The following courses are recommended.
- BIO100 Biology Concepts (4) OR
- CHM130 Fundamental Chemistry (3) AND
- CHM130LL Fundamental Chemistry Lab (1) OR
- PHY101 Introduction to Physics (4) 4

CERTIFICATE OF COMPLETION IN BASIC FIREFIGHTER (30 CREDITS)

The Certificate of Completion (CCL) in Basic Firefighter program is designed for students who want to prepare for a career in fire services, for professional firefighters who want advanced training, and for those seeking knowledge and skills in fire hazard, fire prevention, plant safety, and intensive first aid training.

Program Requirements

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (30 credits)

- +EMT/FSC104 Basic Emergency Medical Technology . . . 8
- +EMT238 Vehicular Extrication and Patient Stabilization 2
- FSC102 Fire Department Operations 1 1
- FSC105 Hazardous Materials First Responder . . . 3
- FSC108 Fundamentals of Fire Prevention 3
- FSC208 Firefighter Safety/ Building Construction. 3

CERTIFICATE OF COMPLETION IN DRIVER OPERATOR (11 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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 IN FIRE OFFICER I (12 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (12 credits)

- FSC119 Introduction Fire Service Ethics. 3
- FSC202 Supervisory Training for Firefighters. . . . 3
- +FSC204 Firefighting Tactics and Strategy 3
- FSC215 Customer Service in the Public Sector. . . 3

ASSOCIATE IN APPLIED SCIENCE IN EMERGENCY MANAGEMENT (64 CREDITS)

Associate in Applied Science (AAS) degree 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

+ Indicates course has prerequisite

Required Courses (24 credits)

AJS101	Introduction to Criminal Justice	3
FSC/AJS139	Emergency Response to Terrorism	3
FSC/AJS146	Disaster Recovery Operations	3
FSC/AJS147	Emergency Preparedness	3
FSC/AJS148	Fundamentals of Emergency Management	3
FSC/AJS149	Hazard Mitigation	3
FSC105	Hazardous Materials/First Responder	3
AJS/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	Fundamental 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 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 in the Natural Sciences area . . . 4

CERTIFICATE OF COMPLETION IN EMERGENCY MANAGEMENT (18 CREDITS)

The Certificate 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (18 credits)

FSC/AJS139	Emergency Response to Terrorism	3
FSC/AJS146	Disaster Recovery Operations	3
FSC/AJS147	Emergency Preparedness	3
FSC/AJS148	Fundamentals of Emergency Management	3
FSC/AJS149	Hazard Mitigation	3
AJS/FSC224	Incident Command Systems	3

Geographic Information Systems Certificates/Degrees

- **Certificate of Completion in Geographic Information Systems**

CERTIFICATE OF COMPLETION IN GEOGRAPHIC INFORMATION SYSTEMS (22-24 CREDITS)

The Certificate of Completion (CCL) in Geographic Information Systems Program (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.

Program Notes

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.

+ Indicates course has prerequisite

Program Prerequisites

Track I: None
Track II: MAT120 OR MAT121 OR MAT122 OR equivalent or District placement exam
Track III: MAT150 OR MAT151 OR MAT152 OR MAT182 OR MAT187 OR equivalent or District placement exam

Required Courses (22-24 credits)

GPH219	Introduction to GIS Using Arc GIS	3
GPH220	Intermediate GIS Using Arc GIS	3
GPH270	Introduction to Cartography and Geospatial Technologies	3
+GPH282AA	Volunteerism for Physical Geography: A Service-Learning Experience	1

Students will select one of three tracks:

Track I - User/Analyst (12-13 credits)

CIS105	Survey of Computer Information Systems	3
CIS117DM	Microsoft Access: Database Management	3
+CIS159	Visual Basic Programming I (recommended) (3) OR	
DFT110	Technical Drafting I (3)	3
GPH111	Introduction to Physical Geography (4) OR	
+GPH273	Advanced GIS Using Arc GIS (recommended) (3) OR	
GPH298AC	Special Projects (3)	3-4

Track II - Beginning Programming (12-13 credits)

CIS117DM	Microsoft Access: Database Management (recommended) (3) OR	
DFT110	Technical Drafting I (3)	3
+CSC110	Introduction to Computer Science for Majors (recommended) (3) OR	
CSC181	Applied Problem Solving with Visual BASIC (recommended) (3) OR	
+CSC281	Advanced Programming in Visual Basic (3).	6
GPH111	Introduction to Physical Geography (4) OR	
+GPH273	Advanced GIS Using Arc GIS (recommended) (3) OR	
GPH298AC	Special Projects (3)	3-4

Track III - BA/BS Track (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	Analytic Geometry and Calculus I	5

Horticulture Certificates/Degrees

- **Associate in Applied Science in Urban Horticulture**
- **Certificate of Completion in Landscape Aide**
- **Certificate of Completion in Landscape Specialist**

ASSOCIATE IN APPLIED SCIENCE IN URBAN HORTICULTURE (64 CREDITS)

The Associate in Applied Science (AAS) degree 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

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
AGS260	Origin and Composition of Soils	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
AGL282	Landscape Computer Aided Design	3

Track II - Nursery Operations (9 credits)

AGS186	Greenhouse Management and Construction	3
AGS187	Indoor Foliage Plants	3
AGS285	Propagation of Horticultural Plants	3

+ Indicates course has prerequisite

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 OR satisfactory completion of a higher level mathematics course	3-5

Humanities & 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 IN LANDSCAPE AIDE (13 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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 IN LANDSCAPE SPECIALIST (27 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

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

Information Assurance Certificates/Degrees

- **Associate in Applied Science in Information Assurance**
- **Certificate of Completion in Information Assurance**
- **Certificate of Completion in Cyber Forensics Technicians**

ASSOCIATE IN APPLIED SCIENCE IN INFORMATION ASSURANCE (62 CREDITS)

The Associate in Applied Science (AAS) degree 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.

+ Indicates course has prerequisite

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

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 (15-16 credits)

CNT185	Cisco Network Security	4
+CNT186	Fundamentals of Wireless LANs	4
+CNT230	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 0

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

PHI214	Business Ethics suggested but not required	

Social and Behavioral Sciences

ECN111	Microeconomic Principles (3) OR	
ECN112	Macroeconomic Principles (3)	3

Natural Sciences

PHY101	Introduction to Physics	4

CERTIFICATE OF COMPLETION IN INFORMATION ASSURANCE (19 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Program Prerequisites (26 credits)

Certificate of Completion in Network Security 26

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 IN CYBER FORENSICS TECHNICIAN (36-38 CREDITS)

The Certificate of Completion (CCL) for 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.

+ Indicates course has prerequisite

Program Notes
Students must earn a grade of "C" or better in all courses within the program.

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 in Interior Design**
- **Certificate of Completion in Home Furnishings and Materials**
- **Certificate of Completion in Interior Design: Advanced**

ASSOCIATE IN APPLIED SCIENCE IN INTERIOR DESIGN (64-67 CREDITS)
The Associate in Applied Science (AAS) degree in Interior Design prepares students to work in entry-level interior design positions. The program provides both general education and interior design classes, including basic design, color theory and application, architectural and furniture history, drafting, space planning, interior materials, rendering, and business procedures. Studio projects allow students to identify, research, solve, and present residential design problems. An integral part of the program is a design internship, which provides on-the-job experience under the supervision of a professional interior designer.

Program Notes
Students must earn a grade of "C" or better for all courses required within the program.

Required Courses (45 credits)
DFT121	Introduction to Architectural Drafting	3
INT105	Introduction to Interior Design	3
INT115	Historical Architecture and Furniture	3
INT120	Modern Architecture and Furniture	3
+INT140	Introduction to Architectural Desktop 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
+INT210	Interior Sales and Marketing	3
+INT240	Kitchen and Bath Design	3
+INT271++	Interior Design Internship (any module)	3
+INT280	Design Business Procedures	3

General Education Requirements (19-22 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 OR equivalent as indicated by assessment . . . 0-3

Mathematics
- +Any approved general education course from the Mathematics area . . . 3

Humanities and Fine Arts
- Met by INT115 and INT120, in required courses area . . . 0

Social and Behavior Sciences
- PSY101 Introduction to Psychology . . . 3

Natural Sciences
- +Any approved general education course from the Natural Sciences area . . . 4

CERTIFICATE OF COMPLETION IN HOME FURNISHINGS AND MATERIALS (30 CREDITS)
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.

Program Notes
Students must earn a grade of "C" or better for all courses required within the program.

+ Indicates course has prerequisite

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 IN INTERIOR DESIGN: ADVANCED (27 CREDITS)

The Certificate of Completion (CCL) in Interior Design: Advanced provides a comprehensive program intended to prepare students for professional status in the field of interior design. Additional interiors coursework is done in building systems (lighting, acoustics, plumbing, heating, ventilation, air conditioning (HVAC), codes, Americans with Disabilities Act (ADA), advanced presentation and CAD skills, and additional studio problem solving.

Program Notes

Note: 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, or permission of program director.

Required Courses (18 credits)

ARH101	Prehistoric Through Gothic Art (3) OR	
ARH102	Renaissance Through Contemporary Art (3)	3
+CAD274	Residential Design CAD	3
+INT245	Color Rendering	3
+INT260	Interior Codes and Regulations	
+INT265	Residential Systems Design	3
+INT270	Commercial Design	3

Restricted Electives (9 credits)

ARH+++++	Any ARH course except ARH101 and ARH102	3
ASB102	Introduction to Cultural and Social Anthropology	3
ASB211	Women in Other Cultures	3
ASB235	Southwest Archaeology	3
BIO+++++	Any Biology course	
CFS157	Marriage and Family Life	3
CFS159	The Modern Family	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
IBS109	Cultural Dimension and International Trade	3
MAT+++++	Any Mathematics course	3-5
MHL+++++	Any Music Humanities course	3
PHI+++++	Any Philosophy course, except PHI113	3
PHY+++++	Any Physics course	3
PSY125	Leadership and Group Dynamics	3
+PSY218	Health Psychology	3
+PSY240	Developmental Psychology	3
+PSY250	Social Psychology	3
REL+++++	Any Religious Studies course	3
SBU200	Society and Business	3
SOC+++++	Any Sociology course, except SOC242	3
THE111	Introduction to Theatre	3
THE205	Introduction to Cinema	3
THE210	Contemporary Cinema	3
+THE220	Modern Drama	3

Library Science and Technology Certificates/Degrees

- **Associate in Applied Science in Library Information Technician**
- **Certificate of Completion in Library Information Technician: Basic**
- **Certificate of Completion in Library Information Technician: Advanced**

+ Indicates course has prerequisite

ASSOCIATE IN APPLIED SCIENCE IN LIBRARY INFORMATION TECHNICIAN (64 CREDITS)

The Associate in Applied Science (AAS) degree in Library Information Technician 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.

Program Notes

LBT270 Practicum Project (1) or LBT271 Library Information Industry Careers (1) may be substituted for LBT272++ with consent of the program director.
See program director for list of recommended library electives.

Required Courses (24 credits)

LBT101	Foundation of Libraries and Information Services	3
LBT110	Introduction Technical Services and Collection Management	2
LBT130	Introduction to Reference Skills and Resources	2
LBT140	Multi-media for Libraries and Information Centers	2
LBT150	Introduction to Public Services for Libraries and Information Centers	2
LBT160	Introduction to Library Information Systems	2
LBT272++	Internship (any module)	1

Select ten credits from the following library elective courses:

+LBT211	Selection and Acquisition of Library Materials	1
+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
+LBT232	Reference Services for Paraprofessionals	1
+LBT234	Advanced Internet Research	1
LBT236	Introduction to E-mail and Electronic Communication for Libraries	1
+LBT241	Audio and Video Equipment and Production	1
+LBT246	Presentations and Web Publishing for Libraries and Information Centers	1
LBT252	Customer Service and Supervisory Skills for Paraprofessionals	1
+LBT254	Library Services for Children and Young Adults	2
+LBT257	Interlibrary Loan and Shared Resources	1
+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
+LBT272++	Internship (any module)	1-3
+LBT273	Special Topics in Library Information Services (Note: May be repeated)	1-3
+LBT274	Independent Study in Library Information Services	1

Restricted Electives (15 credits)

Any approved prefixed course(s) in BPC, CIS, ENH, LBS		3-6
Any LBT course		1-9
+ART190	Art of Website Design	3
BPC110	Computer Usage and Applications	3
BPC125	Microcomputer Set Up and Maintenance	1
CIS105	Survey of Computer Information Systems	3
+CIS108	Electronic Portfolio Development	1
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
+LBT272++	Internship (any module)	1-3
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		
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 (3) OR equivalent as indicated by assessment	3
Mathematics		
MAT102	Mathematical Concepts/Applications	3
Humanities & 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

+ Indicates course has prerequisite

Natural Sciences
Any approved general education course from the Natural Sciences Area 4

CERTIFICATE OF COMPLETION IN LIBRARY INFORMATION TECHNICIAN: BASIC (14 CREDITS)

The Certificate of Completion (CCL) in Library Information Technician, 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.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.
LBT270 Practicum Project (1) or LBT271 Library Information Industry Careers (1) may be substituted for LBT272++ with the consent of the Program Director.

Required Courses (14 credits)

LBT101	Foundation of Libraries and Information Services	3
LBT110	Introduction Technical Services and Collection Management	2
LBT130	Introduction to Reference Skills and Resources	2
LBT140	Multi-media for Libraries and Information Centers	2
LBT150	Introduction to Public Services for Libraries and Information Centers	2
LBT160	Introduction to Library Information Systems	2
LBT272++	Internship (any module)	1

CERTIFICATE OF COMPLETION IN LIBRARY INFORMATION TECHNICIAN: ADVANCED (24 CREDITS)

The Certificate of Completion (CCL) in Library Information Technician, Advanced provides an opportunity to take both basic and specialized courses leading to a thorough background as a library information technician. It allows those already working in library information organizations to expand and update their knowledge and skills.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.
LBT270 Practicum Project (1) or LBT271 Library Information Industry Careers (1) may be substituted for LBT272++ with the consent of the Program Director.

Required Courses (14 credits)

LBT101	Foundation of Libraries and Information Services	3
LBT110	Introduction Technical Services and Collection Management	2
LBT130	Introduction to Reference Skills and Resources	2
LBT140	Multi-media for Libraries and Information Centers	2
LBT150	Introduction to Public Services for Libraries and Information Centers	2
LBT160	Introduction to Library Information Systems	2
LBT272++	Internship (any module)	1

Restricted Electives (10 credits)

+LBT211	Selection and Acquisition of Library Materials	1
+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
+LBT232	Reference Services for Paraprofessionals	1
+LBT234	Advanced Internet Research	1
LBT236	Introduction to E-mail and Electronic Communication for Libraries	1
+LBT241	Audio and Video Equipment and Production	1
+LBT246	Presentations and Web Publishing for Libraries and Information Centers	1
LBT252	Customer Service and Supervisory Skills for Paraprofessionals	1
+LBT254	Library Services for Children and Young Adults	2
+LBT257	Interlibrary Loan and Shared Resources	1
+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
+LBT272++	Internship (any module)	1-3
+LBT273	Special Topics in Library Information Services (Note: May be repeated)	1-3
+LBT274	Independent Study in Library Information Services	1

+ Indicates course has prerequisite

Machine Technology Certificates/Degrees

- **Associate in Applied Science in Machinist, Tool and Die**

ASSOCIATE IN APPLIED SCIENCE IN MACHINIST, TOOL AND DIE (68 CREDITS)

The Associate in Applied Science (AAS) degree in Machinist, Tool and Die program prepares students to work in entry-level positions in the machine shop field, shaping metals and other materials to meet precise specifications. The program is designed to provide hands-on experience with machines and accessories used in the machine shop environment. The curriculum combines technical coursework with a General Education component.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (43 credits)

DFT114	Machine Trades Blueprint Reading	3
DFT252AA	Computer Aided Drafting I: Auto CAD	3
GTC107	Technical Mathematics I	3
GTC108	Technical Mathematics II	3
GTC206	CNC Programming	3
GTC216	Properties of Materials	3
MET101	Machine Shop Theory I	3
MET103	Machine Shop Theory II	3
MET150	Machining Practices I	8
MET250	Machining Practices II	8
QCT143	Principle of Quality Assurance (3) OR	
QCT270	Measurements for Quality Control I (3)	3

Restricted Electives (3 credits)

DFT115	Geometric Dimensioning and Tolerancing	3
GTC106AA	Industrial Safety	2
GTC129	Manufacturing Welding (3) OR	
WLD101	Welding I (3)	3
GTC181	Introduction to Fluid Power	3
GTC236	CAD/CAM CNC Programming	3
GTC246	Advanced CAD/CAM CNC Programming	3
MET296	Cooperative Education	1-3
QCT143	Principles of Quality Assurance	3
QCT153	Applications of Statistical Quality Control	3
WLD201	Welding II	3

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 . . . 0

Humanities & 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

Manufacturing Technology Certificates/Degrees

- **Associate in Applied Science in Manufacturing Engineering Technology**
- **Associate in Applied Science Manufacturing Technology**
- **Certificate of Completion in Manufacturing CNC**
- **Certificate of Completion in Manufacturing Machining**
- **Certificate of Completion in Manufacturing Management**

ASSOCIATE IN APPLIED SCIENCE IN MANUFACTURING ENGINEERING TECHNOLOGY (71 CREDITS)

The Associate in Applied Science (AAS) degree 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

+ Indicates course has prerequisite

Required Courses (53 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
+ELE181	Computer Programming for Technology	3
GTC102	Machine Processes, Theory & Application	3
GTC104	Manufacturing Processes	4
GTC106AA	Industrial Safety	2
GTC170	Plastics Technology	3
+GTC206	CNC Programming	3
GTC216	Properties of Materials	3
+PHY111	General Physics I	4
+PHY112	General Physics II	4
WLD101	Welding I	3
+WLD201	Welding II	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. . . . 0

Humanities & Fine Arts

REL101	Introduction to Religion (3) OR	
HUM108	Contemporary Humanities (3)	3

Social and Behavioral Sciences

ECN111 Macroeconomic Principles . . . 3

Natural Sciences

Met by CHM130 AND CHM130LL in required course area. . . . 0

ASSOCIATE IN APPLIED SCIENCE IN MANUFACTURING TECHNOLOGY (60-64 CREDITS)

The Associate in Applied Science (AAS) degree 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 Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites (3 credits)

GTC107 Technical Mathematics I (3 credits) OR satisfactory score on math placement test.

Required Courses (39-42 credits)

DFT114	Machine Trades Blueprint Reading	3
DFT115	Geometric Dimensioning and Tolerancing	3
+DFT252AA	Computer Aided Drafting I: Auto CAD	3
GTC102	Machine Processes, Theory and Application	3
GTC104	Manufacturing Processes	4
GTC106AA	Industrial Safety	2
+GTC108	Technical Mathematics II	3
GTC216	Properties of Materials	3
QCT143	Principles of Quality Assurance (3) OR	
QCT153	Applications of Statistical Quality Control (3)	3

Select one of the following three tracks:

Track I -CNC (12 credits)

+GTC206	CNC Programming	3
+GTC236	CAD/CAM CNC Programming	3
+GTC246	Advanced CAD/CAM CNC Programming	3
+GTC266	Solids Modeling	3

Track 2-Machining (12 credits)

GTC129	Manufacturing Welding	3
+GTC181	Introduction to Fluid Power	3
+GTC206	CNC Programming	3
+GTC223	Advanced Machine Tools	3

Track 3- Management (14-15 credits)

MGT229	Management and Leadership I	3
+MGT230	Management and Leadership II	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 Enpowerment Strategies (2) OR	
TQM230	Teamwork Dynamics (2) OR	
TQM240	Project Management in Quality Organizations (2)	2-3

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

+ Indicates course has prerequisite

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 0
Humanities & 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 Recommended
Natural Sciences
Any approved general education course from the
Natural Sciences area 4

CERTIFICATION OF COMPLETION IN MANUFACTURING CNC (27 CREDITS)

The Certificate of Completion (CCL) in Manufacturing CNC focuses on computer numerical control programming and the current and future needs of industry. The program also provides technical competency in traditional machining and manufacturing processes.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (27 credits)

DFT114	Machine Trades Blueprint Reading	3
DFT115	Geometric Dimensioning and Tolerancing	3
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
+GTC246	Advanced CAD/CAM CNC Programming	3
+GTC266	Solids Modeling	3

CERTIFICATE OF COMPLETION IN MANUFACTURING MACHINING (27 CREDITS)

The Certificate of Completion (CCL) in Manufacturing Machining prepares students to work as technicians in the manufacturing machining industry and for technicians responsible for the maintenance of production equipment. The program emphasizes scientific and mathematical theory and specialized training in metal removal processes.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (27 credits)

DFT114	Machine Trades Blueprint Reading	3
DFT252AA	Computer Aided Drafting I: Auto CAD	3
GTC102	Machine Processes, Theory and Application	3
+GTC108	Technical Mathematics II	3
+GTC129	Manufacturing Welding	3
+GTC206	CNC Programming	3
GTC216	Properties of Materials	3
+GTC223	Advanced Machine Tools	3
QCT143	Principles of Quality Assurance	3
+QCT153	Applications of Statistical Quality Control	3

CERTIFICATE OF COMPLETION IN MANUFACTURING MANAGEMENT (26-27 CREDITS)

The Certificate of Completion (CCL) in Manufacturing Management prepares students to work in managerial positions in the manufacturing industry. The program is designed for both those wanting to enter the field and those already working in the field who want to advance and update their knowledge and skills.

Program Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Required Courses (26-27 credits)

DFT114	Machine Trades Blueprint Reading	3
GTC104	Manufacturing Processes	4
GTC106AA	Industrial Safety	2
+GTC108	Technical Mathematics II	3
GTC216	Properties of Material	3
MGT229	Management and Leadership I	3
+MGT230	Management and Leadership II	3
MGT251	Human Relations in Business (3) OR	
MGT253	Owning & Operating a Small Business (3) OR	
MKT271	Principles of Marketing (3).	3
TQM101	Quality Customer Service (3) OR	
TQM220	Leadership & Enpowerment Strategies (2) OR	
TQM230	Teamwork Dynamics (2) OR	
TQM240	Project Management in Quality Organizations (2)	2-3

+ Indicates course has prerequisite

Media Arts Certificates/Degrees

- **Associate in Applied Science in Media Arts: Computer Art/Illustration**
- **Certificate of Completion in Media Arts: Computer Art/Illustration**
- **Associate in Applied Science in Media Arts: Desktop Publishing**
- **Certificate of Completion in Media Arts: Desktop Publishing**
- **Associated in Applied Science in Media Arts: Digital Animation**
- **Certificate of Completion in Media Arts: Digital Animation**
- **Associated in Applied Science in Media Arts: Digital Imaging**
- **Certificate of Completion in Media Arts: Digital Imaging**
- **Associate in Applied Science in Media Arts: Web Page Design**
- **Certificate of Completion in Media Arts: Web Page Design**

ASSOCIATE IN APPLIED SCIENCE IN MEDIA ARTS: COMPUTER ART/ILLUSTRATION (66 CREDITS)

The Associate in Applied Science (AAS) degree in Media Arts: Computer Art/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. The curriculum combines coursework in media arts and a General Education component.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (38 credits)

ART100	Introduction to Computer Graphic Art	1
ART111	Drawing I	3
ART112	Two-Dimensional Design	3
ART116	Life Drawing I	3
ART169	Two-Dimensional Computer Design	3
ART173	Computer Arts (3) OR	
+ART177	Computer-Photographic Imaging (3)	3
ART255AA	Self Promotion	1
+ART255AB	The Portfolio	1
+ART289	Computer Illustration	3
+ART297AB	Computer Graphic Design Internship	2
+MMT140	Survey of Multimedia Technology	2
+ELT/MMT292	Multimedia Update	1
+COM259	Communication in Business and Professions	3
+ENG111	Technical Writing	3
MMT/VPT216	Multimedia Project Management	3
MGT229	Management and Leadership I (3) OR	
MGT251	Human Relations in Business (3)	3

General Education Requirements (28 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

Humanities and Fine Arts

Students must select any combination of ARH102, ARH100, ARH115, HUM108 for a total of 6 credits in the Humanities and Fine Arts area

ARH102	Renaissance through Contemporary Art (3)	
ARH100	Introduction to Art (3)	
ARH115	History of Photography (3)	
HUM108	Contemporary Humanities (3)	6

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 IN MEDIA ARTS: COMPUTER ART/ILLUSTRATION (16 CREDITS)

The Certificate of Completion (CCL) in Media Arts: Computer Art/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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

+ Indicates course has prerequisite

Required Courses (16 credits)

ART100	Introduction to Computer Graphic Art	1
ART111	Drawing I	3
ART116	Life Drawing I	3
ART169	Two-Dimensional Computer Design	3
ART173	Computer Arts (3) OR	
+ART177	Computer-Photographic Imaging (3)	3
+ART289	Computer Illustration	3

ASSOCIATE IN APPLIED SCIENCE IN MEDIA ARTS: DESKTOP PUBLISHING (66 CREDITS)

The Associate in Applied Science (AAS) degree in Media Arts: Desktop Publishing prepares students to work in a specialized field of desktop publishing as desktop publishers, graphic designers, pre-press specialists, service bureau and customer service personnel, and graphic design freelancers. The program emphasizes principles of art and develops knowledge and skills required to solve graphic design and layout problems encountered in the printing industry. 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. The curriculum combines coursework in media arts with a General Education component.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (38 credits)

ART100	Introduction to Computer Graphic Art	1
+ART112	Two-Dimensional Design	3
+ART113	Color	3
+ART177	Computer-Photographic Imaging	3
+ART183	Computer Aided Graphic Arts I	3
ART255AA	Self Promotion	1
+ART255AB	The Portfolio	1
+ART283	Computer Aided Graphic Arts II	3
+ART291	Digital Prepress	3
+ART297AB	Computer Graphic Design Internship	2
+MMT140	Survey of Multimedia Technology	2
+ELT/MMT292	Multimedia Update	1
+COM259	Communication in Business & Professions	3
+ENG111	Technical Writing	3
MMT/VPT216	Multimedia Project Management	3
MGT229	Management and Leadership I (3) OR	
MGT251	Human Relations in Business (3)	3

General Education Requirements (28 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

Humanities and Fine Arts
- Students must select courses for a total of 6 credits from the Humanities and Fine Arts area

ARH102	Renaissance through Contemporary Art (3)	
ARH100	Introduction to Art (3)	
ARH115	History of Photography (3)	
HUM108	Contemporary Humanities (3)	6

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 IN MEDIA ARTS: DESKTOP PUBLISHING (16 CREDITS)

The Certificate of Completion (CCL) in Media Arts: Desktop Publishing prepares students to work in a specialized field of desktop publishing as desktop publishers, graphic designers, pre-press specialists, service bureau and customer service personnel, and graphic design freelancers. The program emphasizes principles of art and develops knowledge and skills required to solve graphic design and layout problems encountered in the printing industry. 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (16 credits)

ART100	Introduction to Computer Graphic Art	1
ART112	Two-Dimensional 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

ASSOCIATE IN APPLIED SCIENCE IN MEDIA ARTS: DIGITAL ANIMATION (66 CREDITS)

The Associate in Applied Science (AAS) degree in Media Arts: Digital Animation prepares students to work in digital animation as animators, concept artists, texture mappers, lighting and background artists, media content producers, and multimedia specialists. The program emphasizes knowledge and skills using three-dimensional software and hardware in a desktop production environment to create digital characters and sequences. The program is designed for both those seeking to enter a career in digital animation and those already working in the field who wish to advance and update their knowledge and skills. The curriculum combines coursework in digital animation with a General Education component.

+ Indicates course has prerequisite

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.

Required Courses (38 credits)

ART100	Introduction to Computer Graphic Art	1
ART255AA	Self Promotion	1
+ART255AB	The Portfolio	1
+ART297AB	Computer Graphic Design Internship	2
+ART/ADA169	Two-Dimensional Computer Design	3
+ART/ADA170	Three-Dimensional Computer Design	3
+ART/ADA/ MMT184	Computer Animation	3
+ART/ADA/ MMT284	Intermediate Animation	3
+ART/MMT185	3-D Modeling for Animation	3
CIS105	Survey of Computer Information Systems	3
+COM259	Communication in Business & Professions	3
+ENG111	Technical Writing	3
+MMT/CIS140	Survey of Multimedia Technology	2
+MMT/ELT292	Multimedia Update	1
MMT/VPT216	Multimedia Project Management	3
MGT229	Management and Leadership I (3) OR	
MGT251	Human Relations in Business (3)	3

General Education Requirements (28 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
- ARH102 Renaissance through Contemporary Art (3) AND
- HUM108 Contemporary Humanities (3) . . . 6

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 IN MEDIA ARTS: DIGITAL ANIMATION (16 CREDITS)

The Certificate of Completion (CCL) in Media Arts: Digital Animation prepares students to work in digital animation as animators, concept artists, texture mappers, lighting and background artists, media content producers, and multimedia specialists. The program emphasizes knowledge and skills using three-dimensional software and hardware in a desktop production environment to create digital characters and sequences. The program is designed for both those seeking to enter a career in digital animation and those already working in the field who wish to advance and update their knowledge and skills.

Program Notes

Students must earn a grade of "C" or better in all courses required within the program.

Required Courses (16 credits)

ART100	Introduction to Computer Graphic Art	1
+ART/ADA169	Two-Dimensional Computer Design	3
+ART/ADA170	Three-Dimensional Computer Design	3
+ART/ADA/ MMT184	Computer Animation	3
+ART/MMT185	3-D Modeling for Animation	3
+ART/ADA/ MMT284	Intermediate Animation	3

ASSOCIATED IN APPLIED SCIENCE IN MEDIA ARTS: DIGITAL IMAGING (66 CREDITS)

The Associate in Applied Science (AAS) degree in Media Arts: Digital Imaging prepares students to work in photography and digital imaging as commercial photographers, portrait and fine art photographers, digital production technicians, photo retouchers, and compositors. The program emphasizes understanding of film, cameras, film equipment, photographic terminology, digital tools, and digital print processes. Knowledge and skills can be applied to such occupational areas as media production, marketing, graphic production, desktop publishing, multimedia, and digital video production. The program is designed for both those seeking to enter a career in digital imaging and those already working in the field who wish to advance and update their knowledge and skills. The curriculum combines coursework in media arts with a General Education component.

Program Notes:

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (38 credits)

ART100	Introduction to Computer Graphic Art	1
ART112	Two-Dimensional Design	3
ART131	Photography I	3
+ART132	Photography II	3
ART255AA	Self Promotion	1
+ART255AB	The Portfolio	1
+ART270	Intermediate Computer Photographic Imaging	3

+ Indicates course has prerequisite

ART274	Advanced Computer Photographic Imaging	3
+ART297AB	Computer Graphic Design Internship	2
+ART177	Computer-Photographic Imaging	3
+COM259	Communication in Business & Professions	3
+ENG111	Technical Writing	3
+MMT140	Survey of Multimedia Technology	2
+ELT/MMT292	Multimedia Update	1
MMT/VPT216	Multimedia Project Management	3
MGT229	Management and Leadership I (3) OR	
MGT251	Human Relations in Business (3)	3

General Education Requirements (28 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

Humanities and Fine Arts

Students must select any combination of ARH102, ARH100, ARH115, HUM108 for a total of 6 credits in the Humanities and Fine Arts area.

ARH102	Renaissance through Contemporary Art (3)	
ARH100	Introduction to Art (3)	
ARH115	History of Photography (3)	
HUM108	Contemporary Humanities (3)	6

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 IN MEDIA ARTS: DIGITAL IMAGING (16 CREDITS)

The Certificate of Completion (CCL) in Media Arts: Digital Imaging prepares students to work in photography and digital imaging as commercial photographers, portrait and fine art photographers, digital production technicians, photo retouchers, and compositors. The program emphasizes understanding of film, cameras, film equipment, photographic terminology, digital tools, and digital print processes. Knowledge and skills can be applied to such occupational areas as media production, marketing, graphic production, desktop publishing, multimedia, and digital video production. The program is designed for both those seeking to enter a career in digital imaging and those already working in the field who wish to advance and update their knowledge and skills.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (16 credits)

ART100	Introduction to Computer Graphic Art	1
ART131	Photography I	3
+ART132	Photography II	3
+ART177	Computer-Photographic Imaging	3
+ART270	Intermediate Computer Photographic Imaging	3
ART274	Advanced Computer Photographic Imaging	3

ASSOCIATE IN APPLIED SCIENCE IN MEDIA ARTS: WEB PAGE DESIGN (65 CREDITS)

The Associate in Applied Science (AAS) degree in Media Arts: Web Page 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. The curriculum combines coursework in web page design with a General Education component.

Program Notes:

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (37 credits)

ART100	Introduction to Computer Graphic Art	1
+ART177	Computer-Photographic Imaging	3
+ART179	Electronic Presentation Design	3
+ART183	Computer Aided Graphic Arts I	3
+ART/MMT190	Art of Website Design	3
ART255AA	Self Promotion	1
+ART255AB	The Portfolio	1
+ART297AA	Computer Graphic Design Internship	1
+BPC/CIS133DA	Internet/Web Development Level I	3
CIS105	Survey of Computer Information Systems	3
+COM259	Communication in Business & Professions	3
+ELT/MMT292	Multimedia Update	1
+ENG111	Technical Writing	3
+MMT140	Survey of Multimedia Technology	2
MMT/VPT216	Multimedia Project Management	3
MGT229	Management and Leadership I (3) OR	
MGT251	Human Relations in Business (3)	3

+ Indicates course has prerequisite

General Education Requirements (28 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
Students must select any combination of ARH102, ARH100, ARH115, HUM108 for a total of 6 credits in the Humanities and Fine Arts area.

ARH102	Renaissance through Contemporary Art (3)
ARH100	Introduction to Art (3)
ARH115	History of Photography (3)
HUM108	Contemporary Humanities (3) 6

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 IN MEDIA ARTS: WEB PAGE DESIGN (16 CREDITS)

The Certificate of Completion (CCL) in Media Arts: Web Page 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (16 credits)

ART100	Introduction to Computer Graphic Art . . 1
+ART177	Computer-Photographic Imaging 3
+ART179	Electronic Presentation Design 3
+ART183	Computer Aided Graphic Arts I 3
+ART/MMT190	Art of Website Design. 3
+BPC/CIS133DA	Internet/Web Development Level I. 3

Micro Circuit Mask Design Certificates/Degrees

- **Associate in Applied Science in Micro Circuit Mask Design**
- **Certificate of Completion in Micro Circuit Mask Design**

ASSOCIATE IN APPLIED SCIENCE IN MICRO CIRCUIT MASK DESIGN (63 CREDITS)

The Associate in Applied Science (AAS) degree in Media Arts: Computer Art/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. The curriculum combines coursework in media arts and 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

+ Indicates course has prerequisite

Critical Reading
- CRE101 Critical and Evaluative Reading (3) OR equivalent as indicated by assessment . . . 3

Mathematics
- Met by ELE105 in required courses area 0

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 IN MICRO CIRCUIT MASK DESIGN (36 CREDITS)

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 Certificates/Degrees

- **Associate in Applied Science in Mortuary Science**

ASSOCIATE IN APPLIED SCIENCE IN MORTUARY SCIENCE (67-68 CREDITS)

The Associate in Applied Science (AAS) degree 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 Microcomputer 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 Firs-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

+ Indicates course has prerequisite

Humanities & 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 in Audio Production Technologies**
- **Certificate of Completion in Audio Production Technologies**
- **Associate in Applied Science in Music Business**
- **Certificate of Completion in Music Business**

ASSOCIATE IN APPLIED SCIENCE IN AUDIO PRODUCTION TECHNOLOGIES (67 CREDITS)

The Associate in Applied Science (AAS) degree 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (39 credits)

MTC101 Introduction to Music Theory 3
MTC103 Introduction to Aural Perception 2
MTC180 Computer Literacy for Musicians (3) OR
MUC295 Studio Music Recording III (3) 3
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
MUC196 Studio Music Recording II 3
MUC197 Live Sound Reinforcement I. 3
MUC198 Live Sound Reinforcement II 3
MUC297AA Music Internship 1

General Education Requirements (28 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
Any approved general education course in the Mathematics area 3
Humanities and Fine Arts
Any approved general education course from the Humanities and Fine Arts area (MHL140 or MHL145 or MHL153 recommended). 6
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 IN AUDIO PRODUCTION TECHNOLOGIES (39 CREDITS)

The Certificate of Completion in (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.

Program Notes

Students much earn a grade of "C" or better in all courses within the program.

+ Indicates course has prerequisite

Required Courses (39 credits)

MTC101	Introduction to Music Theory	3
MTC103	Introduction to Aural Perception	2
MTC180	Computer Literacy for Musicians (3) OR	
MUC295	Studio Music Recording III (3)	3
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
MUC196	Studio Music Recording II	3
MUC197	Live Sound Reinforcement I	3
MUC198	Live Sound Reinforcement II	3
MUC297AA	Music Internship	1

ASSOCIATE IN APPLIED SCIENCE IN MUSIC BUSINESS (65 CREDITS)

The Associate in Applied Science (AAS) degree 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 (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
MGT253	Owning and Operating a Small Business	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

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 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 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 IN MUSIC BUSINESS (40 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Required Courses (37 credits)

ACC109	Accounting Concepts (3) OR	
ACC111	Accounting Principles (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
MGT253	Owning and Operating a Small Business	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

+ Indicates course has prerequisite

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

Network Administration Certificates/Degrees

- **Certificate of Completion in Computer Hardware and Desktop Support**
- **Associate in Applied Science in Linux Networking Administration**
- **Certificate of Completion in Linux Associate**
- **Certificate of Completion in Linux Networking Administration**
- **Certificate of Completion in Linux Professional**
- **Associate in Applied Science in Microsoft Application Development**
- **Certificate of Completion in Microsoft Application Development**
- **Certificate of Completion in Microsoft Desktop Support Technology**
- **Associate in Applied Science in Networking System Administration**
- **Certificate of Completion in Network Administration: CISCO Network Associate**
- **Certificate of Completion in Network Administration: CISCO Network Professional**
- **Certificate of Completion in Network Administration: Microsoft Windows**
- **Certificate of Completion in Network Administration: Microsoft Windows NT**
- **Certificate of Completion in Network Administration: Novell**
- **Certificate of Completion in Network Administration: UNIX-Solaris**
- **Certificate of Completion in Network Security**

CERTIFICATE OF COMPLETION IN COMPUTER HARDWARE AND DESKTOP SUPPORT (16-20 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

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	
+ CIS296W+	Cooperative Education (Any CIS296WA-WD module) (1-4)	1-4

ASSOCIATE IN APPLIED SCIENCE IN LINUX NETWORKING ADMINISTRATION (61 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.

Required Courses (24 credits)

BPC170	Computer Maintenance I: A+ Prep (3) OR	
BPC273	Advanced Server Computer Maintenance: Server+ Prep (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

+ Indicates course has prerequisite

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	The 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
CIS120DC	Computer Graphics: Macromedia Flash . . 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
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 3
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

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 IN LINUX ASSOCIATE (24 CREDITS)

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.

Program Notes

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+ 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

+ Indicates course has prerequisite

CERTIFICATION OF COMPLETION IN LINUX NETWORKING ADMINISTRATION (36 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.

Required Courses (24 credits)

BPC170	Computer Maintenance I: A+ Prep (3) OR
BPC273	Advanced Server Computer Maintenance (3) OR
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
CIS120DC	Computer Graphics: Macromedia Flash . . 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

CERTIFICATE OF COMPLETION IN LINUX PROFESSIONAL (12 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.

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

+ Indicates course has prerequisite

ASSOCIATE IN APPLIED SCIENCE IN MICROSOFT APPLICATION DEVELOPMENT (60-62 CREDITS)

The Associate in Applied Science (AAS) degree in Microsoft Application Development is designed to provide training in preparation for the Microsoft Certified Solutions Developer (MCDS) certification examinations. The MCSD credential is the premium certification for professionals who design and develop custom business solutions with Microsoft development tools, technologies, and platforms. Focus is on application development for desktop, distributed, and Internet/Intranet environments.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.

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 (25 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) OR	
+MST146	Data Modeling and Relational Database Design (2)	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.

+CIS290A+	Computer Information Systems Internship (any module) (1-3) OR	
+CIS296W+	Cooperative Education (any module) (1-4).	1-4
+MST150++	Any MST150 course.	3
+MST152++	Any MST152 course	3-4
+MST244	Microsoft SQL Server Administration	3
MST298A+	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 in the Oral Communication area . . . 3

Critical Reading

Met by CRE101 in the program prerequisites area . . . 0

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 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

Any approved general education course in the Natural Sciences area . . . 4

+ Indicates course has prerequisite

CERTIFICATE OF COMPLETION IN MICROSOFT APPLICATION DEVELOPMENT (22 CREDITS)

The Certificate of Completion (CCL) in Microsoft Application Development is designed to provide training in preparation for the Microsoft Certified Solutions Developer (MCDS) certification examinations. The MCSD credential is the premium certification for professionals who design and develop custom business solutions with Microsoft development tools, technologies, and platforms. Focus is on application development for desktop, distributed, and Internet/Intranet environments.

Program Notes

Students must earn a grade of "C" or better for all courses required within the program.

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) OR
+MST146	Data Modeling and Relational Database Design (2) 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 IN MICROSOFT DESKTOP SUPPORT TECHNOLOGY (18-19 CREDITS)

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 Notes

Students must earn a grade of "C" or better in all courses within the program.

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	Microsoft Command Line Operations . . . 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+ 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 IN NETWORKING SYSTEM ADMINISTRATION (63 CREDITS)

The Associate in Applied Science (AAS) degree 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

The Network core courses will also prepare students towards certification in Microsoft and Novell.

+ Indicates course has prerequisite

Program Prerequisites (6 credits)

CIS105	Survey of Computer Information Systems 3
CRE101	Critical and Evaluative Reading I. 3

Required Courses (29-31 credits)

+BPC170	Computer Maintenance I A+ Prep (3) OR
BPC270	Microcomputer Maintenance II (3) 3
CIS109++	LAN Operations and Concepts (any module) 1-2
CIS126++	UNIX Operating System (any module) (3) OR
CSC178	Programming in the UNIX Environment (3) 3
+CIS162++	C Programming I (any module) (3) OR
+CIS163AA	Java Programming: Level I (3). 3
+CIS190	Introduction to Local Area Networks (3) OR
CNT140	Cisco Networking Basics (4). 3-4
+CIS191++	Novell NetWare System Administration (any module) (3) OR
CIS175DB	Implementing Microsoft Windows 2000 Professional (3) OR
MST150++	Microsoft Windows Professional (any module) (3) 3
CIS240	Local Area Network Planning and Design. 3
+CIS266	Network Service and Support. 4
+CIS270	Essentials of Network and Information Security 3
+ELE100	Concept of Electricity and Electronics. . . 3

Restricted Electives (12 credits)

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
+CIS191	Novell NetWare System Administration . . 3
CNT145	Voice and Data Cabling 4
CNT150	Cisco Networking Router Technologies . . 4
CNT160	Cisco Switching and Intermediate Routing. 3
CNT170	Cisco Wide Area Networks (WAN) Technologies 3
CNT185	Cisco Network Security 4
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
CSC120	Digital Design Fundamentals 4
ELT131	Digital Logic Circuits 4
MST150++	Microsoft Windows Professional (any module) 3
MST152++	Microsoft Windows Server (any module) 3-4
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

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 program prerequisites 0

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

ECN111	Macroeconomic Principles (3) OR
ECN112	Microeconomic Principles (3) 3

Natural Sciences

PHY101	Introduction to Physics 4

CERTIFICATE OF COMPLETION IN NETWORK ADMINISTRATION: CISCO NETWORK ASSOCIATE (31-32 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for all courses within the program.

The Network core courses will also prepare students towards certification in Microsoft and Novell.

+ Indicates course has prerequisite

Program Prerequisites (6 credits)

CIS105	Survey of Computer Information Systems 3
CRE101	Critical and Evaluative Reading I 3

Required Courses (31-32 credits)

BPC170	Computer Maintenance I: A+ Prep (3) OR
BPC270	Microcomputer Maintenance II (3) 3
CIS109++	LAN Operations and Concepts (any module) 1-2
CIS126++	UNIX Operating System (any module) . . 3
CIS191++	Novell NetWare System Administration (any module) (3) OR
MST150	Microsoft Windows Professional (3) 3
CIS266	Network Service and Support. 4
CIS270	Essentials of Network and Information Security 3
CNT140	Cisco Networking Basics 4
CNT150	Cisco Networking Router Technologies . . 4
CNT160	Cisco Switching and Intermediate Routing. 3
CNT170	Cisco Wide Area Networks (WAN) Technologies. 3

CERTIFICATE OF COMPLETION NETWORK ADMINISTRATION: CISCO NETWORK PROFESSIONAL (31 CREDITS)

The Certificate of Completion (CCL) Network Administration: CISCO Network Professional equips students with marketable skills for learning the specific tasks and industry-recognized standards associated with network professionals 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.

Program Notes

Students must earn a grade of "C" or better for all courses within the program.
The Network core courses will also prepare students towards certification in Microsoft and Novell.

Program Prerequisites (31-32 credits)

Network Administration: CISCO Network Associate 31-32

Required Courses (31 credits)

+CIS266	Network Service and Support. 4
+CIS270	Essentials of Network and Information Security 3
CNT145	Voice and Data Cabling 4
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

CERTIFICATE OF COMPLETION IN NETWORK ADMINISTRATION: MICROSOFT WINDOWS (28-31 CREDITS)

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 Windows 2000 Administrator.

Program Notes

Students must earn a grade of "C" or better for all courses within the program.
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 (28-31 credits)

+BPC170	Computer Maintenance I A+ Prep (3) OR
BPC270	Microcomputer Maintenance II (3) 3
CIS109++	LAN Operations and Concepts (any module) 1-2
CIS126DA	UNIX Operating System 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 Services (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
CIS175DB	Implementing Microsoft Windows 2000 Professional (3) OR
MST150	Microsoft Windows Professional (3) 3
+CIS190	Introduction to Local Area Networks (3) OR
CNT140	Cisco Networking Basics (4). 3-4
+CIS266	Network Service and Support 4
CIS270	Essentials of Network and Information Security 3
MST152++	Microsoft Windows Server (any module) (3) 3

+ Indicates course has prerequisite

CERTIFICATE OF COMPLETION IN NETWORK ADMINISTRATION: MICROSOFT WINDOWS NT (29-30 CREDITS)

The Certificate of Completion (CCL) in Network Administration: Microsoft Windows NT 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 Certified System Engineer for NT.

Program Notes

Students must earn a grade of "C" or better for all courses within the program.
The Network core courses will also prepare students towards certification in Microsoft and Novell.

Required Courses (29-30 credits)

BPC170	Computer Maintenance I: A+ Prep (3) OR
BPC270	Microcomputer Maintenance II (3) 3
CIS105	Survey of Computer Information Systems 3
CIS109++	LAN Operations and Concepts (any module) 1-2
CIS190	Introduction to Local Area Networks. . . . 3
CIS191	Novell NetWare System Administration . . 3
CIS192	Microsoft Windows NT Workstations . . . 3
CIS193	Microsoft Windows NT Server. 3
CIS194	MS Windows NT Server in the Enterprise 3
CIS266	Network Service and Support. 4
CIS270	Essentials of Network and Information Security 3

CERTIFICATE OF COMPLETION IN NETWORK ADMINISTRATION: NOVELL (26-28 CREDITS)

The Certificate of Completion (CCL) in Network Administration: Novell 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 Novell Network Engineer.

Program Prerequisites (6 credits)

CIS105	Survey of Computer Information Systems 3
CRE101	Critical and Evaluative Reading I 3

Required Courses (26-28 credits)

BPC170	Computer Maintenance I: A+ Prep (3) OR
BPC270	Microcomputer Maintenance II (3) 3
CIS109++	LAN Operations and Concepts (any module) 1-2
CIS126++	UNIX Operating System (any module) . . 3
+CIS190	Introduction to Local Area Networks (3) OR
CNT140	Cisco Networking Basics (4). 3-4
MST150	Microsoft Windows Professional 3
CIS191	Novell NetWare System Administration . . 3
CIS245	Novell NetWare Advanced System Administration 3
CIS266	Network Service and Support 4
CIS270	Essentials of Network and Information Security 3

CERTIFICATE OF COMPLETION IN NETWORK ADMINISTRATION: UNIX-SOLARIS (29-32 CREDITS)

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.

Program Notes

Students must earn a grade of "C" or better for all courses within the program.
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 (29-32 credits)

BPC170	Computer Maintenance I: A+ Prep (3) OR
BPC270	Microcomputer Maintenance II (3) 3
CIS109++	LAN Operations and Concepts (any module) 1-2
CIS126DA	UNIX Operating System 3
CIS190	Introduction to Local Area Networks (3) OR
CNT140	Cisco Networking Basics (4). 3-4
CIS175DB	Implementing Microsoft Windows 2000 Professional (3) OR
MST150	Microsoft Windows Professional (3) 3
CIS226++	Internet/Intranet Server Administration (Note: any module) (3) OR
CNT150	Cisco Networking Router Technologies (4) 3-4
CIS238	Advanced UNIX System Administration 3
CIS238US	UNIX Security 3
CIS266	Network Service and Support 4
CIS270	Essentials of Network and Information Security 3

+ Indicates course has prerequisite

CERTIFICATE OF COMPLETION IN NETWORK SECURITY (26 CREDITS)

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, CompTia Security +, and Global Information Assurance Certifications (GIAC). Relevant certification tests are identified in individual course descriptions.

Program Notes

Students must earn a grade of "C" or better for all courses within the program.
The Network core courses will also prepare students towards certification in CISCO, Microsoft and CompTia.

Program Prerequisites (26-31 credits)

CCL Network Administration:
CISCO Network Associate (5205) (30-31) OR
CCL Network Administration:
Microsoft Windows (5124) (26-28) OR
CCL Network Administration:
Microsoft Windows NT (5120) (29-30) OR
CCL Network Administration: Novell (5122) (30-31) OR
CCL Network Administration:
UNIX-Solaris (5123) (30-31)

Required Courses (26 credits)

CIS175CG	Designing a Secure Microsoft 2000 Network (3) OR	
+MST259	Designing Windows Network Security (3)	3
+CIS238US	UNIX Security	3
+CIS270	Essentials of Network and Information Security	3
+CIS271DA	Security Certified Professional (SCP) Hardening the Infrastructure	3
+CIS272DA	Security Certified Professional (SCP) Network Defense and Countermeasures	3
+CNT185	Cisco Network Security	4
CNT186	Fundamentals of Wireless LANs	4
PHI214	Business Ethics	3

Nursing Certificates/Degrees

- **Certificate of Completion in Nurse Assisting**
- **Certificate of Completion in Practical Nursing**
- **Associate in Applied Science Degree in Nursing**

For Information: Myrna Eshelman
Phone: 480-461-7106
Nursing: Maricopa Community College District Nursing Program (MCCDNP)

Advisor list and information & application packets are available at www.mc.maricopa.edu/dept/d31/nur/

See page 26 for complete information on MCCCD Health Care Integrated Educational System

Program Description

The Nursing Program is available at eight of the Maricopa Community Colleges. The nursing pathway provides multiple exit points for employment that begins with Nurse Assisting and continues to the Practical Nurse certificate and Registered Nurse degree program. The Nursing Program provides eligibility for students seeking certification and licensure through the Arizona State Board of Nursing. Licensing requirements are the exclusive responsibility of the Arizona State Board of Nursing. 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 Offerings

This program is offered at the following sites:

Chandler-Gilbert Community College	480-988-8880
GateWay Community College	602-286-8686
Glendale Community College	623-845-3210
Mesa Community College	480-461-7106
Mesa Community College/Boswell	623-974-7835
Paradise Valley Community College	602-787-7284
Phoenix College	602-285-7110
Rio Salado College	480-517-8580
Scottsdale Community College	480-423-6225

Waiver of Licensure/Certification Guarantee

Admission or graduation from the Nursing 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

+ Indicates course has prerequisite

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 and nursing assistant 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 (602-331-8111). All students must submit a copy of a fingerprint clearance card with their application for the Maricopa Community College District Nursing Program.

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 MCCD Nursing 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. Health Declaration Form signed by a licensed health care provider.
4. Negative urine drug screen.

Grade Requirements

Student must obtain a "C" grade or better or pass in P/Z graded courses in all courses in program.

Course Fee Information

Please see class schedule for course fees information.

University Transfer Students

For students planning a University Program. Students who are planning to earn a Bachelor of Science in Nursing may obtain their prerequisite courses at Maricopa Community Colleges. For information on courses that meet requirements for admission into a baccalaureate program, please contact a program advisor.

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.

Practical Nurse Pathway

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.

Registered Nurse Pathway

The Associate in Applied Science (AAS) degree 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, chronic and community based health care settings. The AAS degree in Nursing provides the graduate with an educational foundation for articulation into the university setting.

CERTIFICATE OF COMPLETION IN NURSE ASSISTING (8 CREDITS)

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Admission Criteria

Application and acceptance into the program, high school graduate or GED, 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.

Program Prerequisites

None.

Required Courses (8 credits)

HCC130	Fundamentals in Health Care Delivery (3) OR
HCC130AA	Health Care Today (0.5) AND
HCC130AB	Workplace Behaviors in Health Care (0.5) AND
HCC130AC	Personal Wellness and Safety (0.5) AND
HCC130AD	Communication and Teamwork in Health Care Organizations (0.5) AND

+ Indicates course has prerequisite

HCC130AE	Legal Issues in Health Care (0.5) AND
HCC130AF	Decision Making in the Health Care Setting (0.5) 3
HCC145AA	Medical Terminology for Health Care Workers I. 1
+NUR156	Nurse Assisting 2
+NUR157	Nurse Assisting Lab 2

CERTIFICATE OF COMPLETION IN PRACTICAL NURSING (44-57 CREDITS)

Program Notes

Students must earn a grade of "C" or better in all courses within the program.
+ indicates course has prerequisites and/or corequisites.

Admission Criteria

High School diploma or GED, application and acceptance into the nursing program. A reading score of 50% or higher and a math score of 50% or higher on the Nursing Entrance Exam (NET) must be achieved for admission. Retests can be taken only once in a 60-day period. The entire Nursing Entrance Exam (NET) must be taken on each retest. The test can be taken no more than 3 times in a 12-month period. All students must submit a copy of a fingerprint clearance card with their application for the Nursing Program.

Program Prerequisites (18-31 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
+BIO202	Human Anatomy and Physiology II. 4
+BIO205	Microbiology. 4
+CHM130	Fundamental Chemistry (3) AND
+CHM130LL	Fundamental Chemistry Laboratory (1) OR One year of high school chemistry 0-4
+CRE101	Critical and Evaluative Reading I (3) OR equivalent by assessment. 0-3
+ENG101	First-Year Composition OR
+ENG107	First-Year Composition for ESL. 3
+MAT120	Intermediate Algebra (5) OR
+MAT121	Intermediate Algebra (4) OR
+MAT122	Intermediate Algebra (3) OR higher level math course 3-5

Required Courses (26 credits)

HCC145AA	Medical Terminology for Health Care Workers I. 1
+NUR111	Nursing Process and Critical Thinking I 4
+NUR117	Pharmacology and Medication Administration I 2
+NUR119	Nursing Science I 5
+NUR121	Nursing Process and Critical Thinking II 4
+NUR127	Pharmacology and Medication Administration II. 2
+NUR129	Nursing Science II. 5
PSY101	Introduction to Psychology. 3

ASSOCIATE IN APPLIED SCIENCE DEGREE IN NURSING PROGRAM (69-82 CREDITS)

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Admission Criteria

High School diploma or GED, application and acceptance into the nursing program. A reading score of 50% or higher and a math score of 50% or higher on the Nursing Entrance Exam (NET) must be achieved for admission. Retests can be taken only once in a 60-day period. The entire Nursing Entrance Exam (NET) must be taken on each retest. The test can be taken no more than 3 times in a 12-month period.

The Health Education Systems, Inc. (HESI) test will be administered to all prospective advanced placement students seeking admission into Blocks 3 or 4. A score of 800 or higher is required in order to be granted advanced placement into either of these blocks. A score of less than 800 will result in placement into either Block 1 or 2. The final decision rests with the Nursing Program Chair at the College to which the student is accepted. All students must submit a copy of a fingerprint clearance card with their application for the Nursing Program.

Program Prerequisites (18-31 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
+BIO202	Human Anatomy and Physiology II. 4
+BIO205	Microbiology. 4
+CHM130	Fundamental Chemistry (3) AND
+CHM130LL	Fundamental Chemistry Laboratory (1) OR One year of high school chemistry 0-4
+CRE101	Critical and Evaluative Reading I (3) OR equivalent by assessment 0-3
+ENG101	First-Year Composition OR
+ENG107	First-Year Composition for ESL 3
+MAT120	Intermediate Algebra (5) OR
+MAT121	Intermediate Algebra (4) OR
+MAT122	Intermediate Algebra (3) OR higher level math course 3-5

Required Courses (46 credits)

HCC145AA	Medical Terminology for Health Care Workers I	1
+NUR111	Nursing Process and Critical Thinking I	4
+NUR117	Pharmacology and Medication Administration I	2
+NUR119	Nursing Science I	5
+NUR121	Nursing Process and Critical Thinking II	4
+NUR127	Pharmacology and Medication Administration II	2
+NUR129	Nursing Science II	5
+NUR231	Nursing Process and Critical Thinking III	4
+NUR237	Pharmacology and Medication Administration III	1
+NUR239	Nursing Science III	5
+NUR241	Nursing Process and Critical Thinking IV	4
+NUR249	Nursing Science IV	6
PSY101	Introduction to Psychology	3

General Education (5 credits)

First-Year Composition
- Met by ENG101 OR ENG107 in program prerequisites area . . . 0
- +ENG102 First-Year Composition (3) OR
- ENG108 First-Year Composition for ESL (3) . . . 3

Oral Communication
- Waived . . . 0

Critical Reading
- Met by CRE101 in program prerequisites area . . . 0

Mathematics
- Met by MAT120, or MAT121, or MAT122 OR higher level math course in program prerequisites area . . 0

Humanities and Fine Arts
- Any approved course in the Humanities and Fine Arts area . . . 2

Natural Science
- Met by BIO201 and BIO202 in program prerequisites areas . . . 0

Social and Behavioral Sciences
- Met by PSY101 in required courses area . . . 0

Physical Education/ Exercise Science/Recreation Certificates/Degrees

- **Certificate of Completion in Nutrition for Fitness and Wellness**
- **Certificate of Completion in Strength and Conditioning Personal Trainer**
- **Associate in Applied Science in Recreation Management**
- **Certificate of Completion in Recreation Management**
- **Certificate of Completion in Group Fitness Instructor**

CERTIFICATE OF COMPLETION IN NUTRITION FOR FITNESS AND WELLNESS (23 CREDITS)

The Certificate of Completion (CCL) in Nutrition for Fitness and Wellness is designed to enhance the nutrition knowledge and skills of personal trainers. Unique classes broaden the nutrition knowledge for those who currently work in the field of wellness or new to this popular field.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.
**FON241 can be used to replace the FON100 requirement.

Required Courses (23 credits)

FON100**	Introductory Nutrition	3
FON100AD	Nutrition Sports and Physical Activity	1
FON137	Nutrition Supplements	2
FON140AA	Food for Fun and Fitness	2
FON230	Nutrition for Special Populations	3
FON247	Weight Management Theory	3
PED130	Strength Fitness-Physiological Principles and Training Techniques	3
PED112	Professional Applications of Fitness Principles	3
PED125	Exercise Science	3

CERTIFICATE OF COMPLETION STRENGTH AND CONDITIONING PERSONAL TRAINER (31 CREDITS)

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;

+ Indicates course has prerequisite

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 credits)

BIO160	Introduction to Human Anatomy and Physiology 4
HES154	First Aid/ Cardiopulmonary Resuscitation 3
HES271	Prevention and Treatment of Athletic Injuries. 3
PED112	Professional Applications of Fitness Principles 3
PED125	Exercise Science 3
PED130	Strength Fitness-Physiological Principles and Training Techniques 3
PED145	Guidelines for Exercise Testing and Prescription 3
HES100	Healthful Living 3
+PED275	Methods of Enhancing Physical Performance 3
+PED285	Exercise Program Design and Instruction 3

ASSOCIATE IN APPLIED SCIENCE IN RECREATION MANAGEMENT (60-64 CREDITS)

The Associate in Applied Science (AAS) degree 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.

Program Notes

A grade of "C" or better is required for all courses within the program.

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
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
REC250	Recreation Leadership. 3
+REC282AA-AC	Volunteerism for Recreation: A Service Learning Experience. 1-3
Outdoor Physical Activities. 4	

Note: Students must select four (4) different activities from the following list:

PED101BP	Physical Activities: Backpacking (1) OR
PED102BP	Physical Activities: Backpacking (1) OR
PED201BP	Physical Activities: Backpacking (1) OR
PED202BP	Physical Activities: Backpacking (1)
PED101DL	Physical Activities: Cross Country Skiing (1) OR
PED102DL	Physical Activities: Cross Country Skiing (1) OR
PED201DL	Physical Activities: Cross Country Skiing (1) OR
PED202DL	Physical Activities: Cross Country Skiing (1)
PED101DX	Physical Activities: Rock Climbing (1) OR
PED102DX	Physical Activities: Rock Climbing (1) OR
PED201DX	Physical Activities: Rock Climbing (1) OR
PED202DX	Physical Activities: Rock Climbing (1)
PED101ER	Physical Activities: Camping (1) OR
PED102ER	Physical Activities: Camping (1) OR
PED201ER	Physical Activities: Camping (1) OR
PED202ER	Physical Activities: Camping (1)
PED101GF	Physical Activities: Cycling (1) OR
PED102GF	Physical Activities: Cycling (1) OR
PED201GF	Physical Activities: Cycling (1) OR
PED202GF	Physical Activities: Cycling (1)
PED101LK	Physical Activities: Hiking (1) OR
PED102LK	Physical Activities: Hiking (1) OR
PED201LK	Physical Activities: Hiking (1) OR
PED202LK	Physical Activities: Hiking (1)
PED101PT	Physical Activities: Mountain Biking the Southwest (1) OR
PED102PT	Physical Activities: Mountain Biking the Southwest (1) OR
PED201PT	Physical Activities: Mountain Biking the Southwest (1) OR
PED202PT	Physical Activities: Mountain Biking the Southwest (1)
PED101RL	Physical Activities: Recreational Sports (1) OR
PED102RL	Physical Activities: Recreational Sports (1) OR
PED201RL	Physical Activities: Recreational Sports (1) OR
PED202RL	Physical Activities: Recreational Sports (1)

+ Indicates course has prerequisite

Restricted Electives (6 credits)

AIS/MGT113	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
GBS120	Workplace Communication Skills	3
GCU221	Arizona Geography	3
HES100	Healthful Living	3
HIS105	Arizona History	3
HIS106	Southwest History	3
PED265	Theory of Coaching	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 . . . 0

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 IN RECREATION MANAGEMENT (39-43 CREDITS)

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.

Program Notes

A grade of "C" or better is required for all courses within the program.

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
REC250	Recreation Leadership	3
+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
Outdoor Physical Activities		4

Note: Students must select four (4) different activities from the following list:

PED101BP	Physical Activities: Backpacking (1) OR
PED102BP	Physical Activities: Backpacking (1) OR
PED201BP	Physical Activities: Backpacking (1) OR
PED202BP	Physical Activities: Backpacking (1)
PED101DL	Physical Activities: Cross Country Skiing (1) OR
PED102DL	Physical Activities: Cross Country Skiing (1) OR
PED201DL	Physical Activities: Cross Country Skiing (1) OR
PED202DL	Physical Activities: Cross Country Skiing (1)
PED101DX	Physical Activities: Rock Climbing (1) OR
PED102DX	Physical Activities: Rock Climbing (1) OR
PED201DX	Physical Activities: Rock Climbing (1) OR
PED202DX	Physical Activities: Rock Climbing (1)
PED101ER	Physical Activities: Camping (1) OR
PED102ER	Physical Activities: Camping (1) OR
PED201ER	Physical Activities: Camping (1) OR
PED202ER	Physical Activities: Camping (1)
PED101GF	Physical Activities: Cycling (1) OR
PED102GF	Physical Activities: Cycling (1) OR
PED201GF	Physical Activities: Cycling (1) OR
PED202GF	Physical Activities: Cycling (1)
PED101LK	Physical Activities: Hiking (1) OR
PED102LK	Physical Activities: Hiking (1) OR
PED201LK	Physical Activities: Hiking (1) OR
PED202LK	Physical Activities: Hiking (1)
PED101PT	Physical Activities: Mountain Biking the Southwest (1) OR
PED102PT	Physical Activities: Mountain Biking the Southwest (1) OR

+ Indicates course has prerequisite

PED201PT	Physical Activities: Mountain Biking the Southwest (1) OR
PED202PT	Physical Activities: Mountain Biking the Southwest (1)
PED101RL	Physical Activities: Recreational Sports (1) OR
PED102RL	Physical Activities: Recreational Sports (1) OR
PED201RL	Physical Activities: Recreational Sports (1) OR
PED202RL	Physical Activities: Recreational Sports (1)

Restricted Electives (6 credits)

AIS/MGT113	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
GBS120	Workplace Communication Skills	3
GCU221	Arizona Geography	3
HES100	Healthful Living	3
HIS105	Arizona History	3

CERTIFICATE OF COMPLETION IN GROUP FITNESS INSTRUCTOR (4 CREDITS)

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 Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites (13 credits)

PED112	Professional Applications of Fitness Principles	3
PED125	Exercise Science	3
PED130	Strength Fitness-Physiological Principles and Training Techniques	3
PED140	Principles of Safe Exercise	1
+PED147	Weight Management for Fitness Professionals	1
WED100	Personal Wellness	2

Required Courses (4 credits)

PED128	Methods of Teaching Group Fitness I	2
PED129	Methods of Teaching Group Fitness II	2

Paramedicine Certificates/Degrees

- **Associate in Applied Science in Paramedicine**

ASSOCIATE IN APPLIED SCIENCE IN PARAMEDICINE (72.5 CREDITS)

The Associate in Applied Science (AAS) degree in Paramedicine prepares students to work as paramedics with knowledge and skills required for emergency care, stabilization, and immobilization of victims of illness and injury. The program emphasizes recognition and documentation of signs and symptoms of illness and injury, intervention, and evaluation of the intervention; techniques for assessment to include basic electrocardiograph rhythm identification, administration of oxygen and medications approved by the Arizona Department of Health Services, Office of Emergency Medical Services; advanced airway techniques, use of specific immobilization devices, peripheral, interosseus, and central intravenous techniques, defibrillation, synchronized cardioversion, transcutaneous pacing, and preparation for transportation.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

Program Prerequisites (8 credits)

EMT/FSC104	Basic Emergency Medical Technology	8

Required Courses (48.5 credits)

+ EMT208	Intermediate Emergency Medical Technology	16
+ EMT272AA	Advanced Emergency Medical Technology (12.5) AND	
+ EMT272AB	Advanced Emergency Medical Technology (12.5)	25
+ EMT272LL	Advanced Emergency Medical Technology Practicum	7.5

General Education Requirements (24-27 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

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	Reading for Business, and Industry (3) OR equivalent as indicated by assessment	3

+ Indicates course has prerequisite

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
Any approved general education course from the Social and Behavioral Sciences area
SOC101 Introduction to Sociology (Recommended) 3
Natural Sciences
Any approved general education course from the Natural Sciences area
PHY101 Introduction to Physics (Recommended) 4

Public Relations Certificates/Degrees

- **Associate in Applied Science in Journalism**
- **Associate in Applied Science in Public Relations**

ASSOCIATE IN APPLIED SCIENCE IN JOURNALISM (63 CREDITS)

The Associate in Applied Science (AAS) degree 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 (what is news?) 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

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
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
+NMS203 Writing for Electronic 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
HIS/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
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 prerequisite

ASSOCIATE IN APPLIED SCIENCE IN PUBLIC RELATIONS (64 CREDITS)

The Associate in Applied Science (AAS) degree 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.

Program Notes

Students must earn a grade of "C" or better in all courses within the program.

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)

ART131	Photography I	3
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)	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

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

Veterinary Technology Certificates/Degrees

- **Associate in Applied Science in Veterinary Technology/Animal Health**

ASSOCIATE IN APPLIED SCIENCE IN VETERINARY TECHNOLOGY/ANIMAL HEALTH (78 CREDITS)

The Associate in Applied Science (AAS) degree 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.

Program Notes

Students must earn a grade of "C" or better in all program prerequisites and required courses.

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

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		3-4

General Education Requirements (9 credits)

First-Year Composition

Met by any combination of ENG courses in the program prerequisites area . . . 0

Oral Communication

COM100	Introduction to Human Communication OR	
COM110	Interpersonal Communication	3

Critical Reading

Met by CRE101 in program prerequisites area . . . 0

Mathematics

Met by MAT120 OR MAT121 OR MAT122 in program prerequisites area . . . 0

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 OR	
ECN111	Macroeconomic Principles OR	
ECN112	Microeconomic Principles	3

Natural Sciences

Met by BIO181 in program prerequisites area . . . 0

Welding Technology Certificates/Degrees

- **Associate in Applied Science in Welding**
- **Certificate of Completion in Welding**
- **Certificate of Completion in Manufacturing Welding**

ASSOCIATE IN APPLIED SCIENCE IN WELDING (65-67 CREDITS)

The Associate in Applied Science (AAS) degree 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).

Program Notes

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 credits) OR satisfactory score on technical mathematics placement test	3

+ Indicates course has prerequisite

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

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 IN WELDING (27 CREDITS)

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 Notes

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 technical mathematics 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 IN MANUFACTURING WELDING (26 CREDITS)

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 Notes

Students must earn a grade of "C" or better for each course listed in the required courses area.

Program Prerequisites (3 credits)

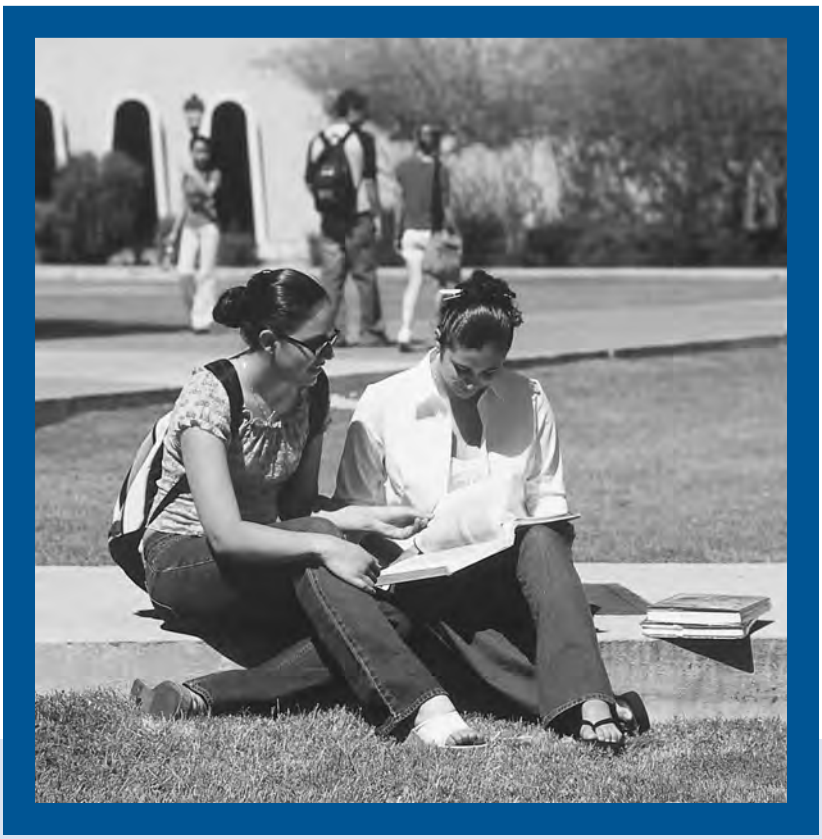
GTC107	Technical Mathematics I (3) OR satisfactory score on math placement test	3

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 prerequisite

Course Descriptions



As you select courses to meet your educational and professional goals, you will want to read descriptions of the courses we offer at MCC. To see the description for a course, you need to know the three-letter prefix for the course. The courses are listed alphabetically by prefix. Or you might prefer to browse through all of the course listings offered in a particular academic field.

Three-Letter Prefix for Courses

AAA	Advancing Academic Achievements
ACC	Accounting
AES	Aerospace Studies
AGB	Agribusiness
AGL	Agricultural Landscape
AGS	Agricultural Science
AJS	Administration of Justice Studies
ANH	Animal Health
ANS	Animal Science
APT	Automotive Performance Technology
ARB	Arabic
ARC	Architecture
ARH	Art Humanities
ART	Art
ASB	Anthropology
ASM	Anthropology
AST	Astronomy
AUT	Automotive Technology
BIO	Biology
BLT	Building Safety & Construction Technology
BPC	Business - Personal Computers
BTO	Business Technology for the Office
CAD	Computer-Aided Drafting
CCS	Chicana and Chicano Studies
CCT	Corporate Computer Technology
CET	Civil Engineering Technology
CFS	Child/Family Studies
CHA	Community Health Advocate
CHD	Chemical Dependency
CHI	Chinese
CHM	Chemistry
CIS	Computer Information Systems
CNS	Construction
CNT	Cisco Network Technology
COM	Communication
COV	Covey
CPD	Counseling & Personal Development
CRE	Critical Reading
CRW	Creative Writing
CSC	Computer Science
CTT	Caterpillar Technician Training
CWE	Career Work Experience
DAE	Dental Assisting Education
DAH	Dance Humanities
DAN	Dance
DCP	Direct Care Provider
DFT	Drafting
DHE	Dental Hygiene Education
DIE	Diesel/Heavy Equipment Technology
ECE	Engineering Science
ECH	Early Childhood Education
ECN	Economics
EDU	Education
EED	Early Education
ELE	Electronics
EMT	Emergency Medical Technology
ENG	English
ENH	English Humanities
EPD	Education Professional Development
EPS	Entrepreneurial Studies
EQS	Equine Science
ESL	English as a Second Language
ETL	Excellence/Teaching/Learning
FCS	Family and Consumer Science
FON	Food and Nutrition
FOR	Forensics Science
FRE	French
FSC	Fire Science Technology
FUS	Future Studies
GBS	General Business
GCU	Cultural Geography
GER	German
GLG	Geology
GPH	Physical Geography
GTC	General Technology
HBR	Hebrew
HCC	Health Core Curriculum
HCR	Health Care Related
HES	Health Science
HIS	History
HLR	Health Related
HRM	Hotel Restaurant Management
HUM	Humanities
IBS	International Business
IFS	Information Studies
IGS	Integrated Studies
IND	Industry
INT	Interior Design
ITA	Italian
ITS	Information Technology Security
JPN	Japanese
JRN	Journalism
JUD	Judicial Studies
LAT	Latin
LBS	Library Skills
LBT	Library Technology
MAT	Mathematics
MCO	Mass Communications
MET	Manufacturing Technology
MGT	Management
MHL	Music: History/Literature
MIS	Military Science
MKT	Marketing
MMT	Multimedia Technology
MSP	Mortuary Science Program
MST	Microsoft Technology
MTC	Music: Theory/Composition
MUC	Music: Commercial/Business
MUE	Music: Education
MUP	Music: Performance
NCE	Nursing: Continuing Education
NMS	New Media Studies
NUR	Nursing Science: Basic
OAS	Office Automation Systems
OSH	Occupational Safety and Health
PAD	Public Administration
PED	Physical Education
PHI	Philosophy
PHS	Physical Science
PHY	Physics
POR	Portuguese
POS	Political Science
PSY	Psychology
QCT	Quality Control Technology
RDG	Reading
REA	Real Estate
REC	Recreation
REL	Religious Studies
RUS	Russian
SBS	Small Business Management
SBU	Society and Business
SLG	Sign Language
SOC	Sociology
SPA	Spanish
SPH	Spanish Humanities
STO	Storytelling
SWU	Social Work
TCM	Telecommunications
TEC	Textiles and Clothing
THE	Theater
THP	Theater Performance/Production
TLT	Telecommunications Technology
TQM	Total Quality Management
TRS	Translation and Interpretation
WAC	Writing Across Curriculum
WED	Wellness Education
WLD	Welding Technology
WST	Women's Studies

AAA-Advancing Academic Achievement

AAA150 College Orientation and Personal Growth
Emphasis on increasing student success through college orientation, identification of learning style and the use of time management, goal-setting and interpersonal communication strategies. *Prerequisites: None. 1 credit 1 period*

AAA150AA College Orientation and Personal Growth
Emphasis on increasing student success through college orientation, identification of learning style and the use of time management, goal-setting and interpersonal communication strategies. *Prerequisites: None. 1 credit 1 period*

AAA150AB Study Skills Development
Emphasis on increasing student success through the use of study strategies including materials organization, note-taking, reading, test-taking, memory and critical and creative thinking. *Prerequisites: None. 1 credit 1 period*

AAA150AC Educational and Career Planning
Emphasis on increasing student success through educational and career planning. *Prerequisites: None. 1 credit 1 period*

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. GBS151 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 returns. *Prerequisites: None. 2 credits 3 periods*

ACC221 Tax Accounting
Preparation of and accounting procedures for individuals; introduction to partnerships and corporate tax structures. *Prerequisites: ACC111, or ACC211, or permission of department/division. 3 credits 3 periods*

ACC222 Payroll Accounting
Payroll records for businesses required by federal and state law. *Prerequisites: ACC111, or ACC211, or permission of Department/Division. 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 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 credit 1 period*

ACC282AB 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. 2 credits 2 periods*

ACC282AC 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. 3 credits 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: AES101 or ASU Department of Aerospace Studies approval. 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: AES103 or ASU Department of Aerospace Studies approval. 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: AES201 or ASU Department of Aerospace Studies approval. 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 (BPC101AA, BPC/CIS114AA, and BPC117AD), or (CAD120 and CAD125)], 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 5 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 2 periods*

AGS166 Aquaculture
Establishment, care, selection, equipment, and facilities for commercial raising of animals and plants that live in water. *Prerequisites: None. 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*

AGS190 Arid Land Plants Identification and Use
Covers xerophytes common to southern Arizona and their applications to specific desert landscape situations. Identification, cultural requirements and physical characteristics related to landscape design, including both mature plants and live containerized material. *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. (Note: AGS268 has been approved for 6 Continuing Education units by the Structural Pest Control of Arizona.) 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 examination of the organization and jurisdiction of local, state and federal law enforcement, judicial and corrections systems, their history and philosophy, career opportunities and qualifying requirements, terminology and constitutional limitations of the system. Required in AJS curriculum. *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 and 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*

AJS162 Domestic Violence
Explores domestic violence as a social problem within the United States from historical, cultural, political, legal, and law enforcement perspectives. Provides an overview of theories, definitions and causes of, and interventions for domestic violence involving spousal, elder and child abuse along with teen dating violence. Examines the dynamics and effects of domestic violence. Addresses research issues and contemporary domestic violence policy. *Prerequisites: None. 3 credits 3 periods*

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*

AJS198AA Special Topics in the Administration of Justice
Explores special topics related to the administration of justice with an emphasis on current issues. *Course Notes: may be repeated for a total of nine (9) credit hours. Prerequisites: None. .5 credit .5 period*

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*

AJS220 Organized Crime
Examines the history, structure and activities of organized crime groups. Reviews theories explaining the existence of organized crime and enforcement strategies used to combat it. *Prerequisites: None. 3 credits 3 periods*

AJS224 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*

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*

AJS267 Organization and Impact of Gangs
Structure and development of gang organizations. Impact of gangs on prison life and on outside community. *Prerequisites: None. 1 credit 1 period*

AJS269AA 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. 1 credit 2 periods*

AJS269AB 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. 2 credits 10 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 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 credit 1 period*

AJS282AB 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. 2 credits 2 periods*

AJS282AC 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. 3 credits 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*

AJS290AD Community Relations
Interrelationships among criminal justice agencies and the public. *Prerequisites: None. 1 credit 1 period*

AJS290AE Arrest, Search and Seizure
Procedural applications of current arrest, search and seizure statutes. *Prerequisites: None. 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*

AJS290AK Criminal Evidence
Legal aspects of criminal investigation and presentation of relevant evidence. *Prerequisites: None. 1 credit 1 period*

AJS290AM Explosive/Terrorism/Hostage Negotiation
Situations demanding a tactical response, including a barricaded suspect, hostage incident or sniper situation. *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*

AJS290AZ Police Interrogation Techniques
Proper interview and interrogation techniques, including a discussion of the constitutional rights of the defendant and applicable court decisions. *Prerequisites: None. 1 credit 1 period*

AJS290BB Police Report Writing
Writing of clear, concise and accurate reports with an emphasis on sentence and paragraph construction, grammar and punctuation. *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*

AJS290BN Courtroom Testimony Seminar
Courtroom demeanor and protocol. Role and primary functions of witness and legal counsels. *Prerequisites: None. 1 credit 1 period*

AJS290BS Stress in Law Enforcement
Major stress that affects a police officer; effects of stress and methods for reducing stress. *Prerequisites: None. 1 credit 1 period*

AJS290BU Family Violence
Intervention techniques for domestic disturbances. Assessment of potentially violent situations. Utilization of referrals to diversion programs. *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*

AJS296WC 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. 3 credits 15 periods*

AJS296WD 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*

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 Veterinary Technology/Animal Health program) or permission of instructor. 3 credits 6 periods*

ANH205 Clinical Veterinary Anatomy and Physiology
Intended for Veterinary Technolgy/Animal Health program students. 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. 3 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, to be 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 credits .5 periods*

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: This internship 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 credits .5 periods*

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*

ANS212AA Livestock Production and Management
Selection and improvement of beef cattle, dairy cattle, sheep, swine, stock horses, goats and poultry. Study of the skeleton and its influence on shape, muscle structure and general usefulness of animals. Evaluation of livestock for agricultural purposes. *Prerequisites: None. ANS110 recommended. 3 credits 5 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: ANS110. 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*

ANS290 Internship
Supervised field training for Animal Science students with local industry businesses. *Prerequisites: Student shall be in final semester before graduation and departmental approval. 3 credits 6 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*

APT121 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 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*

APT122 Automatic Transmission (Ford)
The fundamentals and principles of automatic transmissions presently in use by Ford Motor Company automobiles. Diagnosis, service and reconditioning procedures necessary to maintain these units. *Prerequisites: None. 3 credits 3 periods*

APT122AA Automatic Transmission (Ford)
The fundamentals and principles of automatic transmissions presently in use by Ford Motor Company automobiles. Diagnosis, service and reconditioning procedures necessary to maintain these units. *Prerequisites: None. 3 credits 5 periods*

APT123 Automatic Transmission (Chrysler)
The fundamentals and principles of automatic transmissions presently in use by Chrysler Motor Company automobiles. Diagnosis, service and reconditioning procedures necessary to maintain these units. *Prerequisites: None. 3 credits 3 periods*

APT123AA Automatic Transmission (Chrysler)
The fundamentals and principles of automatic transmissions presently in use by Chrysler Motor Company 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 and 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*

ARB115 Beginning Arabic Conversation I
Conversational Arabic with emphasis on basic sentence structure, pronunciation and vocabulary. Designed to develop speaking and listening abilities with less emphasis on grammar. *Prerequisites: None. 3 credits 3 periods*

ARB116 Beginning Arabic Conversation II
Enhancement of speaking and listening skills for effective communication in Arabic. Refinement of pronunciation, sentence construction, and practice of conversational skills. *Prerequisites: ARB115 or permission of instructor. 3 credits 3 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
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 Design Foundation I
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*

ARC150 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*

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 bath rooms; 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 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 credit 1 period*

ARC282AB 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. 2 credits 2 periods*

ARC282AC 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. 3 credits 3 periods*

ARC290AA 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 credit 1 period*

ARC290AB 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. 2 credits 2 periods*

ARC290AC 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. 3 credits 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*

ARH217 Mexican Art History
Art of Mexico and related cultures, from the prehistoric to the contemporary period. *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*

ART118 Art Anatomy
Artistic study of the concept of anatomical unity. Principle skeletal and muscular structures affecting surface form of the human figure. Includes drawing project, portfolio, and tests. *Prerequisites or Corequisites: ART117 or permission of instructor. 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*

ART150 Digital Storytelling
Enables students to find and develop their personal stories. Emphasis on the use of digital technology to create, edit, produce and archive a digital story. *Prerequisites: None. 3 credits 6 periods*

ART151 Sculpture I
Exploration of sculptural form and expression in clay, plaster, stone, wood and metal. *Prerequisites or Corequisites: ART115 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*

ART173 Computer Art
Introduction to the multiple elements of paint software programs using the microcomputer. Basic foundation in the use of computer techniques including color paint programs for the production of computer images. Use of electronic input and output devices. *Prerequisites: ART100, or permission of instructor. 3 credits 6 periods*

ART175 Electronic Publishing Design I
Introduction to the multiple elements of commercial publishing using the microcomputer. Basic foundation in the use of electronic page layout techniques. Emphasis on publication design layout and concepts. *Prerequisites or Corequisites: ART100 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

ART179 Electronic Presentation Design
Introduction to the multiple elements of commercial-graphic presentation materials using the microcomputer and other advanced technologies. Basic foundations in the use of computer presentation software programs using presentation techniques. Special attention to aesthetic foundations underlying all presentation materials. *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 of 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*

ART185 3-D Modeling for Animation
Basic concepts of 3-D modeling. Anatomy of computer geometry; basic elements that make computer models-curves, surfaces, nurbs and polygons. 3-D translation, shading, materials and rendering. *Prerequisites: ART/MMT184, or ART/MMT184AC, or permission of the instructor.*
3 credits 6 periods

ART190 Art of Web Site Design
Print vocabulary, relationships and typographic style for HTML 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: ART180AB, or ART180AC, or ART180AE, or permission of instructor. 3 credits 3 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 model 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 darkroom techniques using positive materials. *Prerequisites: ART131 or permission of instructor. 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*

ART241 Intaglio
Introduction to traditional concepts and techniques for Intaglio printmaking. Deals with black and white printing; includes brief introduction to color printing. Covers various tools and materials used in Intaglio. *Prerequisites: ART111 and ART113. 3 credits 6 periods*

ART242 Lithography
Provides introduction to concepts and techniques of lithography, both in plate and stone methods. Focus on black and white lithographic drawing techniques. Introduction in color printing given. *Prerequisites: ART111 and ART113. 3 credits 6 periods*

ART253 Woodcut
Focuses on relief method of printing and utilizing the techniques of woodcut. Deals specifically with black and white images. Study of printing materials and tools, papers and printing methods. Relief printing in color introduced. Traditional forms of woodcut, also an overview of innovative techniques in the field. *Prerequisites: ART111 and ART113. 3 credits 6 periods*

ART255AA Self Promotion
Career goals, presentation of artist, communication skills, keeping files and records and developing self-promotional materials. *Prerequisites: None. 1 credit 1 period*

ART255AB The Portfolio
Choosing the right pieces to include, presenting artwork and developing the portfolio. *Prerequisites: ART255AA or permission of instructor. 1 credit 1 period*

ART258 Papermaking
Introduction to concepts and techniques of fine art papermaking. Basic overview of historical origins of craft and importance of modern papermaking to fine arts. *Prerequisites: ART111 and ART113. 3 credits 6 periods*

ART259 Monoprinting
Introduction to concepts and techniques for monoprintmaking. Deals with la prima technique used in painting in first part of course. Multi-plate printing and how method of printing relates to use of color and separation in second part of course. *Prerequisites: ART111 and ART113. 3 credits 6 periods*

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 ART182, or permission of instructor. 3 credits 6 periods*

ART284 Intermedia Animation
Elements of electronic animation with interactive text graphics, photography, sound, film and video construction. *Prerequisites: ADA/ART/MMT184 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*

ART290 Studio Art
Studio course for art majors allowing continuation in a subject field. *Prerequisites: All 100 and 200 courses in subject matter area or 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*

ART292AA Volunteerism for Art: A Service-Learning Experience
Service-learning field experience within government agencies, political organizations, citizen advocacy groups, cultural institutions and human service organizations/ agencies. May be repeated for a total of six (6) ART292 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*

ART292AB Volunteerism for Art: A Service-Learning Experience
Service-learning field experience within government agencies, political organizations, citizen advocacy groups, cultural institutions and human service organizations/ agencies. May be repeated for a total of six (6) ART292 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. 2 credits 2 periods*

ART292AC Volunteerism for Art: A Service-Learning Experience
Service-learning field experience within government agencies, political organizations, citizen advocacy groups, cultural institutions, and human service organizations/ agency. May be repeated for a total of six (6) ART292 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. 3 credits 3 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*

ART295DA 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. 1 credit 2 periods*

ART295DB 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. 2 credits 4 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*

ART295GA 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. 1 credit 2 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*

ART295GC Art Workshop/Seminar: Ceramics
Ceramic 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*

ART295HB Art Workshop/Seminar: Mixed Media
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*

ART297AA Computer Graphic Design Internship
Computer graphic design work experience in a business or industry. Eighty hours of designated work per credit. Maximum of 3 credits allowed. *Prerequisites: Departmental approval. 1 credit 1 period*

ART297AB Computer Graphic Design Internship
Computer graphic design work experience in a business or industry. Eighty hours of designated work per credit. Maximum of 3 credits allowed. *Prerequisites: Departmental approval. 2 credits 2 periods*

ART297AC Computer Graphic Design Internship
Computer graphic design work experience in a business or industry. Eighty hours of designated work per credit. Maximum of 3 credits allowed. *Prerequisites: Departmental approval. 3 credits 3 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 Archaeology 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*

ASB226 Human Impacts on Ancient Environments

Interrelationship between humans and their environments, using archaeological data and case studies beginning with early hominids. Uses of research to identify environmental change and distinguish between climatic and human-induced global change. Explores ways in which prehistoric people caused and responded to environmental changes.
Prerequisites: None. 3 credits 3 credits

ASB230 Principles of Archaeology

Introduction to archaeological methods and theory.
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*

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*

ASB238 Archaeology of North America

Introduction to North American prehistory.
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

ASB253 Death and Dying Across Cultures

Responses to death and dying in cultures around the world. Explanations for particular cultural responses to death and dying. Examples drawn from ancient and contemporary cultures. *Prerequisites: None. 3 credits 3 periods*

ASB276 Nature of Language

Introduction to basic concepts of linguistic anthropology and implications for study of culture and society.
Prerequisites: ASB102. 3 credits 3 periods

ASB282AA 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 credit 1 period*

ASB282AB 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. 2 credits 2 periods*

ASB282AC 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. 3 credits 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*

ASM241 Biology of Race
The study of human variation and its interpretation in an evolutionary context. *Prerequisites: None. 3 credits 3 periods*

ASM265 Laboratory Methods in Archaeology
Techniques of artifact. Basic archaeological research techniques; methods of report writing. May be repeated for a total of eight (8) credit hours. *Prerequisites: Permission of Department/Division Chair. 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/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*

AUT097AA General Automotive Maintenance: Engine Systems
Basic information about engine operation, knowledge and skills to perform minor engine maintenance and information to aid in making informed choices when buying service. *Prerequisites: None. 1 credit 1 period*

AUT097AB General Automotive Maintenance: Transmission and Drive-Line
Basic information about how the power train operates, knowledge and skills to perform minor transmission maintenance, and information to aid in making informed choices when buying service. *Prerequisites: None. 1 credit 1 period*

AUT097AC General Automotive Maintenance: Suspension and Brakes
Basic information about how the suspension and brakes operate, knowledge and skills to perform minor suspension and brake maintenance, and information to aid in making informed choices when buying service. *Prerequisites: None. 1 credit 1 period*

AUT101AA 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 4 periods*

AUT106AD Engine Overhaul and Reconditioning Block and Crankshaft

Diagnostic and service skills related to cylinder block, piston, rod and crankshaft service. Includes honing, boring and crankshaft reconditioning as well as piston and ring service. Does not include cylinder head and valve work. *Prerequisites: None. 3 credits 5 periods*

AUT110AB Automotive Transmissions and Power Trains

The fundamentals and principles of transmissions, clutches, planetary gearsets, fluid coupling, drive lines and differentials. Diagnosis, service, and reconditioning procedures. Includes minor diagnosis and service procedures for automatic transmissions. *Prerequisites: None. 3 credits 5 periods*

AUT210 Automotive Emission Systems

Automotive emissions control systems and methods of emissions measurement. Diagnostic practices as suggested by the manufacturers and the related service of emissions control devices. *Prerequisites: AUT103AA and AUT104AA, or permission of instructor. 3 credits 3 periods*

AUT210AA Automotive Emission Systems

Automotive emissions control systems and methods of emissions measurement. Diagnostic practices as suggested by the manufacturers and the related service of emissions control devices. *Prerequisites: (AUT103AA and AUT104AA), or permission of instructor. 3 credits 5 periods*

AUT211 Auto Emission Adjustment

Emissions adjustments of vehicles that fail manufacturer or state emission specifications. CO and HC problems and correction procedures. *Prerequisites: Previous automotive courses or permission of instructor. 1 credit 1 period*

AUT270AA 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 credit 1 period*

AUT270AB 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. 2 credits 2 periods*

AUT270AC 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. 3 credits 3 periods*

AUT282AA 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 credit 1 period*

AUT282AB 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. 2 credits 2 periods*

AUT282AC 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. 3 credits 3 periods*

AUT296WA 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 credit 5 periods*

AUT296WB 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. 2 credits 10 periods*

AUT296WC 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. 3 credits 15 periods*

AUT296WD 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*

AUT298AA 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 credit 1 period

AUT298AB 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.*
2 credits 2 periods

AUT298AC 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

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 students' expense. *Prerequisites: None. 4 credits 6 periods*

BIO106 Biotechnology and Society I
Introduction to biotechnology and its impact on society. Covers applications, limitations, benefits, risks, and legal and moral issues associated with biotechnology. *Prerequisites: None. 3 credits 3 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 Notes: Field trips may be required at students' expense. 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*

BIO149AF Field Biology: Natural History of the Grand Canyon
Survey of plants and animals of the Grand Canyon emphasizing ecological relationships and adaptational biology. Human activities in and impact upon the Canyon's ecosystems from prehistoric times to present considered. Course consists of on-campus lectures and 7-day raft trip through inner gorge of the Grand Canyon. *Prerequisites: None. 1 credit 7 days*

BIO149AH Field Biology: Marine Biology in Mexico
Introduction to marine experiments, marine biology and ecology. On-site field experience in Mexico. Emphasis on observation and study of marine organisms along the shore. *Prerequisites: Permission of instructor. 1 credit 7 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*

BIO162 Microbiology Concepts for Allied Health
Types of microorganisms. Principles of growth and reproduction for specific types of microorganisms. Chain of disease transmission and defense mechanisms. Use of compound microscope. Safe handling and culturing of specific microbes. Methods of sterilization and use of disinfectants and chemotherapeutic agents. *Prerequisites: None. 2 credits 3 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: (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*

BIO211AA Biotechnology Seminar: Biomedical Applications
Special topics in biotechnology with an emphasis on current issues not covered in other life science courses. *Prerequisites: None. 1 credit 1 period*

BIO211AB Biotechnology Seminar: Laboratory Protocol
Special topics in biotechnology with an emphasis on current issues not covered in other life sciences courses. *Prerequisites: BIO211AA or permission of instructor. 1 credit 1 period*

BIO211AC Biotechnology Seminar: Current Topics in Agriculture
Special topics in biotechnology with an emphasis on current issues not covered in other life sciences courses. *Prerequisites: BIO211AB or permission of instructor. 1 credit 1 period*

BIO211AD Biotechnology Seminar: Ethical and Moral Issues
Special topics in biotechnology with an emphasis on current issues not covered in other life sciences courses. *Prerequisites: BIO211AC or permission of instructor. 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 (BIO245 and BIO246), 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 3 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 3 periods*

BIO213 Bio Safety
General laboratory safety, hazardous chemical use and disposal, biohazardous material use and disposal, biosafety procedures and radiation safety. *Prerequisites: None. 1 credit 1 period*

BIO214 Biotechnology Internship
Internship experience in a biotechnology laboratory. Requires 320 clock hours in the laboratory setting. Setting, achieving and evaluating goals for hands-on learning experience in a biotechnology laboratory. *Prerequisites: Permission of program director. Corequisites: BIO212AC. 4 credits 4 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*

BIO241 Human Genetics
An introduction to the basic concepts of human heredity and cytogenetics including Mendelian, molecular and population genetics. *Prerequisites: BIO100, or BIO181, or equivalent, or permission of instructor. 4 credits 6 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 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 instructor. 1 credit 1 period*

BIO297AB 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 instructor. 2 credits 2 periods*

BIO297AC 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. 3 credits 3 periods*

BLT-Building Safety and Construction Technology

BLT101 Introduction to Construction Trades
Introduction to trade and craft apprenticeships in Arizona, including concrete, carpentry, millwright, pipefitting, steamfitting and plumbing, sheet metal, painter, decorator and drywall taper, electrician and ironworker. *Prerequisites: None. 1 credit 1 period*

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*

BLT200 Construction Management: Field Operations
Skills and techniques necessary for management of construction field operations. Includes job scheduling, inspection techniques, personnel relations, safety, and the scope and supervision of the overall construction process. *Prerequisites or Corequisites: DFT121, DFT122, DFT126, GTC121, or permission of instructor. 3 credits 3 periods*

BLT201 Construction Management: Office Operations
Develops the skills and techniques necessary for successful management of construction office operations. Includes establishing and financing the business, marketing, office operations and relationships with other construction industry entities. *Prerequisites: DFT122, DFT126, GTC121, or instructor approval. 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*

BPC100ED Internet and Computing Fundamentals Review
Preparation for the Internet Computing (IC3) certification. Review of fundamental computer and Internet concepts and terminology for business and personal computers. Covers basic features of software applications. *Prerequisites: Permission of instructor. .5 credit .5 period*

BPC101AA Introduction to Microcomputer 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*

BPC101BA Introduction to Microcomputers II
Computer software applications for the personal computer, including database management, computer graphics, electronic spreadsheet, word processing and operating system commands. *Prerequisites: BPC101AA. 1 credit 1 period*

BPC102AD Using Windows: Level I
Basic commands and methods associated with the Windows operating system. *Prerequisites: None. .5 credit .5 period*

BPC102BD Using Windows: Level II
Advanced commands and methods of the Windows operating system. *Prerequisites: BPC102AD or permission of instructor. .5 credit .5 period*

BPC103AK Using Word: Level I
Use of Word to create, manipulate and print documents on a microcomputer. *Prerequisites: None. .5 credit .5 period*

BPC103BK Using Word: Level II
Advanced concepts and skill development using Word to format, lay out, and design quality documents. *Prerequisites: BPC102AD and BPC103AK, or permission of instructor. .5 credit .5 period*

BPC104AD Using Excel: Level I
Use of Excel to create, edit, save and print worksheets. *Prerequisites: None. .5 credit .5 period*

BPC104BD Using Excel: Level II
Use of Excel to enhance worksheets to include graphing and formatting data, using complex formula and function expressions to build and analyze data, and special print options to output worksheets and graphs. *Prerequisites: BPC104AD or permission of instructor. .5 credit .5 period*

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*

BPC107AH Using Access: Level I
Use of Access to create, edit and selectively report data. *Prerequisites: None. .5 credit .5 period*

BPC107BH Using Access: Level II
Use of Access commands to manipulate data files, generate data entry screens, generate complex reports with multiple level totals, transport data between a computer database program and other programs. Creation and use of command files. *Prerequisites: BPC107AH or permission of instructor. .5 credit .5 period*

BPC109AA Using PowerPoint: Level I
Use of PowerPoint software to create, modify and display presentations on a microcomputer. *Prerequisites: None. .5 credit .5 period*

BPC109AB Using PowerPoint: Level II
Use of PowerPoint software to enhance presentation by adding charts, inserting imported graphics, and using special effects. *Prerequisites: BPC109AA. .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*

BPC112AA Report Generator: Crystal Reports I
Creating end-user reports using report wizards and templates. *Prerequisites: None. 1 credit 2 periods*

BPC112BA Report Generator: Crystal Reports II
Enhancing end-user reports with formatting, formulas, and graphics. *Prerequisites: BPC/CIS112AA. 1 credit 1 period*

BPC112CA Report Generator: Crystal Reports III
Data, reports, and chart types. Creation of customized end-user reports using templates, parameterized reports, and exporting options. *Prerequisites: BPC/CIS112BA. 1 credit 1 period*

BPC112DA Report Generator: Crystal Reports
Build a variety of end-user reports using report wizards and templates. Enhance reports by using formatting, formulas, and graphics. Explore data, reports, and chart types. Create customized reports using custom templates, parameterized reports, and exporting options. *Prerequisites: None. 3 credits 4 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*

BPC115AA Personal Finance Software: Quicken – Level I
Introduction to the basic features of Quicken, a computerized personal finances software program. *Prerequisites: None. 1 credit 2 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*

BPC117DL Oracle: Database Management
Introduction to the basic elements, exploration of additional components and common database management problems related to the Oracle program. Combines the contents of BPC/CIS117AL and BPC/CIS117BL and BPC/CIS117CL. *Prerequisites: None. 3 credits 4 periods*

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*

BPC120AF Computer Graphics: Adobe Photoshop: Level I
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 for graphic design and image correction. *Prerequisites: None. 1 credit 2 periods*

BPC120BF Computer Graphics: Adobe Photoshop: Level II
Provides students with the capability to use Adobe Photoshop graphics software on a computer. Includes working with masks, channels and layers, and combining raster and vector graphics. *Prerequisites: BPC/CIS120AF. 1 credit 1 period*

BPC120CF Computer Graphics: Adobe Photoshop: Level III
Provides students with the capability to use Adobe Photoshop graphics software on a computer. Includes color printing, color management and creation of graphics for the Web. *Prerequisites: BPC/CIS120BF. 1 credit 1 period*

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 Computer Graphics: Macromedia Flash
Provides students with the ability to use Macromedia 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 Computer Graphics: Macromedia Fireworks
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*

BPC120DH Computer Graphics: Microsoft Visio
Use of graphics software to create and edit drawings with predefined shapes and templates. Addition and manipulation of images, stencils, layers, and pages to drawings. Creation of new shapes, stencils, templates, styles, and colors. Publishing and exportation of drawings. *Prerequisites: None. 3 credits 4 periods*

BPC121AB Microsoft Command Line Operations
Use of the Microsoft command line within windows: 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*

BPC121AF Windows NT Workstation Operating System: Level I
Starting and shutting down the computer, navigating the desktop, start button features, taskbar status and online support. Exploring and managing folders and files, running programs and applications programs under Windows NT. *Prerequisites: None. 1 credit 2 periods*

BPC122AE Windows Operating System: Level II
Additional capabilities of the Windows '95 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*

BPC128 Introduction to Desktop Publishing
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*

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*

BPC130 Beginning Word Processing
Work with word processing software to create, revise and print documents. *Prerequisites: Type 20 words per minute or permission of instructor. 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/World Wide Web: 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: The ability to use a keyboard at a minimum of 24 words per minute, or permission of instructor. 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*

BPC217AD Advanced Paradox
Advanced topics in database management including a combination of advanced programming techniques, complex business applications and finished system applications compiling, utilizing a Paradox compiler. *Prerequisites: BPC/CIS117CA, or BPC/CIS117DD, or instructor approval. 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 trouble-shooting. 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 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 credit 1 period*

BPC282AB 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. 2 credits 2 periods*

BPC282AC 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. 3 credits 3 periods*

BTO-Business Technology for the Office

BTO121 Win-Win Office Techniques
Techniques for assertive skills which are appropriate and beneficial in the office. *Prerequisites: None. .5 credit .5 period*

BTO160AB Office Software Update Application
Basic application of an updated software release. *Prerequisites: None. .5 credit .5 period*

CAD-Computer-Aided Drafting

CAD274 Residential Design CAD
Developing designs with plans and details based on current design vogues. CAD problem solving associated with design. *Prerequisites: (CAD152 and CAD164) or permission of instructor. 3 credits 6 periods*

CCS-Chicana and Chicano Studies

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*

CCS211 Chicano Culture and Health
Chicano culture and health, including the socio-cultural contexts of health, disease, prevention, and health care delivery. Comparative study of health needs, problems, and health care utilization patterns of the Chicano community. *Prerequistes: None. 3 credits 3 periods*

CCT-Corporate Computer Technology

CCT121 Microsoft Windows 2000 Network and Operating System Essentials

Overview of Microsoft Windows 2000 network including operating system essentials. Covers administrative tasks and tools as well as user accounts, user rights and groups. Protocols, network topologies, network technologies and Internet connectivity also included. *Prerequisites: Experience using Windows interface and general knowledge of hardware and networking concepts recommended. 2 credits 3 periods*

CCT222 Designing a Microsoft Windows 2000 Migration Strategy

Information and skills necessary to select and design a migration strategy from Microsoft Windows NT Server 4.0 to an Active Directory. Includes planning processes, restructuring and upgrade strategies as well as deployment techniques. *Prerequisites: Departmental approval. 1 credit 2 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 department 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*

CFS116 Discipline and Guidance

Age-appropriate principles for disciplining and guiding young children's behavior in child care settings, including interpersonal and environmental strategies. Observational opportunities provided. *Prerequisites: None. 3 credits 3 periods*

CFS120 Contemporary Issues in Early Childhood

Designed to develop understanding of a broad range of contemporary issues that impact the child in today's society. Course directed at pre-service and in-service professionals. May be repeated for credit. *Prerequisites: None. 1 credit 1 period*

CFS123 Health in Early Childhood Settings
Fundamental concepts of public health, with emphasis on communicable disease recognition and prevention, immunizations and infection control in the early childhood setting. Principles of disease prevention, routes of disease transmission, arrival health checks, exclusion policies, sanitation and components of a healthy environment. Scientific principles, concepts and skills for best practice application in the early childhood setting. *Prerequisites: None. 1 credit 1 period*

CFS125 Safety in Early Childhood Settings
Fundamental concepts of safe practices and procedures for the early childhood setting, with emphasis on playground equipment and outdoor activities, transportation practices, poisons, medication management, fire safety, and written documentation basics. *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*

CFS159 The Modern Family
An examination of the modern American family. Special emphasis on the changing functions and roles of individuals within today's society and an analysis of the basic problems confronting the family, including alternative family styles. *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*

CFS178 Survey of Early Childhood Education
Orientation to basic concepts of day care and nursery programs. History and philosophy of child care services including state regulations governing those services. Observation opportunities provided. *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*

CFS181 Enhancing Infant and Toddler Development
Principles of development in children from birth through 30 months. Emphasis on individuality of the child and the adult role in providing a safe and stimulating environment for the development of the child. *Prerequisites: None. 3 credits 3 periods*

CFS183 Contemporary Issues in Adolescence
Current issues that impact adolescent development and behavior explored. Comprehensive and specific strategies for addressing these issues as parents or professionals working with teens emphasized. Issues related to adolescent sexuality, abuse, mental health, violence, and risk behaviors included. *Prerequisites: None. 3 credits 3 periods*

CFS190 Home-Based Visitation
Emphasis on development of skills needed to successfully complete home-based client visitation. Opportunities for field-based observations provided. *Prerequisites: None. 3 credits 4 periods*

CFS201AA Child Development Practicum I
Supervised application of principles of human growth and development in child care situations. Students plan and implement learning experiences for preschool children. Concurrent 6-hour lab required. *Prerequisites: CFS176, and CFS212 and CFS178 and permission of instructor. 4 credits 8 periods*

CFS202AA Child Development Practicum II
Includes food service and nutritional needs. Concurrent 6-hour lab required. *Prerequisites: CFS201AA and permission of instructor. 4 credits 8 periods*

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*

CFS209 Child and Family Organizations: Project Management
Focuses on concepts and strategies associated with effective project management in community-based child and family organizations. Emphasis on planning, evaluation and project management models. *Prerequisites: None.*
3 credits 3 periods

CFS210 Family Life Education
Provides an overview of the professional work within the field of family life education. Emphasis on developing flexible, culturally sensitive and effective professional skills. *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

CFS220 Introduction to Parenting and Family Development
Overview of the field of family and parent development. Focuses on parenthood as a developmental process and cultural influences on child rearing. A family systems perspective introduced and applied to understanding families with children. *Prerequisites: None. 3 credits 3 periods*

CFS225 Foundation of Parent Education
Professional development as related to work with parents. Emphasis on developing effective skills with parents, professionals and paraprofessionals involved with the child. Skills and techniques to facilitate and strengthen the individual and family relationships. *Prerequisites: None.*
3 credits 3 periods

CFS240 Human Behavior in Context
Considers the influences of physical and social environments in which human behavior occurs. Includes multiple roles and perspectives of the individual, the family, society and the professional. *Prerequisites: None.*
3 credits 3 periods

CFS242 Curriculum Planning for Diversity
Practical early childhood classroom applications for a diverse population, including integration of cultures, generations, genders and races into the classroom, facilitation of second language acquisition and practical teaching strategies which are also developmentally appropriate. *Prerequisites: CFS/ECH176. 3 credits 3 periods*

CFS243 Cross-Cultural Parenting
Focus on the study of parents and children from a cross-cultural position. Emphasis on parenting styles and practices from a cultural directive and expectation perspective. Course designed for those seeking careers in Family Studies, Parent Education, Psychology, Social Work/Human Services. *Prerequisites: None. 3 credits 3 periods*

CFS247 Family Ties and Aging
Identification and examination of facets of family relationships and aging. Emphasis on study of central family connections for older people, unique family situations, and implications of family transitions. Course designed for those seeking careers in Family Studies, Parent Education, Psychology, Social Work/Human Services. *Prerequisites: None. 3 credits 3 periods*

CFS249 Transition to Adulthood
Emphasis on major elements of the transition to adulthood and key links to changes in family relationships. Focus on the realignment of intergenerational relationships and reassessment of family priorities. Course designed for those seeking careers in Family Studies, Parent Education, Psychology, Social Work/Human Services. *Prerequisites: None. 3 credits 3 periods*

CFS250 Social Policy and Families
Examines the impact of social policy on family systems and the implications for professional roles and practice. *Prerequisites: None. 3 credits 3 periods*

CFS251 Transitions: Work to Retirement
Explores the work to retirement transitional issues that impact individuals and families. Emphasis on physical, cognitive and psychosocial dimensions of retirement. *Prerequisites: None. 3 credits 3 periods*

CFS252 Contemporary Issues in Aging
Current issues that impact aging development and behavior explored. Comprehensive and specific strategies for addressing these issues for professionals working with aging adults emphasized. *Prerequisites: None. 3 credits 3 periods*

CFS257 Working with Families with Diverse Needs
A collaborative approach to working with families with diverse needs. Examines the effect of specific challenges on the family system. Presents techniques for those working with families to facilitate stress management, conflict resolution, and utilization of community and personal resources to aid in the strengthening of the family unit. *Prerequisites: None.*
3 credits 3 periods

CFS258 Families in Society
Areas of concentration include family transition, diversity in structure and culture faced by contemporary families, problems, crisis and change affecting the stress on families as our society progresses into a more complicated future. The study of change as an integral part of all family's day-to-day experiences while recognizing that family ancestral and cultural dimensions are fundamental for all family groupings. Course designed for those seeking careers in Family Studies, Parent Education, Psychology, Social Work/Human Services. *Prerequisites: CFS157 and CFS259, 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*

CFS277 Adult-Adolescent Interaction
Prepares social service workers, teachers, and parents to interact effectively with teenagers. Develops understanding of the interaction between adolescents and their families. Teaches practical strategies to deal with specific problem areas. *Prerequisites: None. 3 credits 3 periods*

CFS278 Early Childhood Education
Early childhood education with emphasis on philosophy and curriculum in the preschool years. Observation and participation in school programs required. *Prerequisites: CFS176, or ECH176, or permission of instructor. 3 credits 3 periods*

CFS280 Children with Special Needs in Early Childhood Education
Strategies for working with young children who have handicaps and disabilities in the preschool setting. Types of disabilities, assessment techniques, programming skills and activity design, types of programs, and working with families. *Prerequisites: CFS176. 3 credits 3 periods*

CFS283 Multicultural Early Child Education
Practical early childhood classroom applications for a diverse ethnic population, including integration of mulitcultures into the classroom, facilitation of second language acquisition and practical teaching strategies which are also developmentally appropriate. *Prerequisites: CFS176. 1 credit 1 period*

CFS285AA Family-School Interaction: Preschool
Interaction among parents, teachers and the preschool. Emphasis on methods used cooperatively by parents and preschool teachers to provide for education and developmental needs. *Prerequisites: CFS176, or CFS278, or permission of instructor. 1 credit 1 period*

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 risk 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

CHD100 Foundations of Chemical Dependency
Introduction to the foundations of the alcohol and drug abuse rehabilitation field. Emphasis on the roles and responsibilities of the addiction paraprofessional counselor, ethical issues, pharmacology, family dynamics, dual diagnosis, intervention techniques, self-help groups, levels of care, symptom identification and conducting alcohol/drug histories. Interactive work stressed. *Prerequisites: None. 3 credits 3 periods*

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

CHI116 Beginning Chinese Conversation II
Continued development of speaking and listening skills for effective communication in Mandarin Chinese. Includes elements of Chinese culture. *Prerequisites: CHI115 or equivalent. 3 credits 3 periods*

CHI201 Intermediate Chinese I
Continued development of speaking, reading and writing proficiency in Mandarin Chinese through building vocabulary, phrases, idioms and grammatical patterns. Includes study of Chinese culture. *Prerequisites: CHI102, or equivalent, or permission of instructor. 5 credits 6 periods*

CHI202 Intermediate Chinese II
Advanced development of speaking, reading and writing skills in Mandarin Chinese and continued exploration of Chinese culture. *Prerequisites: CHI201, or equivalent, or permission of instructor. 5 credits 6 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
A detailed study of the principles of chemistry. Designed for science majors and students in pre-professional curricula. Completion of CHM151LL is required to meet the Natural Science requirement. *Prerequisites: (CHM130 and CHM130LL) or (one year high school chemistry with a grade of "C" or better, and completion of Intermediate Algebra or equivalent taken within last five years). Course Notes: 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: 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 is required to meet the Natural Science requirement. *Prerequisites: CHM151 and CHM151LL.*
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 Note: 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 (CHM151 and CHM151LL).*
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. 3 credits 3 periods*

CHM235LL General Organic Chemistry I Laboratory
Laboratory experience in support of CHM235. *Prerequisites: CHM152LL, or CHM154, 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. 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. 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

CIS100 Internet: A Tool for Learning
Use of the Internet to promote learning. Focus on Internet services and access. Information provided on browsing, Internet addresses, naming conventions, search concepts and techniques, using bookmarks and capturing information. *Prerequisites: None. .5 credit .5 period*

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*

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*

CIS109 LAN Operations and Concepts
Overview of basic local area networking concepts. Introduction to industry language, computer network hardware, LAN operating system and data communication basics. *Prerequisites: BPC/CIS121AB, or (BPC102AA and BPC102BA), or 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*

CIS112AA Report Generator: Crystal Reports I
Creating end-user reports using report wizards and templates. *Prerequisites: None. 1 credit 2 periods*

CIS112BA Report Generator: Crystal Reports II
Enhancing end-user reports with formatting, formulas, and graphics. *Prerequisites: BPC/CIS112AA. 1 credit 1 period*

CIS112CA Report Generator: Crystal Reports III
Data, reports, and chart types. Creation of customized end-user reports using templates, parameterized reports, and exporting options. *Prerequisites: BPC/CIS112BA. 1 credit 1 period*

CIS112DA Report Generator: Crystal Reports
Build a variety of end-user reports using report wizards and templates. Enhance reports by using formatting, formulas, and graphics. Explore data, reports, and chart types. Create customized reports using custom templates, parameterized reports, and exporting options. *Prerequisites: None. 3 credits 4 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*

CIS115 Managing Computer Projects
Fundamentals of project implementation, development and management. Includes project plan, budget, initiation, evaluation and review. Also covers project manager responsibilities as well as software development issues and prototyping techniques. *Prerequisites: CIS105 or permission of instructor. 3 credits 3 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 Note: 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*

CIS119AL Database Management: Oracle – Level I
Introduction to the basic elements of a current version of the Oracle database management program for casual and beginning users. *Prerequisites: None. 1 credit 2 periods*

CIS119BL Database Management: Oracle – Level II
Exploration of additional components of the Oracle database management program. *Prerequisites: CIS119AL or permission of instructor. 1 credit 1 period*

CIS119CL Database Management: Oracle – Level III
Application of the features of the Oracle program to some common database management problems. *Prerequisites: CIS119BL. 1 credit 1 period*

CIS119DL Oracle: Database Management
Introduction to the basic elements, exploration of additional components and common database management problems related to the Oracle program. Combines the contents of CIS119AL and CIS119BL and CIS119CL. *Prerequisites: None. 3 credits 4 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*

CIS119DP Oracle: Data Administration
Basic administrative tasks performed by a database administrator (DBA). Conceptual understanding and hands-on applications of the Oracle database architecture and interaction of its components. *Prerequisites: (CIS119DO, and CIS164AB), or CIS126++, or permission of instructor. 3 credits 4 periods*

CIS119DQ Oracle: Backup and Recovery
Various backup, failure, restore and recovery scenarios that apply to Oracle database environments. Backup methodologies based on business requirements in a mission critical enterprise. Multiple strategies and Oracle tools such as Recovery Manager. *Prerequisites: CIS119DP or permission of the instructor. 2 credits 3 periods*

CIS119DR Oracle: Performance Tuning
Recognizing, troubleshooting and resolving common performance-related problems in administering an Oracle database. Includes an interactive workshop that will provide participants with the opportunity to walk through numerous real-world performance tuning case studies. *Prerequisites: CIS119DP or permission of the instructor. 3 credits 4 periods*

CIS119DS Oracle: Network Administration
Trends and problems associated with business networking and various solutions required for problem solving. Includes Oracle network architecture; configuring client-side and server-side connections, Oracle Enterprise Manager (OEM), Names Server, Multi-threaded Server and Connections Manager; identifying network problems using Network Assistant and troubleshooting the network environment; security risks and solutions. *Prerequisites: CIS117DP or permission of the instructor. 2 credits 3 periods*

CIS120AF Computer Graphics: Adobe Photoshop: Level I
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 for graphic design and image correction. *Prerequisites: None. 1 credit 2 periods*

CIS120BF Computer Graphics: Adobe Photoshop: Level II
Provides students with the capability to use Adobe Photoshop graphics software on a computer. Includes working with masks, channels and layers, and combining raster and vector graphics. *Prerequisites: BPC/CIS120AF. 1 credit 1 period*

CIS120CF Computer Graphics: Adobe Photoshop: Level III
Provides students with the capability to use Adobe Photoshop graphics software on a computer. Includes color printing, color management and creation of graphics for the Web. *Prerequisites: BPC/CIS120BF. 1 credit 1 period*

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 Computer Graphics: Macromedia Flash
Provides students with the ability to use Macromedia 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 Computer Graphics: Macromedia Fireworks
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*

CIS120DH Computer Graphics: Microsoft Visio
Use of graphics software to create and edit drawings with predefined shapes and templates. Addition and manipulation of images, stencils, layers, and pages to drawings. Creation of new shapes, stencils, templates, styles, and colors. Publishing and exportation of drawings. *Prerequisites: None. 3 credits 4 periods*

CIS121AB Microsoft Command Line Operations
Use of the Microsoft command line within windows: 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 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*

CIS121AF Windows NT Workstation Operating System: Level I
Starting and shutting down the computer, navigating the desktop, start button features, taskbar status and online support. Exploring and managing folders and files, running programs and applications programs under Windows NT. *Prerequisites: None. 1 credit 2 periods*

CIS122AE Windows Operating System: Level II
Additional capabilities of the Windows ‘95 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*

CIS124AA Project Management Software: Level I
Utilization of project management software packages by managers and advanced business students to solve critical management planning tasks. Evaluation of management opportunities utilizing software packages to monitor project progress and resource allocation. Includes “what-if” analyses and preparation of management reports. *Prerequisites: None. 1 credit 1.7 periods*

CIS124BA Project Management Software: Level II
Advanced use of project management software. Covers features and functions to solve critical management planning tasks. Project communications, scheduling, resource allocation, tracking processes and importing and exporting data also covered. Project consolidation emphasized. *Prerequisites: CIS124AA or permission of instructor. 1 credit 1.7 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 1 period*

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*

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*

CIS131AB Internet for Teachers: Level I
How schools are delivering education over the Internet; techniques used to expand use; strategies for in and out of classroom use; availability of important educational resources; future potential and disadvantages in relation to education. 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*

CIS158 COBOL Programming I
Programming in structured COBOL for preparation of business reports. Hands-on computer experience. *Prerequisites: 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*

CIS162AA 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. 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. 3 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 credit 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. 3 credits 4 periods*

CIS164AA Oracle: Developer/2000 Foundation
Developer/2000 technology and the core set of features common to each of the Developer/2000 components. Navigating through the Developer/2000 interface using features such as the Object Navigator and Virtual Graphics System (VGS). Common elements of the virtual product. *Prerequisites: CIS105 or permission of instructor. .5 credit .5 period*

CIS164AB Oracle: PL/SQL Programming
Writing PL/SQL procedures, functions and packages. Creating and managing PL/SQL program units and database triggers. Oracle development environments. Managing dependencies and manipulating large objects. *Prerequisites: CIS119DO or permission of the instructor. 3 credits 4 periods*

CIS164AC Oracle: Developer Forms I
Building and testing interactive applications consisting of one or more Developer Forms modules. Building a complete forms application using Oracle Developer. Customizing forms with graphical user input items, such as check boxes, list items and radio groups. Modifying data access by creating event-related triggers. *Prerequisites: CIS164AB 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*

CIS164AE Oracle: Developer Reports
Building a variety of standard and custom reports in a client-server environment. Using a graphical user interface (GUI) environment to retrieve, display and format data in many styles to create tabular, matrix, mailing label and letter reports. Customizing more complex reports, embedding graphical charts in reports and using the Intelligent Remote Reports Server. *Prerequisites: CIS164AB or permission of instructor. 3 credits 4 periods*

CIS164AG Oracle: Data Modeling and Relational Database Design
Top-down, systematic approach to developing a relational database and defining requirements as entities, attributes and relationships. Developing an entity-relationship (ER) diagram that accurately reflects the business. Mapping the ER diagram to an initial database design. *Prerequisites: CIS105 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: (CIS133CA or 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 (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: CIS162AA or 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*

CIS183AA Microsoft Works

Utilization of the Microsoft Works integrated software program. Utilizing electronic spreadsheet, word processing, data base, telecommunication and graphics components to solve business problems. *Prerequisites: None. 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*

CIS191 Novell NetWare System Administration

Knowledge and skills required to administer or manage a Novell NetWare local area network operating system. Level I, II and III network management tasks. *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*

CIS192 Microsoft Windows NT Workstation

Knowledge and skills necessary to configure, customize, optimize and troubleshoot Windows NT, as well as to integrate networks. *Prerequisites or Corequisites: CIS190. 3 credits 4 periods*

CIS193 Microsoft Windows NT Server
Knowledge and skills to plan, install, configure, customize and integrate networks with Windows NT Server operating system. *Prerequisites or Corequisites: CIS192. 3 credits 4 periods*

CIS194 MS Windows NT Server in the Enterprise
Installation of Windows NT server. Emphasis on how to plan and set up domains and implement trust relationships. Practice in creating and administering user and group accounts by determining group policies. Focuses on troubleshooting problems that prevent users from logging on to the network, the management of network resources, and setting up and administering permissions for files and folders. *Prerequisites: CIS193. 3 credits 4 periods*

CIS196 Home Network Integration
Integrating and troubleshooting home network sub-systems. Includes installation, integration, and troubleshooting of home security, audio/video, computer networks, electrical wiring, cable/satellite, broadband, telecommunications, structured wiring, and an overview of heating/air conditioning systems controls. Helps prepare students for industry certifications, such as the CompTIA Home Technology Integrator (HTI+). *Prerequisites: CIS190, or CNT140, or MST140, or permission of instructor. 3 credits 5 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*

CIS219DO Oracle: Extended Data Retrieval with SQL
Retrieve data using advanced techniques such as set operators and hierarchical retrieval. Focuses on writing SQL and SQL *Plus script files. *Prerequisites: CIS119DP or permission of instructor. 1 credit 2 periods*

CIS220DC Advanced Web Programming with Macromedia Flash
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: 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*

CIS221 Advanced DOS
Advanced DOS commands, concepts and usage. Emphasis on batch file programming, configuration and optimization of the DOS environment, various commercial utilities, security and disaster planning, and legal considerations. *Prerequisites: CIS121AB, or (BPC102AA and BPC102BA), or permission of instructor. 2 credits 3 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*

CIS226AA Internet/Intranet Server Administration: UNIX
Setup and management of internet/intranet services, including World Wide Web (WWW) and Simple Mail Transfer Protocol (SMTP) in a UNIX environment. Includes coverage of security issues. *Prerequisites: (CIS126DA and CIS133DA), or permission of instructor. 3 credits 4 periods*

CIS226AB Internet/Intranet Server Administration: Windows
Setup and management of internet/intranet services, including World Wide Web (WWW) and Simple Mail Transfer Protocol (SMTP) in a Windows NT server environment. Includes coverage of security issues. *Prerequisites: CIS133DA and CIS191DL, or permission of instructor. 3 credits 4 periods*

CIS226AC Internet/Intranet Server Administration: Novell NetWare
Setup and management of internet/intranet services, including World Wide Web (WWW) and Simple Mail Transfer Protocol (SMTP) in a Novell NetWare server environment. Includes coverage of security issues. *Prerequisites: CIS133DA or permission of instructor. 3 credits 4 periods*

CIS226AD Internet/Intranet Server Administration: IntranetWare

Setup and management of internet/intranet services, including World Wide Web (WWW) and Simple Mail Transfer Protocol (SMTP) in an Intranet Wareserver environment. Includes coverage of security issues. *Prerequisites: CIS133DA 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 1 period*

CIS233AB Internet Web Publishing: FrontPage Level I

Introduction to designing and creating pages on the Internet's World Wide Web using FrontPage 98. 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 The Internet Web Publishing: Dreamweaver Level I

Introduction to designing and creating pages on the Internet's World Wide Web using Dreamweaver. Hands-on experience authoring hypertext markup language (HTML) and preparing beginning web documents. *Prerequisites: BPC/CIS133BA 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*

CIS233BB Internet Web Publishing: FrontPage Level II

Advanced hypertext markup language (HTML) using FrontPage 98. Covers stables, forms, image maps, gateway scripts and multimedia. Hands-on experience of designed advanced Web presentations. *Prerequisites: CIS233AB or permission of instructor. 1 credit 2 periods*

CIS233CA Internet/Web Development Level II-C

Exploration of best practices/issues for web design and publishing and careers in web development and e-commerce. *Prerequisites: CIS233BA 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*

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) and (CIS117DM or CIS119DO) 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*

CIS240 Local Area Network Planning and Design

Analysis of the needs and requirements for a local area network (LAN). Emphasis on basic systems analysis and design for a local area network, selection of appropriate hardware and software components. Includes current and future issues, needs analysis, cost estimation, selection of connectivity and network components, and issues relating to access, security and support. *Prerequisites: CIS190 or permission of instructor. 3 credits 3 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*

CIS242 Local Area Network Installation

Installation of a local area network (LAN). Emphasis on LAN product overview and requirements, preinstallation procedures and testing, installation, administration, use and problem resolution of a local area network product. Includes installation scheduling, preparation and installation of hardware and network operating system, configuration of security parameters and user accounts, installation of applications software, testing of network and applications, console operations, problem resolution and use of the network. *Prerequisites: CIS190, or MST140, or permission of instructor. 1 credit 2 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*

CIS243DA Internet/Web Development Level III Macromedia Studio

Development of interactive websites with graphics, video and sound using advanced web design techniques and such tools as Macromedia Dreamweaver, Flash, Fireworks and FreeHand. 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*

CIS243DB Internet/Web Development Level III Adobe Suite

Development of interactive websites with graphics, video and sound using advanced web design techniques and such tools as Adobe Photoshop, Illustrator, GoLive, InDesign and Acrobat. 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 Information Systems

Business organization, control, and communication; database concepts; systems design; and computer systems. *Prerequisites: CIS225. 3 credits 3 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*

CIS262AA 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: CIS162AA, 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*

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 the 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 or MST150 any module), or permission of instructor. 3 credits 4 periods*

CIS271 Information System Network Security – Level I
Examines network security from a business and technical perspective. Issues of concern for system administrators and network architects. Includes malicious code prevention and detection, access control methods, security audits, disaster recovery planning, cryptography, firewalls and proxy servers, security protocols, e-mail security and virtual private networks. *Prerequisites: CIS238, or MST152, 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 MST 150) 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*

CIS272 Information System Network Security – Level II
Advanced consideration of network security from a business and technical perspective. Issues of concern to system administrators and network architects. Includes practical experiences in implementing security measures on popular networking equipment and operating systems. *Prerequisites: CIS271 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 Data Base Management Systems
Database design, implementation, evaluation, maintenance and management. *Prerequisites: CIS150, or CIS155, or CIS158, 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 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 credit 1 period*

CIS282AB 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. 2 credits 2 periods*

CIS282AC 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. 3 credits 3 periods*

CIS290AC Computer Information Systems Internship
Work experience in business or industry. *Prerequisites: Permission of instructor. 3 credits 18 periods*

CIS298AA 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 credit 1 period*

CIS298AB 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. 2 credits 2 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 Construction Drawing Foundation
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*

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*

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 II)

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*

CNS245 Surveying

Fundamental surveying principles and introduction to public land surveying system, including theory and field work using the level and transit horizontal measurement by stadia or tape; benchmark and profile leveling; horizontal traverse surveys and computations; establishment of line of grade. Basic theory of Global Positioning Systems. *Prerequisites: GTC108 or MAT182 or MAT187 or departmental approval. 3 credits 6 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*

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 Volunteerism for Construction: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. *Prerequisites: Permission of department. Course Note: May not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in college catalog. 1 credit 1 period*

CNS282AB Volunteerism for Construction: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. *Prerequisites: Permission of department. Course Note: May not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in college catalog. 2 credits 2 periods*

CNS282AC Volunteerism for Construction: A Service-Learning Experience
Service-learning field experience within private/public agencies and citizen volunteer groups. *Prerequisites: Permission of department. Course Note: May not repeat specific assignment for more than three (3) credit hours. Standard grading available according to procedures outlined in college catalog. 3 credits 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. *Prerequistes: (BLT263 and CNS175) or permission of department. 3 credits 3 periods*

CNS290AA Construction Internship
Construction internship office/field experience with private/public agencies or citizen volunteer groups. *Prerequisites: CNS282 or permission of department. Course Note: May not repeat specific assignment for more than (3) credit hours. Standard grading available according to procedures outlined in college catalog. 1 credit 5 periods*

CNS290AB Construction Internship
Construction internship office/field experience with private/public agencies or citizen volunteer groups. *Prerequisites: CNS282 or permission of department. Course Note: May not repeat specific assignment for more than (3) credit hours. Standard grading available according to procedures outlined in college catalog. 2 credits 10 periods*

CNS290AC Construction Internship
Construction internship office/field experience with private/public agencies or citizen volunteer groups. *Prerequisites: CNS282 or permission of department. Course Note: May not repeat specific assignment for more than (3) credit hours. Standard grading available according to procedures outlined in college catalog. 3 credits 15 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*

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 and 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*

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 Protcol (VTP). Preparation for Cisco Certified Network Associate certification examination. *Prerequisites: CNT150 or permission of instructor. 3 credits 4 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*

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 Cisco Networking Advanced Routing

Development of knowledge and skills needed to manage Internet Protocol (IP) traffic and access, design Wide Area Networks (WANs), understand scalable internetworks and Quality of Service (QoS), configure advanced routing protocols (Routing Internet Protocol version 2 [RIPv2], Border Gateway Protocol [BGP], Intermediate System to Intermediate System [IS-IS], Enhanced Interior Gateway Routing Protocol [EIGRP], Open Shortest Path First [OSPF]), and perform advanced IP addressing (Network Address Translation [NAT], Variable Length Subnet Masking [VLSM]). 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 Networking Remote-Access Networks

Emphasis on development of knowledge and skills to build, configure and troubleshoot a remote-access network to interconnect central sites of branch offices, home offices and control access to the central site plus maximize bandwidth over remote links. 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 Networking Multi-Layer Switching

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 Network Troubleshooting

Emphasis on troubleshooting complex network problems by focusing on documenting and baselining a network, utilizing troubleshooting methodologies and tools, and learning effective skills in Layer 1 to 7 troubleshooting. Preparation for the last of four exams leading to the Cisco Certified Network Professional (CCNP) certification. *Prerequisites: CNT200, CNT210 and CNT220, or CCNP Advanced Routing, Remote Access, and Multi-Layer Switching Certification, or permission of instructor. 4 credits 6 periods*

COM-Communication

COM080 Conversation Circles
Practice in conversing in English for non-native speakers. Emphasis in developing conversational techniques to facilitate building and maintaining relationships. May be repeated for a total of six (6) credit hours. *Prerequisites: None. 3 credits 3 periods*

COM095 Basic Oral Communication Skills
Listening, speaking and related academic performance skills, including note-taking. Emphasis on activities designed to improve and synthesize these skills. *Prerequisites: None. 3 credits 3 periods*

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*

COM221 Oral Fluency in American Speech
Designed for English Language Learner (ELL) students to develop greater oral fluency in spontaneous speaking contexts and presentational speaking. Emphasis on development of speech, language, and vocal clarity; basic skills in presentational speaking; and use of English to interact spontaneously with others. *Prerequisites: COM120. 3 credits 3 periods*

COM222 Argumentation
Discussion and practice of the use of evidence, applied reasoning, recognition of fallacies, selection of arguments and methods of analyzing issues. *Prerequisites: ENG101, or ENG107, or equivalent. 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*

COM241 Performance of Literature
The study, analysis and preparation for performance of prose, poetry and dramatic literature. Preparation of material for public audiences. *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*

COM281AA 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. 2 credits 4 periods*

COM281AB 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. 3 credits 5 periods*

COM282AA 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 credit 1 period*

COM282AB 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. 2 credits 2 periods*

COM282AC 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. 3 credits 3 periods*

COV-Covey

COV110 The Seven Habits of Highly Effective People
Development of interpersonal habits that are used by successful people in their personal and professional lives. Seven Habits of Highly Effective People. Video-based lecture course. *Prerequisites: None. 2 credits 2 periods*

CPD-Counseling and Personal Development

CPD100 Orientation for Student Development
Offered to orient new students to college life. Emphasis on assessing students' academic potential, facilitating curricular advisement and registration procedures, learning academic survival skills and becoming aware of all services available to students on campus and in the community. *Prerequisites: None. 1 credit 1 period*

CPD102AA Assertiveness Training
Designed to help students differentiate assertive, non-assertive and aggressive behavior, overcome blocks to acting assertively, and develop effective verbal and nonverbal assertive behavior. Group discussion, role playing and videotape feedback to enable students to express feelings, beliefs and opinions in a direct, appropriate manner. *Prerequisites: None. 2 credits 2 periods*

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*

CPD102AC Creative Job Hunting
Designed to assist students to gain confidence necessary to obtain or improve employment. Emphasis on job search techniques and strategies, resume writing, interviewing skills and improving employment opportunities. *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*

CPD102AS Conflict Resolution
Developing new skills for dealing effectively with everyday conflict and improving quality of one's own life. Opportunity to discuss issues and seek cooperative resolutions. *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*

CPD103BC African American Cultural Pride and Awareness
Develop an awareness of cultural roots, history and traditions with emphasis on the shaping of personal identity, social career and educational decisions. *Prerequisites: None. 2 credits 2 periods*

CPD103BD Latinos/Hispanic American Pride and Awareness
Develop an awareness of cultural roots, history and traditions with emphasis on the shaping of personal identity, social career and educational decisions. *Prerequisites: None. 2 credits 2 periods*

CPD103BE Native American Cultural Pride and Awareness
Develop an awareness of cultural roots, history and traditions with emphasis on the shaping of personal identity, social career and educational decisions. *Prerequisites: None. 2 credits 2 periods*

CPD103BG Asian American Cultural Pride and Awareness
Develop an awareness of cultural root history and traditions with emphasis on the shaping of personal identity, social career and educational decisions. *Prerequisites: None. 2 credits 2 periods*

CPD103BH Male-Female Communication
Designed to provide students with a better understanding of male-female characteristics and how that, along with a renewed emphasis on basic communications skills, will improve communication between the sexes. *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*

CPD105AA Contemporary Issues: Humor and Play
Explores nature and nurturing of humor and play. Examines approaches to balancing work and play. Emphasis of humor and play as tools to promote health and overall wellness. *Prerequisites: None. 2 credits 2 periods*

CPD105AB Contemporary Issues: Friendship
Explores friendship as a key factor for overall wellness. Examines factors that make friendships work or fail. Studies friendship process from mental health perspective. Emphasis on skills and tools for finding, building and maintaining a variety of friendships. *Prerequisites: None. 2 credits 2 periods*

CPD126 Writing Resumes
Planning, organizing and writing a professional resume. Focus on presentation skills including format and language. *Prerequisites: None. 1 credit 1.7 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*

CPD198AA Career Exploration Laboratory
Opportunity to explore careers with an employer. *Prerequisites or Corequisites: CPD102 (any module). 1 credit 1 period*

CPD282AA 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 credit 1 period*

CPD282AB 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. 2 credits 2 periods*

CPD282AC 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. 3 credits 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*

CRE201 Critical Reading and Writing in a Global Society

Critically evaluate the writings of 20th century authors from a variety of countries and cultures in order to gain a more global perspective of both universal and contemporary issues. Relationships among these writings and their cultural perspectives will be examined. *Prerequisites: ENG101 and ENG102 with a grade of "C" or better. CRE101 recommended but not required. 3 credits 3 periods*

CRW-Creative Writing

CRW150 Introduction to Creative Writing

Introduces the student to elements and techniques of creative writing in a variety of genres; teaches terminology and concepts needed for successful participation in writing workshops; facilitates writing practice and evaluation; offers individual guidance on the student's development as a writer. *Prerequisites: None. 3 credits 3 periods*

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*

CSC100AA 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 4 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*

CSC150 Programming in C/C++

Introduction to C and C++ programming. Flow control, functions, pointers, data structures, file handling and introduction to object-oriented programming. *Prerequisites: Permission of instructor. 3 credits 4 periods*

CSC150AA Programming in C/C++

Introduction to C and C++ programming. Flow control, functions, pointers, data structures, file handling and introduction to object-oriented programming. *Prerequisites: Permission of instructor. 4 credits 4 periods*

CSC178 Programming in the UNIX Environment

Use of UNIX operating system; including file system, processing environment, user commands and programming using shell scripts, AWK, PERL and C system calls. *Prerequisites: CSC150 or permission of instructor. 3 credits 4 periods*

CSC180 Computing for Scientists, Engineers and Medical/Health Specialists
Introduction to computers and technology and their impact in science, engineering and medical/health care occupations and on society. Explores technology, current topics in computing, applications and related issues. Use of application software to create scientific documents, spreadsheets, databases, e-mail and text files, and use of Internet browsers pertaining to science, engineering, and health care fields and personal use. Intended for students in the science, engineering and medical/health care fields. *Prerequisites: None. 3 credits 3 periods*

CSC180AA Computing for Scientists, Engineers and Medical/Health Specialists
Introduction to computers and technology and their impact in science, engineering and medical/health care occupations and on society. Explores technology, current topics in computing, applications and related issues. Use of application software to create scientific documents, spreadsheets, databases, e-mail and text files, and use of Internet browsers pertaining to science, engineering, and health care fields and personal use. Intended for students in the science, engineering and medical/ health care fields. *Prerequisites: None. 3 credits 4 periods*

CSC180AB Computing for Scientists, Engineers and Medical/Health Specialists
Introduction to computers and technology and their impact in science, engineering and medical/health care occupations and on society. Explores technology, current topics in computing, applications and related issues. Use of application software to create scientific documents, spreadsheets, databases, web pages, e-mail and text files, and use of Internet browsers pertaining to science, engineering, and health care fields and personal use. Intended for students in the science, engineering and medical/health care fields. *Prerequisites: None. 4 credits 4 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*

CSC181AA 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: None. 4 credits 4 periods*

CSC181AB 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: None. *Prerequisites: None. 3 credits 4 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*

CSC200AA 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 4 periods*

CSC200AB 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. 4 credits 4 periods*

CSC210 Data Structures and Algorithms (Java)
Static and dynamic data structures and associated applications; recursive and iterative sorting and searching algorithms; introduction to object-oriented design and programming techniques; software engineering methods including design models and implementation/testing strategies; professional responsibilities; Java languages. *Prerequisites: CSC200. 3 credits 3 periods*

CSC210AA Data Structures and Algorithms (Java)
Static and dynamic data structures and associated applications; recursive and iterative sorting and searching algorithms; introduction to object-oriented design and programming techniques; software engineering methods including design models and implementation/testing strategies; professional responsibilities; Java languages. *Prerequisites: CSC200. 3 credits 4 periods*

CSC210AB Data Structures and Algorithms (Java)
Static and dynamic data structures and associated applications; recursive and iterative sorting and searching algorithms; introduction to object-oriented design and programming techniques; software engineering methods including design models and implementation/testing strategies; professional responsibilities; Java language. *Prerequisites: CSC200. 4 credits 4 periods*

CSC225 Assembly Language Programming on Motorola Microprocessors
Assembly language programming including input/output programming and exception/interrupt handling. Register-level computer organization, I/O interfaces, assemblers and linkers. Macintosh-based assignments. *Prerequisites: ([CSC100 or CSC110 or CSC200] and CSC/EEE120) or permission of instructor. 4 credits 5 periods*

CSC240 Introduction to Different Programming Languages
Introduction to procedural (C/C++), applicative (LISP) and declarative (Prolong) languages. *Prerequisites: CSC210 or permission of instructor. 3 credits 5 periods*

CSC250 Advanced Programming Using C++
Developing applications in C++; moving from C to C++ including objects and classes, inheritance, polymorphism and data abstraction. *Prerequisites: CSC150 or permission of instructor. 4 credits 4 periods*

CSC250AA Advanced Programming Using C++
Developing applications in C++; moving from C to C++ including objects and classes, inheritance, polymorphism, and data abstraction. *Prerequisites: CSC150, or permission of instructor. 3 credits 5 periods*

CSC251 Advanced Visual C++ Programming Using Microsoft Foundation Classes
Building C++ applications using the Microsoft Foundation classes (MFC) in the Visual C++ environment. Includes Graphical User Interfaces, ActiveX components, Client/Server applications and the ODBC interface. *Prerequisites: CSC210, or CSC250, or permission of instructor. 4 credits 4 periods*

CSC260 Object-Oriented Programming in Java
Software development in Java including both applets and applications, in both standard and graphical programming. Includes objects and classes, inheritance, polymorphism, graphical programming with the Abstract Windows Toolkit and the Swing extension, graphical user interface design and layout, event handling and exception handling. *Prerequisites: CSC150, or CSC200, or permission of instructor. 3 credits 4 periods*

CSC260AA Object-Oriented Programming in Java
Software development in Java including both applets and applications, in both standard and graphical programming. Includes objects and classes, inheritance, polymorphism, graphical programming with the Abstract Windows Toolkit and the Swing extension, graphical user interface design and layout, event handling and exception handling. *Prerequisites: CSC150, or CSC200, or permission of instructor. 4 credits 4 periods*

CSC261 Advanced Programming in Java
Advanced topics in Java including the JavaBean component model, multithreading, client/server development using Java sockets, the Java Database Connectivity interface (JDBC) and remote method invocation (RMI). *Prerequisites: CSC260 or permission of instructor. 3 credits 4 periods*

CSC261AA Advanced Programming in Java
Advanced topics in Java including the JavaBean component model, multithreading, client/server development using Java sockets, the Java Database Connectivity interface (JDBC) and remote method invocation (RMI). *Prerequisites: CSC260 or permission of instructor. 4 credits 4 periods*

CSC270 C# Programming
Developing C# applications for the Microsoft .NET platform. Use of object-oriented principles in developing modularized C# programs. *Prerequisites: CSC200, or CSC250, or CSC260, or permission of instructor. 3 credits 3 periods*

CSC270AB C# Programming
Developing C# applications for the Microsoft .NET platform. Use of object-oriented principles in developing modularized C# programs. *Prerequisites: CSC200, or CSC250, or CSC260, or permission of instructor. 4 credits 4 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*

CSC285 Computer Programming in the WWW Environment
Software development paradigms and environments including Advanced HTML, JavaScript, Common Gateway Interface (CGI) and CGI scripting languages. Security and large scale data management. *Prerequisites: CSC185 and prior programming experience/coursework. 4 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

DAE101 Preclinical Dental Assisting
Preclinical procedures in dentistry. Dental equipment operation and maintenance, infection control, sterilization, hazard control procedures, and four-handed concepts during clinical procedures. *Prerequisites: Admission to the Dental Assisting Program or permission of instructor. Corequisite: DAE102, DAE104, DAE106, DAE107, DAE/DHE114, DAE/DHE122, DAE/DHE203, and DAE/DHE204, or permission of instructor. 2 credits 2 periods*

DAE102 Preclinical Dental Assisting Lab
Practice of preclinical procedures including dental equipment operation and maintenance, infection and hazard control procedures, and four-handed dentistry concepts. *Prerequisites: Admission to the Dental Assisting Program or permission of instructor. Corequisites: DAE101, DAE104, DAE106, DAE107, DAE/DHE114, DAE122, DAE/DHE203, and DAE/DHE204, or permission of instructor. 1 credit 3 periods*

DAE104 Preventive Dentistry
Educational and therapeutic techniques necessary for instructing diverse patients nutritional counseling, fluorides, preventive dental procedures, development of individual programs, and techniques of patient motivation. *Prerequisites: Admission to the Dental Assisting Program or permission of instructor. Corequisites: DAE101, DAE102, DAE106, DAE107, DAE/DHE114, DAE/DHE122, DAE/DHE203, and DAE/DHE204, or permission of instructor. 2 credits 2 periods*

DAE106 Clinical Dental Assisting
Dental Assisting profession's history, roles of the dental team members, ethical and legal standards. Operatory and patient preparation, assisting with General Dentistry and specialty procedures. Application of current concepts in Clinical Assisting. *Prerequisites: Admission to the Dental Assisting Program or permission of instructor. Corequisites: DAE101, DAE102, DAE104, DAE107, DAE/DHE114, DAE/DHE122, DAE/DHE203, and DAE/DHE204, or permission of instructor. 4 credits 4 periods*

DAE107 Clinical Dental Assistng Laboratory
Introduction to specialty dental practices. Clinical assisting with diagnosis, preparation to patient, and specialty procedures. *Prerequisites: Admission to the Dental Assisting Program or permission of instructor. Corequisites: DAE101, DAE102, DAE104, DAE106, DAE/DHE114, DAE/DHE122, DAE/DHE203, and DAE/DHE204, or permission of instructor. 2 credits 6 periods*

DAE114 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*

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*

DAE131 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: (Admission to the Dental Assisting Program and DAE/DHE122) or permission of instructor. Corequisites: DAE/DHE124 or permission of instructor. 2 credits 6 periods*

DAE140 Dental Issues Seminar
Supplements students' clinical experiences in dental practices. Analysis of clinical procedures in general and specialty dental practices. Recording, tabulating, and evaluation of skills performed. Completion of community oral health projects. Examination of ethical, judicial, and cultural diversity issues involved in the practice of dentistry. *Prerequisites: A grade of "C" or better in DAE101, DAE102, DAE104, DAE106, DAE107, DAE/DHE114, DAE/DHE122, DAE/DHE203, and DAE/DHE204. Corequisites: DAE/DHE124, DAE131, DAE144, DAE145, DAE151, DAE224, DAE225, DAE226, DAE227, and DAE228. 1 credit 1 period*

DAE144 Pharmacology
Study of the principles of pharmacology, regulatory agencies, classification, uses, administration, and protocol for handling drugs used in dentistry. *Prerequisites: (Admission to the Dental Assisting Program or permission of instructor), DAE101, DAE102, DAE104, DAE106, DAE107, DAE/DHE114, DAE/DHE203, and DAE/DHE204, or permission of instructor. Corequisites: DAE/DHE124, DAE131, DAE140, DAE145, DAE151, DAE224, DAE225, DAE226, DAE227, and DAE228, or permission of the instructor. 1 credit 1 period*

DAE145 Oral Pathology
Emphasis on processes that are the basis of oral disease. Identifies the role of the Dental Assistant in the treatment of oral disease. *Prerequisites: (Admission to the Dental Assisting Program or permission of instructor), DAE101, DAE102, DAE104, DAE106, DAE107, DAE/DHE114, DAE/DHE203, and DAE/DHE204, or permission of instructor. Corequisites: DAE/DHE124, DAE131, DAE140, DAE144, DAE151, DAE224, DAE225, DAE226, DAE227, and DAE228, or permission of the instructor. 2 credits 2 periods*

DAE151 Survey of Dental Office Management
Basic business procedures and office management skills related to the dental practice. *Prerequisites: DAE101, DAE102, DAE104, DAE106, DAE107, DAE/DHE114, DAE/DHE122, DAE/DHE 203, and DAE/DHE204, or permission of instructor. Corequisites: DAE/DHE124, DAE131, DAE144, DAE145, DAE224, DAE225, DAE226, DAE227, and DAE228, 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*

DAE224 General Clinical Practice
Placement of students in general practice dental facilities for supervised practical experience. *Prerequisites: A grade of "C" or better in DAE101, DAE102, DAE104, DAE106, DAE107, DAE/DHE114, DAE/DHE122, DAE/DHE203, and DAE/DHE204. Corequisites: DAE/DHE124, DAE131, DAE140, DAE144, DAE145, DAE151, DAE225, DAE226, DAE227, and DAE228. 1 credit 5 periods*

DAE225 Pediatric Clinical Practice
Placement of students in pediatric dental facilities for supervised practical experience. *Prerequisites: A grade of "C" or better in DAE101, DAE102, DAE104, DAE106, DAE107, DAE/DHE114, DAE/DHE122, DAE/DHE203, and DAE/DHE204. Corequisites: DAE/DHE124, DAE131, DAE140, DAE144, DAE145, DAE151, DAE224, DAE226, DAE227, and DAE228. 1 credit 5 periods*

DAE226 Periodontal Clinical Practice
Placement of students in periodontal facilities for supervised practical experience. *Prerequisites: A grade of "C" or better in DAE101, DAE102, DAE104, DAE106, DAE107, DAE/DHE114, DAE/DHE122, DAE/DHE203, and DAE/DHE204. Corequisites: DAE/DHE124, DAE131, DAE140, DAE144, DAE145, DAE151, DAE224, DAE225, DAE227, and DAE228. 1 credit 5 periods*

DAE227 Orthodontic Clinical Practice
Placement of students in orthodontic facilities for supervised practical experience. *Prerequisites: A grade of "C" or better in DAE101, DAE102, DAE104, DAE106, DAE107, DAE/DHE114, DAE/DHE122, DAE/DHE203, and DAE/DHE204. Corequisites: DAE/DHE124, DAE131, DAE140, DAE144, DAE145, DAE151, DAE224, DAE225 DAE226, and DAE228. 1 credit 5 periods*

DAE228 Oral and Maxillofacial Surgery Clinical Practice
Placement of students in oral and maxillofacial surgical facilities for supervised practical experience. *Prerequisites: A grade of "C" or better in DAE101, DAE102, DAE104, DAE106, DAE107, DAE/DHE114, DAE/DHE122, DAE/DHE203, and DAE/DHE204. Corequisites: DAE/DHE124, DAE131, DAE140, DAE144, DAE145, DAE151, DAE224, DAE225, DAE226, and DAE227. 1 credit 5 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

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. *Prerequisites: None. Course Note: May be repeated for a total of two (2) semester credit hours. 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. *Prerequisites: None. Course Note: May be repeated for a total of two (2) credit hours. 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. *Prerequisites: None. Course Note: May be repeated for a total of two (2) credit hours.*
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. *Prerequisites: None. Course Note: May be repeated for a total of two (2) credit hours.*
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*

DAN232 Modern Dance III
Theory and practice of modern dance at the beginning intermediate level. Development of movement quality and performance skills. *Prerequisites: DAN135, or permission of instructor. Course Note: May be repeated for a total of two (2) credit hours. 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. *Prerequisites: DAN136, or permission of instructor. Course Note: May be repeated for a total of two (2) credit hours. 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*

DAN267 Dance for Children
Theory and practice of teaching creative, folk, square and other dance forms for children. Includes field experience. *Prerequisites: None. 3 credits 3 periods*

DCP-Direct Care Provider

DCP102 Introduction to the Practice of Direct Care
The care provider's role in different populations and age groups. Organization and operation of care systems (family, health, welfare, correction, education). Profile of different care populations. *Prerequisites: (HCC109 or EMT101 or CPR card for Health Care Provider) and (HCC130 or equivalent). 3 credits 3 periods*

DCP104 Health, Medications and Safety
Universal precautions, medication management, safety and crisis management. Fingerprint, background checks, CPR and first aid certification. *Prerequisites: (HCC109, or EMT101, or CPR card for Health Care Provider) and (HCC130 or equivalent). 2 credits 2 periods*

DCP106 Behavioral Management Skills
Relationship development, group interactions, behavior reinforcement, environmental design, community awareness, sensitivity to clients. Teaching daily living skills, applied principles of behavioral management, psychotropic medications and recreational/leisure time activities. *Prerequisites: (HCC109 or EMT101 or CPR card for Health Care Provider) and (HCC130 or equivalent).*
3 credits 3 periods

DCP108 Information Management
Writing skills, charting, notetaking, report writing, goal setting, writing behavioral objectives, task analysis of skills, outcome measures, data collection and analysis, reporting computer literacy, licensing requirements. *Prerequisites: (HCC109, or EMT101, or CPR card for Health Care Provider) and (HCC130 or equivalent). 2 credits 2 periods*

DCP110 Site Management
Staffing, budgeting, site maintenance and repair, food shopping, meal preparation, laundry and clothing care, transportation, day programming, client hygiene and licensing requirements. *Prerequisites: (HCC109, or EMT101, or CPR card for Health Care Provider) and (HCC130 or equivalent). 2 credits 2 periods*

DCP111 Practicum I: Onsite Supervised Practice
Exposure to three different care populations with the opportunity to practice and demonstrate caregiver skills under supervision. Note: One placement may represent student's current place of employment. *Prerequisites: (HCC109 or EMT101 or CPR card for Health Care Provider) and (HCC130 or equivalent). 3 credits 3 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*

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*

DFT122 Residential Architectural Drafting
Principles of architectural design and residential construction. Development and use of schematics, sketches, elevations, plans and details for designing residential structures using board and/or CAD (computer aided drafting) skills. *Prerequisites: (DFT105AA or DFT252AA) and DFT121, or equivalent, or departmental approval. 3 credits 6 periods*

DFT123 Commercial Architectural Drafting
Architectural drafting practices, principles of design and preliminary planning as applied to commercial architecture. Development and use of schematics, sketches, elevations, plans and details for designing commercial structures using board and/or CAD (computer aided drafting) skills. Application of local building codes, and architectural graphic standards and specifications. *Prerequisites: DFT122, or equivalent, or departmental approval. 3 credits 6 periods*

DFT124 Advanced Commercial Architectural Drafting
Further development of architectural drafting practices, principles of design and preliminary planning as applied to commercial architecture. Includes completion of commercial drawings. *Prerequisites: DFT123, or equivalent, or permission of department/division chair. 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*

DFT216 Descriptive Geometry
Graphical solutions for problems in engineering drawing. A study of the geometry of technical drawing with emphasis on the space relationship of points, lines and planes. *Prerequisites: (CAD154 or CAD162), or DFT110, or DFT121, or equivalent. 3 credits 6 periods*

DFT221 Architectural Rendering: Pen and Ink Technical Techniques
Two and three-dimensional drawing with shades/shadows, landscape, hardscape, finishes, human figures and architectural entourage in pencil and ink media. *Prerequisites: DFT121, or equivalent, or departmental approval. 3 credits 6 periods*

DFT222 Architectural Rendering: Color, Freehand Techniques
Emphasis on color renderings of two- and three-dimensional drawings using a variety of color media. *Prerequisites: DFT221, or equivalent, or departmental approval. 3 credits 6 periods*

DFT223 Structural Steel Detailing
Study of the manufacture of structural steel and its application in the construction field. Includes study of plates, girders, roof trusses, latticed girders and beams. Emphasis on drawing and detailing of erection plans and diagrams using board and/or CAD (computer aided drafting) skills and techniques. *Prerequisites: DFT122, or equivalent, or department approval. 3 credits 6 periods*

DFT224 Landscape Architectural Drafting
Application of commercial design techniques to landscape architectural drafting. 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 equivalent, or departmental approval. 3 credits 6 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*

DFT289 Architectural Office Practicum
Practice of skills required to produce an architectural project under the guidance of an architect or engineer. Presentation of the final product to a jury of professionals. *Prerequisites: Student must be enrolled in the final semester of the Associate in Applied Science in Architecture program. 6 credits 12 periods*

DFT290 Computer Aided Drafting Update
Acquaints experienced users with latest revisions to CAD software. May be taken a maximum of once during an academic year, for a maximum of 4 credits. *Prerequisites: Permission of department. 1 credit 2 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, 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*

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*

DHE290 Dental Hygiene Board Review
Condensed review of the sciences of the dental hygiene profession. Prepares student for the Dental Hygiene National Board Examination. Course employs case studies and administration of a mock written board. *Prerequisites: DHE212. 1 credit 1 period*

DIE-Diesel/Heavy Equipment Technology

DIE115AA Diesel Engine Fuel Systems
Operation, diagnosis, maintenance and testing procedures of fuel injection pumps, injectors and related fuel system components. *Prerequisites: None. 3 credits 5 periods*

DIE129 Air Brake Systems
Methods of servicing "S" cam, wedge and disc brakes. Preventive maintenance, troubleshooting, and repair stressed. *Prerequisites: None. 3 credits 3 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*

ECE201 Electrical Network I
Introduction to electrical networks. Component models, transient and steady state analysis. *Prerequisites: ECE103. Prerequisites or Corequisites: MAT262, and (PHY115 and PHY116) or (PHY121 and PHY131). 4 credits 6 periods*

ECE211 Engineering Mechanics-Statics
Mathematical treatment of the basic physical principles of statics. Methods of vector algebra and vector calculus. *Prerequisites: ECE103, (MAT230 or MAT231), and (PHY115, or PHY121). Corequisites: MAT241. 3 credits 5 periods*

ECE212 Engineering Mechanics-Dynamics
Kinematics and kinetics of particles, translating and rotating coordinate systems, rigid body kinematics, dynamics of systems of particles and rigid bodies, and energy and momentum principles. *Prerequisites: ECE211 and MAT241. 3 credits 5 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

ECH181 Enhancing Infant Development
Introduction to principles of development in infants from birth through 18 months. Emphasis on infant individuality and adult-infant interactions in practical care and play activities. *Prerequisites: None. 1 credit 1 period*

ECH182 Enhancing Toddler Development
Overview of the developmental needs of children from 15 through 30 months. Emphasis on the adult role in providing a safe, stimulating everyday environment where toddlers may explore, imitate and communicate with others. *Prerequisites: None. 1 credit 1 period*

ECH236 Learning Materials for Young Children
Design aspects of traditional early childhood play materials examined for teaching/learning potential. Includes design, production, and field-testing of teacher-made devices. *Prerequisites: None. 1 credit 1 period*

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*

ECH274 Books and Verse for the Young Child
Introduction to verse, storytelling, books and bookmaking for infants, toddlers, and preschoolers. Information as well as storybooks considered. *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*

ECH277 Language and Literacy for the Bilingual Child

Overview of language acquisition for young children in both home and school environments. Emphasis on adults' roles in fostering emerging languages and literacy skills in both the home language and English. Listening, speaking, reading and writing skills included. *Prerequisites: ECH275. 1 credit 1 period*

ECH279 Early Childhood Curriculum Development

An intensive focus on the process of building curriculum units appropriate to the developmental needs and abilities of the young child. Design, use and evaluation of materials and activities. May be repeated for a total of four (4) credits. *Prerequisites: None. 1 credit 1 period*

ECH280 Food Experiences with Young Children

A discussion of the nutritional needs of young children and the cultural and social meanings of foods, feeding and eating. Includes planning and managing food experiences in home and group settings. *Prerequisites: None. 1 credit 1 period*

ECH287 Professional Development in Early Childhood Education

Emerging professionalism within the field of early childhood education. Consideration of job responsibilities, rewards, ethics and current issues facing practitioners. Includes assessment and career planning. *Prerequisites: None. 1 credit 1 period*

ECN-Economics

ECN100 Economics in American Society

Selected principles of macroeconomic and microeconomic analysis. Recommended as a social science elective and for some paraprofessional programs. Not for business transfer students; credit will not be granted if ECN111 or ECN112 has been completed. *Prerequisites: None. 3 credits 3 periods*

ECN111 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*

ECN112 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*

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*

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 ECN111, or ECN112. 3 credits 3 periods*

EDU-Education

EDU160 Introduction to Developmental Disabilities

Basic overview of causation, prevention and habilitation of developmentally disabled individuals. Historical development and influences affecting remediation and treatment of developmentally delayed or disabled individuals. *Prerequisites: None. 3 credits 3 periods*

EDU161 Family Centered Services

Specific techniques and strategies available to families that enhance interactions with a special needs child. An overview of dynamics of family-child and parent-child relations. Legislation affecting children with special needs. *Prerequisites: None. 3 credits 3 periods*

EDU206 Classroom Strategies for the Exceptional Learner

Practical experience with exceptional learners in the classroom. Understanding of and teaching strategies for exceptional learners with mild/moderate mental retardation, learning disabilities, emotional disabilities, physical disabilities, and/or other health-related impairments. *Prerequisites: EDU222. 3 credits 3 periods*

EDU210 Methods for Working with the ESL Student

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), and use of assessment results for placement and accommodation. *Prerequisites: EDU225 or permission of department. 3 credits 3 periods*

EDU211 Methods for Working with the Bilingual Student

Strategies for working with the bilingual student in language arts, science, math, social studies and culture. Components of bilingual curriculum content and tutoring techniques emphasized. Designed for pre-baccalaureate students. *Course Note: Requires fifteen (15) hours of field experience in an elementary or secondary classroom environment. Prerequisites: (EDU225 and proficiency in Spanish). 3 credits 3 periods*

EDU212 English as a Second Language for Bilingual Students

Techniques for working with English as a Second Language (ESL) students in bilingual settings. Covers multiple intelligences theory and second-language acquisition theories. Methods, materials and programs appropriate for bilingual students emphasized. Designed for pre-baccalaureate students. *Prerequisites: EDU225. 3 credits 3 periods*

EDU213 Reading and Writing Strategies in an ESL/Bilingual Setting

Theories and terminology in English as a Second Language (ESL). Second-language acquisition and reading emphasized. Techniques, strategies and learning activities as well as reading comprehension and writing strategies also covered. Designed for pre-baccalaureate students. *Prerequisites: EDU225. 3 credits 3 periods*

EDU216 Introduction to Assessment of Linguistically Diverse Learners

Introduction to the assessment of Limited English Proficient (LEP) students and programs. Identification, exiting and ongoing assessment of student learning as well as legal issues and historical perspectives covered. Connection between assessment and instruction included. State standards emphasized. Designed for pre-baccalaureate students. *Prerequisites: EDU225. 3 credits 3 periods*

EDU217 Methods for the Structured English Immersion (SEI)/ESL Student

Methods of planning, developing, and analyzing lesson plans in all content areas to meet English Language Learners (ELL) Standards. Emphasis on components of curriculum content, teaching strategies, development and 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), and use of assessment results for placement and accommodation. *Course Note: Approved school-based practicum is required. This course incorporates curricular framework for the 45-clock hour requirement for SEI endorsement through the Arizona Department of Education. Designed for undergraduate students. Prerequisites: Formal admission to a state-approved undergraduate teacher preparation program and EDU225. 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 Note: Approved school-based practicum is required. This course incorporates curricular framework for the 15-clock hour requirement 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*

EDU225 Foundations for 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. 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*

EDU238 Elementary Methods for Teaching the Bilingual Child

Methods of developing Spanish and English lesson plans in language arts, science, math, social studies, and culture. Emphasis on components of bilingual curriculum content, teaching techniques, development and evaluation of teaching materials. Conducted in Spanish. *Prerequisites: (SPA103 or SPA104), (EDU/EPD220 or EDU225), and proficiency in Spanish. 3 credits 3 periods*

EDU239 Secondary Methods for Teaching the Bilingual Student

Methods of developing Spanish and English lesson plans in the secondary content areas. Emphasis on components of bilingual curriculum content, teaching techniques, development and evaluation of teaching materials. Conducted in Spanish. *Prerequisites: (SPA103 or SPA104), (EDU/EPD220 or EDU225) and proficiency in Spanish). 3 credits 3 periods*

EDU244 Seminary in Bilingual/ESL Education

Educational procedures, ethics, area methods and classroom operations as they relate to the bilingual/ESL (English as a Second Language) teacher or teacher aide. Opportunity to discuss classroom problems being encountered during the field experience. Conducted bilingually. *Prerequisites: (EDU/EPD220 or EDU225), EDU235 or EDU238 and (second language learning experience or proficiency in a second language), or permission of instructor. Corequisites: EDU245. 3 credits 3 periods*

EDU245 Internship in Bilingual/ESL Education

Provides an opportunity for future teachers and teacher aides to receive supervised, practical, on-site experience in a K-12 bilingual or ESL (English as a Second Language) classroom under the direction of professional teachers. *Prerequisites: (EDU/EPD220 or EDU225), or EDU230, or ENG213 and (EDU210 or EDU211), or permission of department. Corequisites: EDU244. 3 credits 3 periods*

EDU249 Methods and Curriculum Development for Mathematics

Overview and practical application of teaching mathematics in K-8 grades. Development of lesson plans and assessment instruments emphasized. Current trends, State Board of Education Professional Teaching Standards and National Council of Teachers of Mathematics Standards also covered. *Prerequisites: Must hold a provisional or standard elementary, secondary or special education teaching certificate. 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*

EDU251 Methods for Teaching Structured English Immersion (SEI) and English as a Second Language (ESL)

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: Baccalaureate Degree and formal admission to a state-approved post-baccalaureate teacher preparation program and (EDU/EPD220 or EDU225 or permission of department). 3 credits 3 periods*

EDU260 Technology in Education Overview
Exploration of the use of technology in education. Including history of technology in education, teacher and student technology standards, landmark studies related to using technology in education and utilization of technology in the classroom. Local, state and national standards for education covered, as well as identification of professional development opportunities. *Prerequisites: None. 2 credits 2 periods*

EDU262AA Technology as a Resource for Reading Educators: Grades K-3
Overview of integration of technology in the teaching of reading in grades kindergarten through third. Local, state and national standards for reading covered. Identification of technological resources and their use emphasized. *Prerequisites: Must be a certified K-12 teacher or have permission of department chair or program director. 1 credit 1 period*

EDU262AB Technology as a Resource for Reading Educators: Grades 4-6
Overview of integration of technology in the teaching of reading in grades four through six. Local, state and national standards for reading covered. Identification of technological resources and their use emphasized. *Prerequisites: Must be a certified K-12 teacher or have permission of department chair or program director. 1 credit 1 period*

EDU264AA Technology as a Resource for Mathematics Educators: Grades K-3
Overview of integration of technology in the teaching of mathematics in grades kindergarten through three. Local, state, and national standards for mathematics covered. Identification of technological resources and their use emphasized. *Prerequisites: EDU260. 1 credit 1 period*

EDU264AB Technology as a Resource for Mathematics Educators: Grades 4-6
Overview of integration of technology in the teaching of mathematics in grades four through six. Local, state, and national standards for mathematics covered. Creation, formatting and modification of spreadsheets included. Identification of technological resources and their use emphasized. *Prerequisites: EDU260. 1 credit 1 period*

EDU270 Learning and the Brain
Teaching and learning issues within a cognitive processes context. Covers emotion, memory, and recall as well as early brain development and its relationship to learning. Emphasis on current neuroscientific brain research and how it impacts teaching practice in preK-12 classrooms. *Prerequisites: None. 3 credits 3 periods*

EDU270AA Elementary Reading and Decoding
Focus on the theories, methods, and models of the teaching and learning processes of reading in the elementary grades. Approved school-based practicum required. *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*

EDU275 Diagnosis and Remediation of Reading for 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*

EDU279 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*

EDU282AA 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 credit 1 period*

EDU282AB 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. 2 credits 2 periods*

EDU282AC 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. 3 credits 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*

EDU293 Mathematics Methods and Curriculum Development
Overview and practical application of teaching mathematics in K-8 grades. Development of lesson plans and assessment instruments emphasized. Current trends, State Board of Education Professional Teaching Standards and National Council of Teachers of Mathematics Standards also covered. Approved school-based practicum required. *Prerequisites: Baccalaureate Degree and formal admission to a state-approved post-baccalaureate teacher preparation program. 3 credits 3 credits*

EDU296WC 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. 3 credits 15 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*

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*

EED276 Global Child Development
Exploration of the ways that biology and cultures influence the well-being and development of children around the world. Considers traditional and scientific views of the child, as well as threats to the well-being of the young in the contemporary world. *Prerequisites: None. 3 credits 3 periods*

EED278 Early Learning: Curriculum and Instruction
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 Standards, Observation and Assessment in Early Education
Overview of Early Education standards, observation techniques and assessment methodologies. Also includes ethical responsibilities and the application of standards within varied educational settings. *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 laws, 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. *Prerequisites: 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*

ELE245 Advanced Microprocessors and Systems
State-of-the-art microprocessors and systems. Extend fundamental knowledge of microprocessor architecture, hardware and software requirements to advanced microprocessors and systems. Contemporary microprocessor troubleshooting techniques and equipment. *Prerequisites: ELE241. Prerequisites or Corequisites: ELE281. 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 modulaation) circuits. Operation of asynchronous and synchronous modems. *Prerequisites: ELE121 and ELE241. 4 credits 6 periods*

ELE281 Advanced Programming for Technology
Advanced programming techniques using a structured, control-oriented high-level language. Emphasis on structured programming using software support features under appropriate operating system. *Prerequisites: ELE241. 3 credits 5 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*

EMT120 Spanish for Emergency-Care Providers
Participative course for prehospital and other emergency-care providers. Vocabulary, pronunciations, voice inflections, phrases, conversational terms, and methods of interviewing the ill or injured victim. Cultural information to facilitate approach and interaction with the victim, family, and/or significant other. Documentation of the interview content on the prehospital encounter form. *Prerequisites: Certified EMT, or licensed medical personnel. 1 credit 1 period*

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*

EMT208 Intermediate Emergency Medical Technology
Designed to meet U.S. Department of Transportation (U.S. DOT) Arizona Department of Health Services (A-DHS) Office of Emergency Medical Services (O-EMS) requirements for EMT-Intermediate. Provides advanced knowledge and skills related to hypoperfusion states, respiratory arrest or insufficiency, seizure states, cardiovascular emergencies, unconscious states of undetermined etiology, head injury with altered levels of consciousness, and chest trauma. *Prerequisites: (MAT102 or equivalent or a satisfactory score on an applicable district placement exam) and ENG101, BIO160, EMT235, EMT236, EMT/FSC238, 24-hour Hazardous Material Operations Level class or equivalent, and current course in American Heart Association Health Care Provider or equivalent. Comprehensive written, oral, and practical evaluation on all prerequisite courses required prior to selection for this course. Valid Arizona Certification and be employed as an EMT for one full calendar year prior to registration in this course. Corequisites: EMT208AA. 16 credits 20 periods*

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*

EMT238 Vehicular Extrication and Patient Stabilization
Participative course designed for the Emergency Medical Technicians (EMT). Incorporates new knowledge and skills necessary to access, extricate, and care for victims of crash incidents. Provides exposure to scene management, including size-up, disentanglement, victim stabilization for single and multi-victim situations, hazardous materials incidents, integration of local emergency medical services (EMS) for patient assessment and management, and standard operating procedures to selected victim scenarios. *Prerequisites: Basic EMT certification, current enrollment in an EMT-Basic program, nurse with emergency department experience, or law enforcement personnel, or permission of instructor. 2 credits 2 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*

EMT258 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*

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*

EMT272AB 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.) Comprehensive written, oral and practical evaluation on all prerequisite courses required prior to selection for this course. Student must have a valid Arizona Certification and be employed as an EMT for one full calendar year prior to registration in this course. Corequisites: EMT272AA and EMT272LL. 12.5 credits 17.3 periods*

EMT272LL Advanced Emergency Medical Technology Practicum
Clinical and vehicular practicum in support of EMT272AA and EMT272AB. *Prerequisites or Corequisites: EMT272AA and EMT272AB. 7.5 credits 37.5 periods*

ENG-English

ENG061 Basic Writing Skills
Emphasis on preparation for college-level composition with a focus on foundational skills. Establishing effective writing strategies through six or more writing projects comprising at least 1500 words in total. *Prerequisites: Appropriate English placement test score, or permission of department/division chair. 3 credits 3 periods*

ENG071 Fundamentals of Writing
Emphasis on preparation for college-level composition with a focus on organizational skills. Developing effective writing strategies through five or more writing projects comprising at least 2000 words in total. *Prerequisites: Appropriate English placement test score, or permission of department/division chair. 3 credits 3 periods*

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*

ENG100AE Composition Skills
Developing generative and evaluative writing skills using selected software programs. *Prerequisites: None. 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*

ENG260 Film Analysis
Understanding and enjoyment of film and its correlation to literature, art, music, and other disciplines. *Prerequisites: None. 3 credits 3 periods*

ENG282AA 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 credit 1 period*

ENG282AB 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. 2 credits 2 periods*

ENG282AC 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. 3 credits 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. *Prerequisite: 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*

ENH115 Heroes and Myths in African Literature
African literature as a prominent component of contemporary world literature and an integral part of the national cultural heritage of America, Britain, and France. *Prerequisites: None. 3 credits 3 periods*

ENH120 The Literature of Science Fiction
Surveys the last two hundred years of Science Fiction literature and various other media. Investigates the similarities between Science Fiction and other imaginative literatures and media. Examines the Science Fiction genre, sub genres, and themes from a variety of perspectives, as well as social issues. *Prerequisites: None. 3 credits 3 periods*

ENH130 American Detective Fiction
A study of American detective fiction as a literary genre and as a reflection of American culture through the writings of significant authors. *Prerequisites: None. 3 credits 3 periods*

ENH201 World Literature Through the Renaissance
Includes a selection of the world's literary masterpieces in their cultural background, beginning with ancient Oriental and Occidental writings and concluding with Renaissance writings. *Prerequisites: None. 3 credits 3 periods*

ENH202 World Literature After the Renaissance
Includes a selection of the world's literary masterpieces from the Renaissance to modern times. *Prerequisites: None. 3 credits 3 periods*

ENH205 Asian American Literature
Survey of major Asian American writers. Examines literary types and selected works in their relationship to American cultural heritage and to contemporary culture. *Prerequisites: ENG101 or ENG107. 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*

ENH230 Introduction to Shakespeare
Introduces Shakespeare the playwright, the sonneteer, the linguist, and the citizen of the 17th century. Considers the major tragedies, comedies, histories, and sonnets; focuses on the use of language and connects the writer to the time. Some emphasis on Shakespeare's influence through the centuries, noting parallels between the late 16th century and the late 20th century. *Prerequisites: None. 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*

ENH250 Classical Backgrounds in Literature
Introduction to selected readings of Greek and Latin literature in translation and to the key elements as integral aspects of Western culture through successive ages. *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*

ENH256 Shakespeare on Film
Presents cinematic versions of Shakespeare's plays and explains and analyzes how the dramatist's major tragedies, comedies, histories, and romances have been presented on film. *Prerequisites: None. 3 credits 3 periods*

ENH259 American Indian Literature
Contemporary American Indian forms of literary expression. Selected oral traditions of American Indians. Trends and movements within American Indian literary history. *Prerequisites: None. 3 credits 3 periods*

ENH260 Literature of the Southwest
Investigates major themes in Southwestern American literature, including the Western myth, minority roles in the region's literature, control of nature versus primacy of nature, and growth. Both prose and poetry are examined with an emphasis on contemporary Southwestern writing. *Prerequisites: None. 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*

ENH290 Modern Irish Literature and Culture
Literature of Ireland from 1880 to the present. Examines how uniquely Irish themes have been reflected in high and popular culture and how these cultures and themes have influenced Ireland's literary tradition. *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*

ENH292 Literature for Adolescents
Reviews selected literature written for adolescents. Develops and applies literary criteria for the evaluation of adolescent literature. *Prerequisites: None. 3 credits 3 periods*

ENH294 Multicultural Folktales
Study of multicultural folktales, exploring the impact of the oral tradition in American society and showing classroom applications. *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. This course incorporates curricular framework for the 15-clock hour requirement 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*

EPD230 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*

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*

EPD241 Methods for Teaching the Bilingual Student
Methods of developing lesson plans in the content areas. Emphasis on components of bilingual curriculum content, teaching techniques, development and evaluation of teaching materials. *Course Notes: Requires fifteen (15) hours of field experience in an elementary or secondary classroom environment. Prerequisites: (SPA103 or SPA104), (EDU/EPD220 or EDU225), and proficiency in Spanish) and must hold a provisional or standard elementary, secondary or special education teaching certificate. 3 credits 3 periods*

EPD242 Strategies for Bilingual Settings
Strategies for teaching English as a Second Language (ESL) in bilingual settings. Covers multiple intelligences theory, second language acquisition theories and the integration of curriculum, as well as methods, techniques, materials and programs appropriate for linguistically diverse populations. *Prerequisites: (EDU/EPD220 or EDU225) and must hold a provisional or standard elementary, secondary or speical education teaching certificate. 3 credits 3 periods*

EPD243 Reading and Writing in English as a Second Language (ESL)/Bilingual Setting
Introduction to English as a Second Language (ESL) terminology, second language acquisition theories, and reading terminology. Teaching techniques, strategies, and learning activities as well as reading comprehension skills and writing skills covered. *Prerequisites: (EDU/EPD220 or EDU225) and must hold a provisional or standard elementary, secondary or special education teaching certificate. 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/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: (EDU/EPD220 or EDU225) or EDU230 or ENG213 or (EDU228 or EDU240 or EDU241), and must hold a provisional or standard elementary, secondary or special education teaching certificate. 3 credits 3 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. *Prerequisite: 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*

EQS205 Equine Genetics, Selection, Development
Introduction to genetics as applied to selection of breeding animals. Emphasis on phenotypic selection and foal development. *Prerequisites: EQS120 or permission of department. 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, 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) credits 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*

ESL052 Job-Specific Writing and Speaking Skills for ESL

Using and understanding English for specific employment or vocational training. Includes English speaking, reading, and writing skills. *Prerequisites: Appropriate ESL test score, or satisfactory completion of ESL055, or instructor approval.*
3 credits 3 periods

ESL054 American Culture

Reading and writing about American culture including history, institutions and sports, and entertainment. *Prerequisites: Appropriate ESL placement test score, or a grade of "C" or better in ESL040, or (ESL040AA, ESL040AB, and ESL040AC), or RDG040, or permission of instructor.*
3 credits 3 periods

ESL054AA American Culture: History

Reading and writing about American history. *Prerequisites: Appropriate ESL placement test score, or a grade of "C" or better in ESL040, or (ESL040AA, ESL040AB, and ESL040AC), or RDG040, or permission of instructor.*
1 credit 1 period

ESL054AB American Culture: Institutions and Customs
Reading and writing about American cultural institutions and customs. *Prerequisites: Appropriate ESL placement test score, or a grade of "C" or better in ESL040, or (ESL040AA, ESL040AB, and ESL040AC), or RDG040, or permission of instructor. 1 credit 1 period*

ESL054AC American Culture: Sports and Entertainment
Reading and writing about American sports and entertainment. *Prerequisites: Appropriate ESL placement test score, or a grade of "C" or better in ESL040, or (ESL040AA, ESL040AB, and ESL040AC), or RDG040, or permission of instructor. 1 credit 1 period*

ESL055 General Vocational English as a Second Language
General English speaking, listening, reading, and writing skills needed for use at work. *Prerequisites: Appropriate ESL placement test score, or a grade of "C" or better in ESL010, or (ESL010AA, ESL010AB, and ESL010AC), or permission of instructor. 3 credits 3 periods*

ESL067 Basic Writing Skills for English as a Second Language
Emphasis on basic writing skills in sentences and short paragraphs using correct, clear, and idiomatic English. *Prerequisites: Appropriate English or ESL placement score, or ESL040, or ESL042, or permission of department chair. 3 credits 3 periods*

ESL077 Fundamentals of Writing English as a Second Language
Emphasis on writing paragraphs and short essays using correct, idiomatic English. *Prerequisites: Appropriate English or ESL placement score, or ESL040, or ENG056, or ENG061, or ESL042, or ESL067, or permission of department chair. 3 credits 3 periods*

ETL-Excellence/Teaching/Learning

ETL102 Educational Applications of Internet/Netscape
Principles and practice of using Internet and Netscape as tools for teaching across the curriculum. Designed for the novice user. *Prerequisites: Teacher certification, or permission of instructor. 1 credit 1 period*

ETL103 Lesson Planning for Learning Styles (4 MAT)
Characteristics of specific learning styles and corresponding teacher delivery methods and procedures. Analysis of and lesson plan development for specific learning styles related to hemisphere mode preference for problem solving. *Prerequisites: Teacher certification. 1 credit 1 period*

ETL106 Collaborative Learning I
Designing and implementing cooperative learning across the curriculum. *Prerequisites: Teacher certification. 1 credit 1 period*

ETL107 Diversity and Cross-Cultural Issues
General principles that apply to diverse groups with differing worldviews, values, customs, and assumptions. Includes cultural filters, ethnocentrism, cross-cultural issues, and culture shock. Focuses on local and global topics. *Prerequisites: Teacher certification, or permission of instructor. 1 credit 1 period*

ETL110 Instructional Skills Workshop
Enhancement of teaching skills and improvement of the teaching/learning process. Includes three mini-lesson teaching experiences including immediate video, written and oral feedback. Opportunities as instructor and participant/observer. Preparation for Instructional Skills Workshop facilitator training. *Prerequisites: Teacher certification. 1.5 credits 1.5 periods*

ETL111AA Instructional Skills Techniques I
Enhancement of teaching skills and improvement of the teaching/learning process. First of three mini-lesson teaching experiences including immediate video, written and oral feedback. Opportunities as instructor and participant/observer. *Prerequisites: Teacher certification. .5 credit .5 period*

ETL111AB Instructional Skills Techniques II
Enhancement of teaching skills and improvement of the teaching/ learning process. Second of three mini-lesson teaching experiences including immediate video, written, and oral feedback. Opportunities as instructor and participant/observer. *Prerequisites: Teacher certification and (ETL111AA, or permission of instructor). .5 credit .5 period*

ETL111AC Instructional Skills Techniques III
Enhancement of teaching skills and improvement of the teaching/learning process. Third of three "mini-lesson" teaching experiences including immediate video, written, and oral feedback. Opportunities as instructor and participant/observer. *Prerequisites: (Teacher certification and ETL111AA and ETL111AB) or permission of instructor. .5 credit .5 period*

ETL150 Electronic Research Retrieval Methods
Introduction to various sources of electronic research. Hands-on practice with electronic retrieval tools. Predicting student information literacy outcomes and incorporating electronic research into lesson plans. *Prerequisites: Teacher certification. 1 credit 1 period*

ETL202 Internet/Netscape Practicum
Design, creation, implementation, and evaluation of teaching materials for the Internet/Netscape environment. *Prerequisites: Teacher certification and ETL101, or permission of instructor. 1 credit 1 period*

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*

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*

FON100AD Nutrition Sports and 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 pregame meal, and glycogen recovery. Emphasis on maximizing fitness, performance, and safety. *Prerequisites: FON100AA, or equivalent, or permission of instructor. 1 credit 1 period*

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*

FON137 Nutrition Supplements

Discussion of supplements and their effects on metabolic enhancement. The course will be divided into three major sections: anabolic, catabolic, and energy-producing agents. Addresses current supplements on the market in order to advise the general public. *Prerequisites: FON100 or permission of instructor. 2 credits 2 periods*

FON140AA Food for Fun and Fitness

Selection of foods, planning, preparing and serving meals for fitness. Emphasis on healthful high energy foods. *Prerequisites: None. 2 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*

FON144 Gourmet Foods
The art and appreciation of gourmet foods, accompanied by preparation and appropriate services. *Prerequisites: None. 3 credits 4 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 presentation. *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*

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*

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 or Corequisites: One year high school chemistry with grade of "C" or better, or CHM130 and CHM130LL, or approval of instructor. 3 credits 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*

FOR-Forensics Science

FOR275 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*

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*

FRE116 Beginning French Conversation II
Continued development of speaking and listening skills for effective communication in French. *Prerequisites: FRE115, or equivalent. 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*

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*

FSC109 Emergency Response Team for Industry
Common industrial hazards related to chemicals, gases, fire, energy sources, and spills. Emergency response procedures to control and conclude hazardous incidents. *Prerequisites: None. 3 credits 5.6 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*

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 Commond 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*

FSC209 Fire Investigation
Methods of determining point of fire origin, path of fire travel, and fire cause. Includes recognizing and preserving evidence, interviewing witnesses, arson laws, and types of arson fires; and court testimony, reports, and records. *Prerequisites: None. 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*

FSC238 Vehicular Extrication and Patient Stabilization
Participative course designed for Emergency Medical Technicians (EMT). Incorporates new knowledge and skills necessary to access, extricate, and care for victims of crash incidents. Provides exposure to scene management, including size-up, disentanglement, victim stabilization for single and multi-victim situations, hazardous materials incidents, integration of local emergency medical services (EMS) for patient assessment and management, and standard operating procedures to selected victim scenarios. *Prerequisites: Basic EMT certification, current enrollment in an EMT-Basic program, nurse with emergency department experience, law enforcement personnel, or permission of instructor. 2 credits 2 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*

FSC282AA Volunteerism for Fire Science: A Service-Learning Experience
Service-learning field experience within human service organization/agency. May be repeated for a total of six (6) FSC282 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*

FSC282AB Volunteerism for Fire Science: A Service-Learning Experience
Service-learning field experience within human service organization/agency. May be repeated for a total of six (6) FSC282 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. 2 credits 2 periods*

FSC282AC Volunteerism for Fire Science: A Service-Learning Experience
Service-learning field experience within human service organization/agency. May be repeated for a total of six (6) FSC282 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. 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*

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*

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*

GBS220 Quantitative Methods in Business
Business applications of quantitative optimization methods in operations management decisions. *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*

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 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 credit 1 period*

GBS282AB 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. 2 credits 2 periods*

GBS282AC 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. 3 credits 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*

GCU120 Arizona's Water Issues
History and development of Arizona's arid-land water use: sources, distribution, methods of use, floods, droughts, water law, and environmental concerns. *Prerequisites: None. 1 credit 1 period*

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*

GCU130AA Global Issues: Great Decisions
Geographic survey of selected United States foreign policy issues relating to Europe, the former Soviet Union, Africa, and Latin and Anglo America. *Prerequisites: None. 1 credit 1 period*

GCU141 Introduction to Economic Geography
Production, distribution, and consumption of various types of commodities of the world and relationships to the activities of man. *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*

GCU223 Geography of Latin America
Spatial overview of the physical, historical, social, and economic characteristics of South, Middle, and Caribbean America. *Prerequisites: None. 3 credits 3 periods*

GCU253 Introduction to Cultural and Historical Geography
Cultural patterns, including such phenomena as language, religion, and various aspects of material culture. Origins and diffusion and division of the world into cultural areas. *Prerequisites: None. 3 credits 3 periods*

GCU282AA Volunteerism for Cultural 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) GCU282 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*

GCU282AB Volunteerism for Cultural 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) GCU282 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. 2 credits 2 periods*

GCU282AC Volunteerism for Cultural 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) GCU282 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. 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*

GER116 Beginning German Conversation II
Continued development of speaking and listening skills for effective communication in German. *Prerequisites: GER115, or one year of high school German, or departmental approval. 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*

GLG114 Introductory Mineralogy I Lecture
Introduces students to the basic principles of mineralogy. Topics include crystallography, physical testing, chemical testing, crystal growth, gemstones, and mineral deposits. Special emphasis on recognition of Arizona minerals. *Prerequisites: None. 3 credits 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*

GLG229AA Field Studies for Educators
Field trips to selected geological areas in Arizona in order to collect and/or observe geological phenomena. Designed for pre-college teachers. *Prerequisites: None. 1 credit 2 periods*

GLG229AB Field Studies for Educators
Field trips to selected geological areas in Arizona in order to collect and/or observe geological phenomena. Designed for pre-college teachers. *Prerequisites: None. 2 credits 10 periods*

GLG229AC Field Studies for Educators
Field trips to selected geological areas in Arizona in order to collect and/or observe geological phenomena. Designed for pre-college teachers. *Prerequisites: None. 3 credits 15 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*

GLG230AB 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. 2 credits 10 periods*

GLG230AC 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. 3 credits 15 periods*

GLG231AA Special Topics in Geology
Exploration of important topics in geology. Specific topic varies. *Prerequisites: None. .5 credit .5 period*

GLG231AB Special Topics in Geology
Exploration of important topics in geology. Specific topic varies. *Prerequisites: None. 1 credit 1 period*

GLG231AC Special Topics in Geology
Exploration of important topics in geology. Specific topic varies. *Prerequisites: None. 2 credits 2 periods*

GLG231AD Special Topics in Geology
Exploration of important topics in geology. Specific topic varies. *Prerequisites: None. 3 credits 3 periods*

GLG235 Paleontology
Mechanics of paleontology and historical biology. Emphasis on the fossil record as documentation of the history of life. Biology, ecology, and evolution of major invertebrate phyla as indicated by the fossil record. *Prerequisites: GLG102 or permission of instructor. 3 credits 5 periods*

GLG251MC Grand Canyon Field Geology
A geology field trip by raft through the Grand Canyon from Lee's Ferry to Lake Mead. Special fees required to cover trip expenses. *Prerequisites: None. 1 credit 5 days*

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*

GLG281 Geology of Arizona Lab
May accompany GLG280. Examples of specific geologic processes and local areas. May require field trips. *Prerequisites: None. 1 credit 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*

GLG282AB 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. 2 credits 2 periods*

GLG282AC 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. 3 credits 3 periods*

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*

GPH112 Introduction to Physical Geography
Spatial and functional relationships among climates, landforms, soils, water, and plants. *Prerequisites: None. 3 credits 3 periods*

GPH113 Introduction to Physical Geography Lab
Laboratory experience in support of GPH112. *Prerequisites or Corequisites: GPH112. 1 credit 3 periods*

GPH210 Introduction to Environmental Geography
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*

GPH211 Landform Processes
Geographic characteristics of landforms and earth-surface processes emphasizing erosion, transportation, deposition, and implications for human management of the environment. *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. Corerquisites: GPH213. 1 credit 3 periods*

GPH218 Introduction to ARC/INFO
A hands-on approach to Geographic Information Systems, using the ARC/INFO method. Includes digitizing, database organization, spatial retrieval, and graphics. *Prerequisites: Permission of instructor. 3 credits 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*

GPH231 Spatial Database II
Development of spatial databases based on system requirements and physical and logical design. Internet-based mapping. *Prerequisites: GPH230 or permission of instructor. 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*

GPH282AB 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.*
2 credits 2 periods

GPH282AC 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.*
3 credits 3 periods

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 Occupaaional 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*

GTC111 Semiconductor Processing Technology II
Semiconductor physics, doping, crystal growth, epitaxial growth, diffusion, oxidation, crystal defects, cleaning and etching, masking, photoresist, metalization, and vapor deposition. Emphasizes common processes, procedures, techniques, and problems. *Prerequisites: None.*
3 credits 3 periods

GTC112 Elements of Manufacturing
Analysis of an operating model for automated equipment including characteristics, operation, and applications to advanced manufacturing equipment. Includes three-dimensional Cartesian coordinate system, manufacturing aids, sensor types, pneumatic systems, troubleshooting model, computers, operations, networks, sending, retrieving files, safety in manufacturing, physical and chemical hazards, and protecting the product. *Prerequisites: None. 3 credits 3 periods*

GTC121 Construction Estimating I
Fundamentals of determining quantities of material, equipment, and labor for a given project. Includes procedures used in applying proper unit costs to these items. *Prerequisites: None. 3 credits 3 periods*

GTC122 Building Materials
Comprehensive study of construction material and systems commonly used in building construction in the Southwest, including concrete, masonry, ferrous and non-ferrous materials, and wood. *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*

GTC181AA Introduction to Fluid Power I
Fundamental laws and principles of fluids. Fluid power systems and applications, including hydraulics, vacuum, and pneumatics. *Prerequisites: ELE101 or equivalent. 1 credit 2 periods*

GTC181AB Introduction to Fluid Power II
Fundamental laws and principles of fluids. Applications of fluid devices including values, cylinders, pumps, sizes of lines, and simple hookups. Topics in hydraulics, vacuum, and pneumatics. *Prerequisites: ELE101 or equivalent. 1 credit 2 periods*

GTC181AC Introduction to Fluid Power III
Fundamental laws and principles of fluids. Applications of low-pressure and high-pressure vacuum systems, including leak detection. *Prerequisites: ELE101 or equivalent. 1 credit 2 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 manufacturer's catalogs. *Prerequisites: ELE101 or GTC108 or MAT103AA or MAT103AB or permission of instructor. 4 credits 6 periods*

GTC206 CNC Programming
Manual programming using computer generation of program media. Setup and operation of a three-axis machine. Study of management implications and advantages of numerical control. *Prerequisites: GTC/MET102, or machine shop experience. 3 credits 6 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*

GTC272AA Automated Control Systems (PLC Applications) I
The programmable logic controller as the control unit for the application of sensors, switches, and transducers that regulate motors, stepper motors, and other prime movers. Includes both on/off and analog devices. *Prerequisites: GTC209 or permission of instructor. 1 credit 2 periods*

GTC272AB Automated Control Systems (PLC Applications) II
The programmable logic controller as the control unit for the application of sensors, switches, and transducers that regulate motors, stepper motors, and other prime movers. Writing and editing control software. *Prerequisites: GTC209 or permission of instructor. 1 credit 2 periods*

GTC272AC Automated Control Systems (PLC Applications) III
The programmable logic controller as the control unit for the application of sensors, switches, and transducers that regulate motors, stepper motors, and other prime movers. Writing program documentation. Testing and troubleshooting program operation. *Prerequisites: GTC209 or permission of instructor. 1 credit 2 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/Camworks
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*

HBR102 Elementary Biblical Hebrew II
Continued study of grammar and vocabulary of classical Hebrew with emphasis on oral reading and interpretation skills. *Prerequisites: HBR101, or equivalent. 4 credits 4 periods*

HBR201 Intermediate Biblical Hebrew I
Advanced study of grammar and vocabulary of classical Hebrew with emphasis on oral reading and interpretation skills. *Prerequisites: HBR102, or equivalent. 4 credits 4 periods*

HBR202 Intermediate Biblical Hebrew II
Further study of grammar, syntax, and vocabulary of classical Hebrew with emphasis on oral reading and interpretation skills. *Prerequisites: HBR201, or equivalent. 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*

HCC145AA Medical Terminology for Health Care Workers I
Introduction to medical terms used in health care. Body systems approach to selected terms related to structures, functions, diseases, procedures, and diagnostic tests. Building and analyzing terms using basic word parts. Selected medical abbreviations and symbols and term spelling. *Prerequisites: None. 1 credit 1 period*

HCC145AB Medical Terminology for Health Care Workers II
Additional medical terms used in health care. Body systems approach to more detailed terms related to structures, functions, diseases, procedures, and diagnostic tests. Building and analyzing terms using standard word parts. Common abbreviations and symbols and term spelling. *Prerequisites: HCC145AA. 1 credit 1 period*

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*

HCR240 Human Pathophysiology
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. 4 credits 4 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 health issues related to women. Examines diseases common to women. Explores predisposing and precipitating factors affecting health and reviews current treatment of disease. Focuses on the development of behaviors that promote a healthy and productive life. *Prerequisites: None. 2 credits 2 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 peoples 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*

HIS135 Military History of the Southwest
Examines the various elements and aspects of the development of the military frontier in the Southwest from the Spanish conquest to 1920. Emphasis on Arizona, California, New Mexico, and Texas. *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 I
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 II
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: HIS203. 3 credits 3 periods*

HIS209 The Chicano in Twentieth Century America
Analysis of the twentieth century Chicano experience. Historical perspective of the emergence of Chicanos as an influential minority in the United States. *Prerequisites: None. 3 credits 3 periods*

HIS241 Latin American Civilization in the Colonial Period
A survey of the political, economic, and social forces which molded Latin American civilization in the Colonial Period. *Prerequisites: None. 3 credits 3 periods*

HIS242 Latin American Civilization in the Post-Colonial Period
A survey of the political, economic, and social forces which molded Latin American civilization in the period of the development of Republics. *Prerequisites: None. 3 credits 3 periods*

HIS243 World Religions
The development of various religions from the 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*

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 til 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*

HIS275 Soviet Union and Slavic World
Survey of the principal political, military, economic, social, and cultural developments in the Soviet Union from the Communist seizure of power in 1917 to the present. Includes a brief review of the geography, politics, and culture of pre-1917 Russia as a background. *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 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 credit 1 period*

HIS282AB 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. 2 credits 2 periods*

HIS282AC 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. 3 credits 3 periods*

HLR-Health Related

HLR103 Introduction to Complementary and Alternative Medicine
Complementary and alternative medicine and its influence on healthy lifestyles and wellness. Includes history of complementary and alternative medicine, review of modalities from diverse cultures around the world, and current research on their effectiveness in promoting wellness. Skills to enhance a healthy lifestyle. *Prerequisites: None. 3 credits 3 periods*

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

HRM102 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*

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*

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*

HUM211AB Foreign Films: Japanese
Analysis of contributions of Japanese directors to the art and history of motion pictures through a study of selected films. *Prerequisites: None. 3 credits 3 periods*

HUM211AC Foreign Films: French
Analysis of contributions of French directors to the art and history of motion pictures through a study of selected films. *Prerequisites: None. 3 credits 3 periods*

HUM211AD Foreign Films: Third World
Analysis of representative Third World films and directors, and their contributions to the art of cinema. *Prerequisites: None. 3 credits 3 periods*

HUM213 Hispanic Film
Analysis of Hispanic film as art form and as social commentary. *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*

IBS122 International Internship
To enhance each international intern's opportunity for success in the field of international business by bridging the gap between educational theory and on-the-job practices through individualized performance objectives related to the student's career or occupational goal in international business. *Prerequisites: Be employed or volunteer in the field of international business and have completed 8-12 hours of classroom study in the IBS curriculum or equivalent. (Five hours per week per 1.0 unit of work experience.) Evidence of a minimum of 150 hours of work time and preparation of internship reports. 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

IGS-Integrated Studies

IGS290 Integrated Studies
Integrated nature of human experience. Critical inquiry of a particular theme from a wide variety of academic viewpoints. Synthesis of knowledge and skills. Evaluation of experience and decisions from ethical, aesthetic, and intellectual perspectives. Preparation of three formal papers. *Prerequisites: None. 3 credits 3 periods*

IGS290AA Integrated Studies
Integrated nature of human experience. Critical inquiry of a particular theme from a wide variety of academic viewpoints. Synthesis of knowledge and skills. Evaluation of experience and decisions from ethical, aesthetic, and intellectual perspectives. Preparation of three formal papers. *Prerequisites: None. 2 credits 2 periods*

IGS290AB Integrated Studies
Preparation of a formal paper related to IGS290AA that demonstrates competency in gathering, interpreting, and evaluating evidence. *Prerequisites or Corequisites: IGS290AA. 1 credit 1 period*

IGS291 Studies in Global Awareness
Interdisciplinary examination of selected topics in global awareness. Study of the human organization and modern global interdependence. Selected topics vary. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

IGS291AA Studies in Global Awareness
Interdisciplinary examination of selected topics in global awareness. Study of the human organization and modern global interdependence. Selected topics vary. *Prerequisites: ENG101, or ENG107, or equivalent. 1 credit 1 period*

IGS292 Studies in Cultural Diversity
Interdisciplinary examination of selected topics in cultural diversity. Study of the interrelationships among diverse cultures within the contemporary United States. Selected topics vary. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

IGS292AA Studies in Cultural Diversity
Interdisciplinary examination of selected topics in cultural diversity. Study of the interrelationships among diverse cultures within the contemporary United States. Selected topics vary. *Prerequisites: ENG101, or ENG107, or equivalent. 1 credit 1 period*

IGS293 Studies in Historical Awareness
Interdisciplinary examination of selected topics in historical awareness. Study of the historical method and of human events that have created modern life. Selected topics vary. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

IGS293AA Studies in Historical Awareness
Interdisciplinary examination of selected topics in historical awareness. Study of the historical method and of human events that have created modern life. Selected topics vary. *Prerequisites: ENG101, or ENG107, or equivalent. 1 credit 1 period*

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

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 Architectural Desktop for Interior Design
Introduction to Architectural Desktop AutoCAD™ tools for the interior designer with emphasis on industry-accepted standards for interior design following American Institute of Architects (AIA) guidelines. *Prerequisites: DFT121. 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: DFT121. 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 DFT121. 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 process and tasks within each phase of the process. Stresses creative expression through the utilization of design elements and principles. *Prerequisites: INT105 and DFT121. INT140 or DFT105 recommended but not required. 3 credits 6 periods*

INT210 Interior Sales and Marketing
Marketing procedures and sales techniques for interior designers. *Prerequisites: INT190. 3 credits 3 periods*

INT240 Kitchen and Bath Design
Exploration into the specific requirements associated with kitchen and bath design. Emphasis on the design process and computer-based tools for interior design. *Prerequisites: INT190 and (DFT105 or INT140). 3 credits 6 periods*

INT245 Color Rendering
Development of color rendering techniques. Emphasis on producing two-dimensional and three-dimensional renderings utilizing various media. *Prerequisites: AAS Degree or permission of department. 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: AAS Degree in Interior Design 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*

INT274AA 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. 1 credit 2 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*

INT280 Design Business Procedures
Business procedures for the interiors industry including certification, professional practices and ethics. Emphasizes the use of a business plan and business processes used in studios. *Prerequisites: INT190. 3 credits 3 periods*

INT298AA 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: None. 1 credit 1 period*

INT298AB 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: None. Permission of Program Director or instructor. 2 credits 2 periods*

INT298AC 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: None. Permission of Program Director or instructor. 3 credits 3 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*

ITA116 Beginning Italian Conversation II
Continued development of speaking and listening skills for effective communication in Italian. *Prerequisites: ITA115 or equivalent or departmental approval. 3 credits 3 periods*

ITA201 Intermediate Italian I
Review of essential grammar of the Italian language and study of the Italian culture. Continued practice and development of reading, writing, and speaking skills. *Prerequisites: ITA102 or equivalent or departmental approval. 4 credits 4 periods*

ITA202 Intermediate Italian II
Continued development of Italian language skills and continued study of the Italian culture. *Prerequisites: ITA201, or equivalent, or departmental approval. 4 credits 4 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*

JPN116 Beginning Japanese Conversation II
Continuation of conversational Japanese for survival in everyday business and social situations. Expansion of vocabulary and sentence structure through aural/oral practice. Practice in reading and writing Kana. *Prerequisites: JPN115. 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*

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*

JRN231 Sports Writing
Writing sports stories for the print media. Composing at the computer keyboard. Associated Press editing style, writing skills, and organizational structure for sports news. *Prerequisites: JRN201, or permission of instructor. 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 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 credit 1 period*

JRN240AB 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. 2 credits 2 periods*

JRN240AC 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. 3 credits 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 restitution. *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
Introduction to the evolution of information from books to digital information. Types and nature of print-based information including core collections, reference, and special collections, and their organization. Introduction to technical services functions in libraries. *Prerequisites: None. Corequisites: LBT101 or approval of instructor or program director coordinator. 2 credits 2 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: None. Corequisites: LBT101 or approval of instructor or program director coordinator. 2 credits 2 periods*

LBT140 Media and 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: None. Corequisites: LBT101 or approval of instructor. 2 credits 3 periods*

LBT150 Introduction to Public Services for Libraries and Information Centers
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: None. Corequisites: LBT101, or approval of instructor or program director. 2 credits 2 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 of library computing and future trends in library technologies, integration of library online systems, and impact of computing on libraries and the information industry. *Prerequisites: None. Corerequisites: LBT101, or approval of instructor. 2 credits 3 periods*

LBT211 Selection and Acquisition of Library Materials
Introduction to materials selection, acquisition, and collection development of print-based materials. *Prerequisites: None. Corequisites: LBT110 or approval of instructor or program director. 1 credit 1 period*

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: None. 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: None. Corerequisites: 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*

LBT232 Reference Services for Paraprofessionals

Basic reference services and the reference query. Determining appropriate uses of general reference sources in various formats, including analysis of search strategy and online searching techniques. Uses of both print and online tools including dictionaries, almanacs, indexes, abstracts, directories, encyclopedias, government documents, online databases, and the Internet. *Prerequisites: None. Corequisites: LBT130 or approval of instructor or program director. 1 credit 1 period*

LBT234 Advanced Internet Research

Exploration of the Internet as an informational resource. Development of basic information literacy skills. *Prerequisites: None. Corequisites: LBT130, or approval of instructor or program director. 1 credit 1 period*

LBT236 Introduction to E-mail and Electronic Communication for Libraries

Introduction to e-mail and electronic communication services for libraries. Use of electronic communications in libraries for patrons and staff including listserves, bulletin boards, and other electronic communication methods. *Prerequisites: None. 1 credit 1 period*

LBT241 Audio Video Equipment and Production

Audio video fundamentals including audio recordings, sound reinforcement, principles of audio systems, and video recordings. *Prerequisites: None. Corerequisites: LBT140 or approval of instructor or program director. 1 credit 2 periods*

LBT246 Presentation and Web Publishing for Libraries and Information Centers

Development of basic presentation materials using manual and computer-based methods. Principles of design, color theory, and output choices. Design and production of effective documents for web publishing. *Prerequisites: None. Corequisites: LBT140 or approval of instructor or program director. 1 credit 2 periods*

LBT252 Customer Services and Supervisory Skills for Paraprofessionals

Introduction to communication, teamwork, leadership, and supervisory skills required in delivery of customer services. Working effectively with library 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: None. Corequisites: LBT150, or approval of instructor or program director. 2 credits 3 periods*

LBT257 Interlibrary Loan and Shared Resources

Introduction to the theory and practice of interlibrary loan and shared resources among libraries. Interlibrary loan process and procedures. *Prerequisites: None. Corequisites: LBT150, or approval of instructor or program director. 1 credit 1 period*

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: None. 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
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. *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 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 may be 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 approval of instructor or program director. 1 credit 1 period*

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

MAT065 Graphing Calculator
Computations, graphing, matrices, and elementary programming using a graphing calculator. *Prerequisites: None. 1 credit 1 period*

MAT066 Overcoming Math Anxiety
Designed for students who avoid mathematics courses and/or who have experienced anxiety in mathematics courses. Includes definition and effects of math anxiety. Emphasis on study skills and test-taking strategies. *Prerequisites or Corequisites: Enrollment in another math course, or permission of instructor. 1 credit 1 period*

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. *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*

MAT091 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.*
4 credits 4 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: Grades 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*

MAT213 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. *Grade of "C" or better in MAT150, MAT151, or MAT152, or MAT187 or equivalent, or satisfactory score on district placement exam. 4 credits 4 periods*

MAT220 Analytic Geometry and Calculus I
Topics from analytic geometry with special emphasis on inequalities and absolute value expressions, limits, continuity, the fundamental principles and formulae for differential and integral calculus along with their applications to geometry and mechanics, the mean value theorems, and the fundamental theorem of calculus. 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*

MAT221 Calculus with Analytic Geometry I
Real numbers, limits, continuity, differential, and integral calculus of functions of one variable. 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. 4 credits 4 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
Methods of integration, applications of calculus, elements of analytic geometry, improper integrals, sequences and series. 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
Vector-valued functions of several variables, multiple integration, introduction to vector analysis. *Prerequisites: Grade of "C" or better in MAT230 or MAT231. 4 credits 4 periods*

MAT251 Calculus for Life Science
Analysis and interpretation of the properties of functions commonly used in the fields of biology, medicine, ecology, and other life sciences. In depth examination of limits, continuity, and various other principles and formulae germane for differential and integral calculus is provided. *Prerequisites: Grades of "C" or better in (Grade of "C" or better in (MAT150 or MAT151 or MAT152) and MAT182) or MAT187 or equivalent, or satisfactory score on district placement exam. 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

MET101 Machine Shop Theory I
Principles of cutting metals by drilling, boring, milling, and grinding. Cutting tool geometry and materials. Cutting speeds, feeds, and coolants. Mechanics of machines, levers, wheels, axles, bearings, pulley, gears, and screw threads. *Prerequisites: None. 3 credits 3 periods*

MET103 Machine Shop Theory II
Materials used in the metal working industry and their various forms. Inspection and measurement, speed and feed calculations. Setup and fabrication of metal components in saws, dull presses, lathes, and milling machines. Estimation of completion time for projects. Emphasis on theory of shop operations. *Prerequisites: MET101 or permission of instructor. 3 credits 3 periods*

MET150 Machining Practices I
Lab to accompany MET101. Practicum experience in basic fabricating metal components planning, layout, measuring, setting up and using basic machine shop tools. Basic component of a two-part, job-ready practicum. *Prerequisites: None. Corequisites: GTC107, GTC216, MET101 or permission of instructor. 8 credits 24 periods*

MET250 Machining Practices II
Lab to accompany MET103. Hands-on experience in fabricating sophisticated metal components, complex level of planning, layout, measuring, setup and machine tool operation. *Prerequisite: MET101, MET150, or permission of instructor. Corequisites: DFT110, GTC108, MET103, and QCT270. 8 credits 24 periods*

MET296WA 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 credit 5 periods*

MET296WB 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. 2 credits 10 periods*

MET296WC 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. 3 credits 15 periods*

MET296WD 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*

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*

MGT113 Proposal Writing
Provides an overview of funding sources for grants. Reviews techniques and skills necessary to develop successful proposals. Focuses on the design and writing of a complete grant proposal related to a selected problem or issue. *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*

MGT175 Business Organization and Management
Covers basic principles of managing quality and performance in organizations. Covers management functions: planning, organizing, leading, and controlling. Emphasizes continual improvement, ethics, and social responsibility. *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*

MGT241 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 instructor 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: TQM240 or instructor approval. 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: TQM240 or instructor approval. 2 credits 2 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*

MGT270AA Mangement Internship

Management work experience in a business or industry. 80 hours of designated work per credit. Maximum of 3 credits allowed. *Prerequisites: Departmental approval. 1 credit 1 period*

MGT270AB 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. 2 credits 2 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

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*

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*

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*

MKT280AB 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. 2 credits 2 periods*

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 and CIS141, any module), 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, 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 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 credit 1 period*

MSP297AB 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. 2 credits 2 periods*

MSP297AC 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. 3 credits 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*

MST146 Data Modeling and Relational Database Design

Top-down, systematic approach to developing a relational database and defining requirements as entities, attributes, and relationships. Developing an entity-relationship (ER) diagram that accurately reflects the business. Mapping the ER diagram to an initial database design. *Prerequisites: CIS105, or MST140, or permission of instructor. 2 credits 3 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*

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 period*

MST154 Microsoft Windows Network Enterprise

Knowledge and skills to plan, install, configure, customize, and integrate networks with Windows Server operating system in a heterogeneous, multiple-domain environment. Preparation for Microsoft certification examination. *Prerequisites: MST150 or permission of instructor. Corequisites: MST152 or permission of instructor. 3 credits 4 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*

MST170 Visual Basic Desktop Application Development

Use of Visual Basic programming language to create database applications using Visual Data Access tools, ActiveX Controls, Component Objects, and Structured Query Language (SQL) Server database. *Prerequisites: CIS159 or permission of instructor. 4 credits 5 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 Deisgn 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 credtis 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 period*

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*

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*

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*

MUC295AB Portfolio for Music
Includes developing a portfolio that demonstrates music related skills and marketing of songs, recordings, and musical performances. *Prerequisites: MUC295AA. 1 credit 1 period*

MUC297AB 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. 2 credits 2 periods*

MUE-Music: Education

MUE135 Class Strings I
Practical class with emphasis on techniques of playing and teaching string instruments including tone control and literature. *Prerequisites: None. 2 credits 3 periods*

MUE136 Class Strings II
Continuation of Class Strings I with additional focus on skills including fingering and bowing techniques, and solo/ensemble literature. *Prerequisites: MUE135 or permission of instructor. 2 credits 3 periods*

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*

MUE236 Class Percussion II
Continuation of Class Percussion I with additional emphasis on ensemble techniques and representative literature. *Prerequisites: MUE235 or permission of instructor. 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. May be repeated for a total of three credits. *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. May be repeated for a total of three credits. *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. May be repeated for a total of three credits. *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. May be repeated for a total of three credits. *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. May be repeated for a total of three credits. *Prerequisites: None. Corequisites: Private Jazz Styles Instruction. .5 credit .5 period*

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*

MUP149 Gospel Chorus
A mixed chorus with emphasis on college/community participation and preparation of a variety of Gospel Music for public performance. Auditions may be required. *Course Notes: May be repeated for credit. Prerequisites: None. 1 credit 3 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. *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*

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 Comedy
Study and in-class performance of scenes and solos from Broadway musical literature. *Prerequisites: None. 2 credits 3 periods*

MUP218 Audition Techniques: Vocal Music Theater
Practice in the techniques of auditioning for musical theater. Identification and illustration techniques of the music theater vocal audition. *Prerequisites: None. 1 credit 2 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. *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. *Prerequisites: MUP233, or permission of instructor. 2 credits 3 periods*

MUP250AA Survey of Diction for Singers (English)
Introduction to the use of phonetics in the study of English song literature. *Prerequisites: None. 1 credit 2 periods*

MUP250AB Survey of Diction for Singers (Italian/Latin)
Introduction to the use of phonetics in the study of Italian/Latin song literature. *Prerequisites: None. 1 credit 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*

MUP282AA Volunteerism for Music: A Service-Learning Experience
Service-learning field experience within private/public agencies, citizen volunteer groups, and on-campus sites. 50 hours of designated work per credit. Standard grading available according to procedures outlined in catalog. *Course Notes: May be repeated for a total of six (6) MUP282 credit hours; may not repeat specific agency assignment for more than four (4) credit hours. Prerequisites: None. 1 credit 1 period*

MUP282AB Volunteerism for Music: A Service-Learning Experience
Service-learning field experience within private/public agencies, citizen volunteer groups, and on-campus sites. 50 hours of designated work per credit. Standard grading available according to procedures outlined in catalog. *Course Notes: May be repeated for a total of six (6) MUP282 credit hours; may not repeat specific agency assignment for more than four (4) credit hours. Prerequisites: None. 2 credits 2 periods*

MUP282AC Volunteerism for Music: A Service-Learning Experience
Service-learning field experience within private/public agencies, citizen volunteer groups, and on-campus sites. 50 hours of designated work per credit. Standard grading available according to procedures outlined in catalog. *Course Notes: May be repeated for a total of six (6) MUP282 credit hours; may not repeat specific agency assignment for more than four (4) credit hours. Prerequisites: None. 3 credits 3 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*

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: NCE228 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*

NCE214NR Computerized Nurse Review
Practice and drill to prepare for state board licensure utilizing the computer. *Prerequisites: Previous coursework in approved school of nursing, or permission of the Nursing program. 1 credit 1 period*

NCE214OP Orientation to Nursing Program
Overview of the philosophy, core values, policies, competencies and curricular components of the Maricopa Community College District Nursing Program. Basic concepts of therapeutic communication, normal growth and development, the nursing process, pharmacology, metrology, and concepts of intravenous therapy. Emphasis on the use of the nursing process, utilization of critical thinking skills, sound decision-making principles in the clinical setting, the communication process, time management and stress reduction, and the transition in role expectations between Licensed Practical Nurse (LPN) and Registered Nurse (RN). Review and evaluation of Practical Nursing skills included. *Course Notes: Designed for transfer students, returning students and Practical Nurses entering the District Program. Prerequisites: Advanced placement into the Nursing program. 1 credit 1 period*

NCE214PO Tutored NCLEX Review for Nursing Students
Brief review of nursing care by systems using an NCLEX review book. Focus on nursing process, prioritizing, and critical thinking related to application of nursing care in case study situations. Also practice multiple choice questions. *Prerequisites: Currently enrolled Nursing student, or permission of instructor. 2 credits 2 periods*

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*

NCE228 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: Current or temporary registered nurse license. 4 credits 4 periods*

NCE229 Registered Nurse Preceptorship
Practical 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: NCE228 or permission of instructor. 4 credits 12 periods*

NCE276 Clinical Teaching in Nursing: An Overview
Overview of the process, concepts and skills related to supervising nursing students in the clinical arena. Examines concepts of clinical teaching, provides comprehensive framework for planning, guiding, and evaluating learning activities for nursing students in the clinical arena. *Prerequisites: Current Registered Nurse License. 1 credit 1 period*

NCE282AA 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 credit 1 period*

NCE282AB 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. 2 credits 2 periods*

NCE282AC 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. 3 credits 3 periods*

NMS-New Media Studies

NMS203 Writing for Electronic 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: English placement test score of 40 or better. 3 credits 3 periods*

NUR-Nursing Science: Basic

NUR102 Nursing Process Transition
Transitions paramedics to scope and practice of nursing. Focuses on nursing concepts and theories to meet basic human needs across the lifespan throughout the wellness/illness continuum. Theoretical concepts focus on clients of all ages with selected physiological, psychological, mental health, and childbearing problems. Emphasis on expanding the paramedic's skills and experience to transition to the role of the nurse utilizing nursing process and critical thinking in acute care and community settings. *Prerequisites: Arizona or National Paramedic Registry Certificate, and application and admission to Maricopa Community College District Nursing Program (MCCDNP) with advanced placement. Corequisites: NUR103. 4 credits 4 periods*

NUR103 Nursing Science Transition
Application of nursing concepts and theories of health promotion to nursing care to meet basic human needs. Provides opportunity for the paramedic to develop clinical competency in selected nursing skills and care of clients across the lifespan experiencing altered physiologic functioning. Includes clinical experience with individuals, families, and small groups of clients in acute, long-term, and community settings to develop care plans, teaching plans, and discharge plans. *Prerequisites: Arizona or National Paramedic Registry Certificate, and application and admission to Maricopa Community College District Nursing Program (MCCDNP) with advanced placement. Corequisites: NUR102. 4 credits 12 periods*

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. 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*

NUR111 Nursing Process and Critical Thinking I

Overview of nursing and critical thinking strategies focused on meeting basic human needs within the wellness/illness continuum. Theoretical concepts related to holistic care of well, geriatric, and adult clients with selected alterations in health including psychological/mental health disorders. Emphasis on use of nursing process in the role of the nurse as member of the health care team. Includes concepts of pathophysiology, nutrition, and communication. Requires application of previous knowledge of physical, biological, and social sciences. *Prerequisites: Admission to the Practical Nursing or Nursing Programs. Corequisites: NUR119 or permission of Nursing Department chairperson. 4 credits 4 periods*

NUR117 Pharmacology and Medication Administration I

Introduction to pharmacology. Includes foundation knowledge and skills instruction. Emphasis on core medication prototypes and skills necessary for safe administration of selected medication categories. Concepts of medication administration by selected routes introduced. Application of previous knowledge of physical, biological and social sciences. *Prerequisites: Admission to the Practical Nursing or Nursing Programs. 2 credits 4 periods*

NUR119 Nursing Science I

Development of clinical competency in the performance of selected nursing skills and procedures. Provides for participation in the care of clients experiencing problems of alteration in health and selected mental health disorders. Provides for clinical practice experiences with individuals and families in a variety of long term care and acute settings. Application of holistic nursing concepts and assessments related to health promotion, disease/illness prevention, and health restoration, as well as concepts of pathophysiology, nutrition, and communication. *Prerequisites: Admission into the Practical Nursing or Nursing Programs. Corequisites: NUR111 or permission of Nursing Department chairperson. 5 credits 15 periods*

NUR121 Nursing Process and Critical Thinking II

Nursing and critical thinking strategies focused on meeting basic human needs within the wellness/illness continuum. Theoretical concepts related to holistic care of adult and geriatric clients with selected alterations in health. Introduces human growth and developmental principles. Introduction to care of newborn, pediatric, well childbearing clients, and childrearing families. Continuation of the role of the nurse as member of the health care team. Includes concepts of pathophysiology, nutrition, and communication. Application of previous knowledge of physical, biologic, social, and nursing sciences. *Prerequisites: NUR111, NUR117, and NUR119. Corequisites: NUR129 or permission of Nursing Department chairperson. 4 credits 4 periods*

NUR127 Pharmacology and Medication Administration II

Continues emphasis on core medication prototypes and skills. Emphasis on critical thinking skills for safe practice in medication administration. Introduces concepts of venipuncture and initiation of IV access. Requires application of previous knowledge of physical, biological, social and nursing sciences. *Prerequisites: NUR111, NUR117, and NUR119. 2 credits 4 periods*

NUR129 Nursing Science II

Continuation of application of holistic nursing concepts and assessments related to health promotion, disease/illness prevention and health restoration of individuals and families. Provides continued opportunity for the development of clinical competency in the performance of selected nursing skills, participation in the care of clients with alterations in health. Provides clinical experiences with adult, pediatric, well childbearing clients and childrearing families in a variety of acute care and community settings. Application of nursing concepts in the development of care plans as well as concepts of pathophysiology, nutrition, and communication. Includes participation in client teaching and discharge planning. *Prerequisites: NUR111, NUR117, and NUR119. Corequisites: NUR121 or permission of Nursing Department chairperson. 5 credits 15 periods*

NUR156 Nurse Assisting

Role of the nursing assistant for clients across the wellness/illness continuum within the nurse assisting scope of practice. Introduction to problem solving process specific to meeting the basic and holistic needs of clients. Professional communication skills essential for the nursing assistant. Nursing interventions to ensure the needs and safety of the client. Specific types of diseases, conditions and alterations in behavior of the client. Principles of nutrition and fluid balance. Special needs of the elder client in the acute and long-term care settings. Basic emergency care skills and procedures. *Course Notes: NUR156 and NUR157 must be successfully completed concurrently to meet program requirements. Prerequisites or Corequisites: [HCC130 or (HCC130AA, HCC130AB, HCC130AC, HCC130AD, HCC130AE, and HCC130AF)] and HCC145AA, or equivalent. Corequisites: NUR157. 2 credits 2 periods*

NUR157 Nurse Assisting Lab

Demonstration of problem solving, professional behavior, and therapeutic communication skills. Demonstration of caring behaviors and ensuring environmental safety for the client. Provides opportunity for the development of clinical competency in the performance of selected nursing assisting skills and procedures through participation in the care of clients. *Course Notes: NUR156 and NUR157 must be successfully completed concurrently to meet program requirements. Prerequisites: Completed Health and Safety Documentation Checklist (proof of immunity or*

immunizations for Rubella, Rubeola, Mumps, Varicella, Hepatitis B, current TB testing, and current Health Care Provider CPR card) and completed Health Declaration form. Corequisites: NUR156. 2 credits 6 periods

NUR231 Nursing Process and Critical Thinking III
Nursing and critical thinking strategies. Emphasis on complex human needs within the wellness/illness continuum in a variety of acute care and community settings. Theoretical concepts related to holistic care of adults with selected acute and chronic alterations in health and psychiatric/mental health disorders. Introduction to role of the professional nurse as member of the health care team. Integrates concepts of nutrition, communication, health promotion, and advanced pathophysiology. Application of previous knowledge of physical, biologic, social, and nursing sciences. *Prerequisites: NUR121, NUR127, and NUR129. Corequisites: NUR239 or permission of Nursing Department chairperson. 4 credits 4 periods*

NUR237 Pharmacology and Medication Administration III
Knowledge and skills to safely prepare and administer intravenous medications and solutions. Emphasizes management of clients receiving complex therapies such as blood and blood products, parenteral nutrition, and advanced pain management. Application of previous knowledge of physical, biological, and social sciences. Includes an overview of parenteral medications and therapies used in selected situations. *Prerequisites: NUR121, NUR127, and NUR129. 1 credit 2 periods*

NUR239 Nursing Science III
Application of critical thinking skills through the nursing process to clients and families with acute alterations in health and psychiatric/mental health disorders. Provides for the development of clinical and cultural competency and the continued development of selected nursing skills and procedures within the nursing scope of practice. Holistic care of clients, families, and small groups in a variety of acute and community health care settings. Application of nursing concepts related to health education/promotion for clients, families, and small groups. Integrates concepts of nutrition, communication, health promotion and advanced pathophysiology. *Prerequisites: NUR121, NUR127, and NUR129. Corequisites: NUR231 or permission of Nursing Department chairperson. 5 credits 15 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 NUR239. Corequisites: NUR249 or permission of Nursing Department chairperson. 4 credits 4 periods*

NUR249 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 NUR239. Corequisites: NUR241 or permission of Nursing Department chairperson. 6 credits 18 periods*

OAS-Office Automation Systems

OAS090 Touch Keyboarding
Introduction to computer keyboarding skills for personal use. Emphasis on touch keyboarding of alphabetic and punctuation keys only. *Prerequisites: None. .5 credit .5 period*

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*

OAS102 Computer Typing II: Document Production
Arrangement of letters, memos, manuscripts, and tabulation; speed/accuracy improvement. *Prerequisites: OAS101 or permission of department/division. 3 credits 5 periods*

OAS103 Computer Typing: Skills Building
Individual progression on speed accuracy drills. *Prerequisites: Ability to touch type 25 words per minute or permission of department/division. 3 credits 5 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*

OAS123 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*

OAS130 Beginning Word Processing
Work with word processing software to create, revise, and print documents. *Prerequisites: Type 20 words per minute or permission of instructor. 1 credit 2 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: The ability to use a keyboard at a minimum of 24 words per minute or permission of instructor. 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*

OSH-Occupational Safety and Health

OSH106AA 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*

PAD-Public Administration

PAD103 Introduction to Public Administration
Basic management theory and its application in both the public and private sector. Current issues regarding public administration and bureaucracy. Decision-making processes in government and the relationships of various constituencies (clients, citizens, business, employees). *Prerequisites: None. 3 credits 3 periods*

PED-Physical Education

PED101 Physical Activities
Individual, dual, or team sports activities as listed in the schedule of classes. May be repeated for credit. *Prerequisites: None. 1 credit 2 periods*

PED102 Physical Activities
Individual, dual, or team sports activities as listed in the schedule of classes. May be repeated for credit. *Prerequisites: None. 1 credit 2 periods*

PED112 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*

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. May be repeated for credit. *Prerequisites: None. 2 credits 4 periods*

PED120AE Special Emphasis Activities: Modern Jazz Dance
Intensive experience in the form and movements in modern jazz dance performance. May be repeated for a total of 8 credits. *Prerequisites: None. 2 credits 4 periods*

PED120AF Special Emphasis Activities: Weight Training
Intensive experience in weight training. May be repeated for a total of 8 credits. *Prerequisites: None. 2 credits 4 periods*

PED125 Exercise Science
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. 3 credits 3 periods*

PED128 Methods of Teaching Group Fitness I
Planning and teaching group fitness. Techniques for cueing, use of music, choreography development for high and low impact aerobics, cool down and safety guidelines. *Prerequisites: (PED112 and PED125) or permission of instructor. 2 credits 2 periods*

PED129 Methods of Teaching Group Fitness I
Planning and teaching group fitness. Techniques for cueing, use of music, choreography development for step aerobics and muscle conditioning and safety guidelines. *Prerequisites or Corequisites: PED128 or permission of instructor. 2 credits 2 periods*

PED130 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 3 periods*

PED136 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. PED112 and PSY101 recommended .5 credit .5 period*

PED137 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. PED112 and PSY101 recommended. .5 credit .5 period*

PED140 Principles of Safe Exercise
Overview of safety concepts and principles for the exercise leader. Includes injury recognition and referral sources, injury prevention, safe use of equipment, contraindicated exercises, proper stretching techniques, basic first aid principles, including CPR and common procedures utilized in classroom emergencies. *Prerequisites: None. 1 credit 1 period*

PED145 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 3 periods*

PED147 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*

PED198AC 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*

PED200 Introduction to Exercise Science and Physical Education
Introductory course for students considering or just beginning a course of study in exercise science and physical education. Overview of each of the disciplines, sub-disciplines, and professions in the cross-discipline field of exercise science/physical education, including historical and philosophical foundations. Course emphasizes the study of physical activity. *Prerequisites: None. 3 credits 3 periods*

PED201 Physical Activities
Individual, dual, or team sports activities as listed in the schedule of classes. May be repeated for credit. *Prerequisites: None. 1 credit 2 periods*

PED202 Physical Activities
Individual, dual, or team sports activities as listed in the schedule of classes. May be repeated for credit. *Prerequisites: None. 1 credit 2 periods*

PED210AF Movement Analysis: Aerobics
Practical application of biomechanical, physiological, psychological, and teaching/learning principles in the analysis of skill acquisition and performance. *Prerequisites: None. 1 credit 3 periods*

PED210CR Movement Analysis: Baseball
Practical application of biomechanical, physiological, psychological, and teaching/learning principles in the analysis of skill acquisition and performance. *Prerequisites: None. 1 credit 3 periods*

PED210CX Movement Analysis: Basketball
Practical application of biomechanical, physiological, psychological, and teaching/learning principles in the analysis of skill acquisition and performance. *Prerequisites: None. 1 credit 3 periods*

PED210JX Movement Analysis: Golf
Practical application of biomechanical, physiological, psychological, and teaching/learning principles in the analysis of skill acquisition and performance. *Prerequisites: None. 1 credit 3 periods*

PED210TP Movement Analysis: Soccer
Practical application of biomechanical, physiological, psychological, and teaching/learning principles in the analysis of skill acquisition and performance. *Prerequisites: None. 1 credit 3 periods*

PED210UF Movement Analysis: Softball
Practical application of biomechanical, physiological, psychological, and teaching/learning principles in the analysis of skill acquisition and performance. *Prerequisites: None. 1 credit 3 periods*

PED210WH Movement Analysis: Tennis
Practical application of biomechanical, physiological, psychological, and teaching/learning principles in the analysis of skill acquisition and performance. *Prerequisites: None. 1 credit 3 periods*

PED210WL Movement Analysis: Track & Field
Practical application of biomechanical, physiological, psychological, and teaching/learning principles in the analysis of skill acquisition and performance. *Prerequisites: None. 1 credit 3 periods*

PED210WT Movement Analysis: Volleyball
Practical application of biomechanical, physiological, psychological, and teaching/learning principles in the analysis of skill acquisition and performance. *Prerequisites: None. 1 credit 3 periods*

PED210XP Movement Analysis: Weight Training
Practical application of biomechanical, physiological, psychological, and teaching/learning principles in the analysis of skill acquisition and performance. *Prerequisites: None. 1 credit 3 periods*

PED212CR 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*

PED212FL 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*

PED212SC 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*

PED215 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*

PED260 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*

PED262AA 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*

PED262AB 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*

PED262BN Basketball Officiating
Methods, materials, and techniques of playing and officiating in basketball. May not be repeated for credit. *Prerequisites: None. 2 credits 2 periods*

PED262VP Volleyball Officiating
Methods, materials, and techniques of playing and officiating in volleyball. May not be repeated for credit. *Prerequisites: None. 2 credits 2 periods*

PED265 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. PED281 suggested but not required. 3 credits 3 periods*

PED265BC Baseball Theory of Coaching
Theory and techniques of coaching baseball as a competitive sport. May not be repeated for credit. *Prerequisites: None. 3 credits 3 periods*

PED265BO Basketball Theory of Coaching
Theory and techniques of coaching basketball as a competitive sport. May not be repeated for credit. *Prerequisites: None. 3 credits 3 periods*

PED265FW Football Theory of Coaching
Theory and techniques of coaching football as a competitive sport. May not be repeated for credit. *Prerequisites: None. 3 credits 3 periods*

PED265SI Softball Theory of Coaching
Theory and techniques of coaching softball as a competitive sport. May not be repeated for credit. *Prerequisites: None. 3 credits 3 periods*

PED265VC Volleyball Theory of Coaching
Theory and technique of coaching volleyball as a competitive sport. May not be repeated for credit. *Prerequisites: None. 3 credits 3 periods*

PED275 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: PED125 or PED130 or permission of instructor. 3 credits 3 periods*

PED281 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. PED265 suggested but not required. 3 credits 3 periods*

PED281BC Baseball Methods of Coaching

Techniques, methods, and procedures of baseball coaching. May not be repeated for credit. *Prerequisites: None. 3 credits 3 periods*

PED281BO Basketball Methods of Coaching

Techniques, methods, and procedures of basketball coaching. May not be repeated for credit. *Prerequisites: None. 3 credits 3 periods*

PED281FW Football Methods of Coaching

Techniques, methods, and procedures of football coaching. May not be repeated for credit. *Prerequisites: None. 3 credits 3 periods*

PED281SI Softball Methods of Coaching

Techniques, methods, and procedures of softball coaching. May not be repeated for credit. *Prerequisites: None. 3 credits 3 periods*

PED281VQ Volleyball Methods of Coaching

Techniques, methods, and procedures of volleyball coaching. May not be repeated for credit. *Prerequisites: None. 3 credits 3 periods*

PED285 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: PED145 or permission of instructor. 3 credits 3 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*

PHI102 Introduction to Philosophy

General consideration of human nature and the nature of the universe. Continuation of PHI101 dealing with similar subjects in more depth and with more sophistication. *Prerequisites: PHI101 or permission of instructor. 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*

PHI104 World Philosophy

Examination of questions such as the meaning of life and death, social justice, appearance and reality, human nature, the identity of the self, freedom and destiny, the ethical life, and the relationship of science and religion. Comparative analysis of diverse Eastern and Western viewpoints. *Prerequisites: None. 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*

PHI109 Philosophy of the Arts

Emphasis on three important areas in the field of aesthetics: chronology of important theories of the nature of beauty, major issues in aesthetics, and application of philosophical positions and symbols in different creative media. *Prerequisites: None. 3 credits 3 periods*

PHI113 Introduction to Mathematical Logic

Basic information in semantics and syntax of sentential and predicate logic, construction of truth trees, and derivations in natural deductive systems. *Prerequisites: PHI103 or permission of instructor. 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, and 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*

PHI214 Business Ethics
Philosophical consideration of moral problems arising in business practice, including corporate responsibility, government regulation, hiring practices, and advertising. Application to both the United States and other countries. *Prerequisites: ENG101, or ENG107, or equivalent. 3 credits 3 periods*

PHI215 Legal Ethics
Philosophical considerations of moral problems encountered in the law and the legal system by legal professionals and other involved parties. *Prerequisites: None. 3 credits 3 periods*

PHI216 Environmental Ethics
Philosophical consideration of diverse theories and perspectives on the environment, and application of these theories to global moral issues such as animal rights, preservation of wilderness and species, population, world hunger and poverty, and air and water pollution. *Prerequisites: ENG101 or ENG107 or equivalent. 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*

PHI220 Philosophy of Technology
Philosophical considerations of environmental, economic, social, political, legal, and multicultural issues related to technology. *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*

PHI225 African-American Religions
Leaders, movements, traditions, and controversies in the religious history of African-Americans. *Prerequisites: None. 3 credits 3 periods*

PHI233AA Metaphysics: An Introduction
Metaphysical issues which have concerned philosophers from the time of the ancient Greeks until the present; topics selected from the following: the nature and function of metaphysics, reality, universals, space, time and the infinity, rational theology, the nature of the mind, causation, and the nature of things. *Prerequisites: PHI101 or permission of instructor. 3 credits 3 periods*

PHI233AB Theory of Knowledge
Epistemological issues which have concerned philosophers from the time of the ancient Greeks until the present. Topics selected from the following: the technical terminology of epistemology, the nature of knowledge, knowledge of past events, knowledge of other minds, and knowledge of physical objects. *Prerequisites: PHI101 or permission of instructor. 3 credits 3 periods*

PHI233AC Philosophical Psychology
Philosophical principles and tools used in analyzing the nature of the mind. *Prerequisites: PHI101, or permission of instructor. 3 credits 3 periods*

PHI234AA Plato
The ideas of Plato and Socrates and their impact on Western thought. *Prerequisites: None. 3 credits 3 periods*

PHI234AB Process Philosophy
Basic concepts of process philosophy, including historical sources, modern exponents, and possible applications. *Prerequisites: None. 3 credits 3 periods*

PHI243 World Religions
The development of various religions from the 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*

PHI244 Philosophy of Religion
Religious language, the existence of God, miracles, and human destiny. *Prerequisites: None. 3 credits 3 periods*

PHI245 Introduction to Eastern Philosophy
Fundamental theories of Indian and Chinese metaphysics, epistemology, ethics, and aesthetics. *Prerequisites: None. 3 credits 3 periods*

PHI246 American Indian and Euroamerican Comparative Worldviews
Examination of American Indian worldviews and comparison of these worldviews with Euroamerican philosophical assumptions. Consideration of possibilities for mutual criticism and dialogue between American Indian and Euroamerican traditions. *Prerequisites: None. 3 credits 3 periods*

PHI250 Ethics in Higher Education
Philosophical consideration of and diverse perspectives on moral problems that arise in higher education, including academic freedom, hiring practices, diversity, sexual harassment, community responsibilities, stewardship of public trust, intellectual property, and other related issues. *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 MAT092, 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. *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. *Prerequisites: Trigonometry, or department consent. Recommended for preprofessional and suggested for certain majors. 4 credits 6 periods*

PHY112 General Physics II
Includes electricity, electromagnetism, and modern physics. *Prerequisites: PHY105, or PHY111. 4 credits 6 periods*

PHY115 University Physics I
General physics course using calculus to develop the principles of mechanics and thermodynamics. Recommended for majors in the sciences and mathematics. Required for engineering majors. *Prerequisites: MAT220, or MAT221, or department consent. Corequisites: MAT230, or MAT231. One year high school physics, or PHY111 and PHY112 is strongly recommended. 5 credits 7 periods*

PHY116 University Physics II
Principles of electricity, magnetism, waves, and optics. Required for engineering majors. *Prerequisites: PHY115 and (MAT230 or MAT231). Corequisites: MAT241. 5 credits 7 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*

PHY282AB 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. 2 credits 2 periods*

PHY282AC 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. 3 credits 3 periods*

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*

POS101 Current Issues
Introduction to current issues in politics, economics, social relations, and foreign affairs. Presentations by local, state, and national civic and cultural leaders. May be repeated for a total of two (2) credit hours. *Prerequisites: None. 1 credit 1 period*

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 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 credits 2 periods*

POS281AB 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. 3 credits 3 periods*

POS281AC 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. 4 credits 4 periods*

POS282AA 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. 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 credit 1 period*

POS282AB 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. 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. 2 credits 2 periods*

POS282AC 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. 3 credits 3 periods*

POS285 Public Policy
Introduction to public policy, how policy is made, and how public policy decisions are effected. *Prerequisites: None. 3 credits 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*

PSY210 Educational Psychology
Scientific research and psychological principles as they apply to teaching and learning. The role of psychology in educational settings, human diversity, theories of learning, intelligence, memory creativity, assessment, and factors influencing effective instruction and learning. *Prerequisites: PSY101 with a grade of "C" or better or permission of instructor. 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*

PSY218 Health Psychology
Behavioral and mental foundations of health, wellness, illness, and disease, and psychological dimensions of medical intervention. *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 Differences
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*

PSY241 Understanding and Changing Behavior
Theory and methods for observing, analyzing, and modifying behavior. *Prerequisites: PSY101 with grade of "C" or better or permission of the instructor. 3 credits 3 periods*

PSY242 Understanding and Changing Behavior Lab

Designed to apply the principles of behavior modification. Application of behavior modification principles, techniques, and treatment(s) to modify self-behavior or the behavior of others. Exposure to the "hands-on" application of behavioral programming, including the identification, development, implementation, assessment, and modification of a behavioral program. *Prerequisites: PSY101. Prerequisites or Corequisites: PSY241. 1 credit 2 periods*

PSY245 Psychology of Adult Development

Deals with adults in general as well as adults at three life stages: early, middle, and later adulthood. Characteristics, lifestyles, activities, and problems of adults as well as current theories and research. *Prerequisites: PSY101 with a grade of "C" or better, or permission of 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*

PSY270 Personal and Social Adjustment

Surveys the basic mental health principles as they relate to coping with stress, interpersonal relationships, sex, marriage, and working. Emphasis on learning to become a more competent and effective person. *Prerequisites: PSY101 with a grade of "C" or better, or permission of the instructor. 3 credits 3 periods*

PSY271 Tests and Measurements

Overview of assessment instruments commonly used in research in psychology. Includes current directions in psychological assessment as well as the broader historical context from which the field has emerged. Cultural and sociological considerations of psychological tests and measurements. *Prerequisites: PSY101. 3 credits 3 periods*

PSY277 Psychology of Human Sexuality

Survey of psychological 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*

PSY280 Organizational Psychology

The application of psychological principles to business practices including advertising, marketing, negotiations, organization, and personnel. *Prerequisites: PSY101 with a grade of "C" or better, or permission of instructor. 3 credits 3 periods*

PSY282AA 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 credit 1 period*

PSY282AB 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. 2 credits 2 periods*

PSY282AC 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. 3 credits 3 periods*

PSY290AB 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 6 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 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 credit 1 period*

PSY298AC 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*

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*

QCT153 Applications of Statistical Quality Control
Techniques of applying statistics in all stages of quality control, including market analysis, product design, process control, quality level and inspection plans, and data and defect analysis. *Prerequisites: ELE101, or GTC108, or equivalent. 3 credits 4 periods*

QCT253 Reliability Engineering
Mathematical and statistical techniques used in reliability modeling, analysis, prediction, and maintainability. Analysis of effectiveness and cost of reliability policy and management. *Prerequisites: QCT153 or permission of instructor. 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

RDG002 Adult Basic Reading Skills II
A basic sequential reading program for the adult who has been raised in an English-speaking environment yet needs acquisition of basic reading skills. Includes intermediate-level phonics, structural analysis, comprehension, vocabulary development, and listening skills. *Prerequisites: Placement in this class based on faculty interviews and assessments at time of registration. 3 credits 3 periods*

RDG003 Adult Basic Reading Skills III
A reading skills program for the adult who wants to learn to use the English language in order to function in today's society. Advanced level of reading, speaking, and listening skills. *Prerequisites: A minimum reading level of fourth grade and the ability to communicate well in English. Placement in this class based on faculty interviews and assessment at registration. 3 credits 3 periods*

RDG007 English Pre-Reading Skills
Designed to aid non-English speakers who are non-proficient in their native language. Emphasis on the necessary preliteracy skills that ESL students need prior to learning how to read the English language. May be repeated for a total of 4 credits. *Prerequisites: None. 1 credit 2 periods*

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 (ASSET), or permission of instructor. 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*

RDG013 Spelling Development for ESL Speakers (Non-native Speakers)

Study of basic English spelling principles with emphasis on common spelling errors due to mispronunciation. Examination of homonyms, homophones, homographs, and contractions. Creating personalized mnemonic techniques to spell problem words. *Prerequisites: RDG010 with grade of "C" or better, or permission of instructor. 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*

RDG031 Advanced Vocabulary for ESL Speakers (Non-native Speakers)

Designed to expand and improve reading vocabulary skills. Emphasis on understanding advanced vocabulary in both context and isolation through practice and review. Vocabulary building strategies which will aid in ongoing study of words. Emphasis on both learning and using more advanced vocabulary effectively. *Course Notes: Recommended for reading students at ESL Levels III and IV. Prerequisites: RDG010 with grade of "C" or better, 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*

RDG078 Spelling Improvement

Study of common spelling errors due to mispronunciation with emphasis on the most useful spelling principles. Examination of homonyms and similar words frequently misspelled and prefix definitions. Recognition techniques used to correct errors in spelling and mnemonic devices useful in spelling difficult or problem words. College preparatory level. *Prerequisites: Reading placement score (ASSET), or permission of instructor. 2 credits 2 periods*

RDG079 Vocabulary Improvement

Systematic method of increasing vocabulary by emphasizing the most important affixes, Latin and Greek roots. Content analysis techniques. Common foreign words and phrases used in English. Specialized vocabularies of areas of study and interest. Interpretation of information in dictionary entries. Examination of words frequently confused and misused. College preparatory level. *Prerequisites: None. 2 credits 2 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*

RDG085 Adult Reading Skills for the Workplace

Small cooperative group settings used to discuss readings to enhance comprehension, oral communication, and problem solving skills. Emphasis on reading and thinking skills as applied to overall job performance. Using context clues, constructing graphs, following written directions, using diagrams and flow charts, locating main ideas, recognizing cause and effect, and identifying logical order in written text. *Prerequisites: Appropriate score on placement test. 1 credit 1 period*

RDG086 Problem Solving and Reading in the Workplace

Small cooperative group setting used to discuss readings to enhance comprehension, oral communication, and problem solving skills. Emphasis on evaluative reading and thinking skills as applied to overall job performance. Previewing; determining main points and purpose of general and work-related materials; interpreting charts and graphs. *Prerequisites: Appropriate score on placement test or RDG085. 1 credit 1 period*

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*

RDG100 College Study Skills
Analysis of learning styles and development of individual learning strategies. Introduction of library research techniques. Emphasis on learning and study techniques applicable to any college course. *Prerequisites: Grade of "C" or better in RDG091, or permission of instructor. 3 credits 3 periods*

RDG105 Speed Reading
Development of skills that result in increased reading speed while maintaining satisfactory comprehension of a variety of materials. *Prerequisites: Grade of "C" or better in RDG091 or permission of instructor. 2 credits 2 periods*

RDG282AA Volunteerism for Reading: A Service-Learning Experience
Service-learning field experience within private/public agencies, educational instructions, and citizen volunteer groups. May be repeated for a total of six (6) RDG282 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*

RDG282AB Volunteerism for Reading: A Service-Learning Experience
Service-learning field experience within private/public agencies, educational instructions, and citizen volunteer groups. May be repeated for a total of six (6) RDG282 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. 2 credits 2 periods*

RDG282AC Volunteerism for Reading: A Service-Learning Experience
Service-learning field experience within private/public agencies, educational instructions, and citizen volunteer groups. May be repeated for a total of six (6) RDG282 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. 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*

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*

REA284 Real Estate Appraisal
Includes valuation, market analysis, classification of date and cost factors by emphasizing single-family residential properties and income-producing real estate. *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*

REA286 Advanced Real Estate Appraisal
Includes appraisal procedures toward development of multi-unit and commercial income properties. *Prerequisites: REA284 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, cooking, fire building, and backpacking safety. *Prerequisites: None. 3 credits 3 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*

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 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 credit 1 period*

REC282AB 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. 2 credits 2 periods*

REC282AC Volunteerism for Recreation: A Service-Learning Experience
Service-learning field experience within private/public agencies, educational institution, 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. 3 credits 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*

REL210 Introduction to Judaism
Introduction to the history, scriptures, practices and impact of Judaism. *Prerequisites: None. 3 credits 3 periods*

REL211 Introduction to the Hebrew Bible
The historical context, development, canonization, historical transmission, translation and interpretation of the Hebrew Bible. *Prerequisites: HBR101 or equivalent. 3 credits 3 periods*

REL213 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*

REL225 African-American Religions
Leaders, movements, traditions, and controversies in the religious history of African-Americans. *Prerequisites: None. 3 credits 3 periods*

REL230 Religions of Indigenous Peoples
Sacred story as experienced in ritual and daily practice of various contemporary groups, such as African, Native American, Native Australian, Native South American, Icelandic, and Japanese. Power of sacred story to create and re-create religious and social perspectives. *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*

REL244 Philosophy of Religion
Religious language, the existence of God, miracles, and human destiny. *Prerequisites: None. 3 credits 3 periods*

REL246 American Indian and Euroamerican Comparative Worldviews
Examination of American Indian worldviews and comparison of these worldviews with Euroamerican philosophical assumptions. Consideration of possibilities for mutual criticism and dialogue between American Indian and Euroamerican traditions. *Prerequisites: None. 3 credits 3 periods*

REL250 History of Religion in Ireland
Survey of the religious traditions of Ireland in their socio-political context from the Neolithic to the Modern period. *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*

REL271 Introduction to the New Testament
Origins and development of the literature of early Christian communities; the definition of the New Testament, including its canon, text, and translation; the interpretive approaches to the New Testament employed inside and outside Christianity; variety of literature in the New Testament. *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*

RUS115 Beginning Russian Conversation I
Basic sentence structure, pronunciation, and vocabulary necessary to develop speaking ability in Russian. Designed for students seeking speaking and listening skills. *Prerequisites: None. 3 credits 3 periods*

RUS116 Beginning Russian Conversation II
Continued development of speaking and listening skills for effective communication in Russian. *Prerequisites: RUS115 or equivalent or departmental approval. 3 credits 3 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

SLG103 Introduction to Deafness

History and development of American Sign Language (A.S.L.) and English codes. Overview of education for Deaf and Hard of Hearing children. Legal rights and common adaptive devices used by Deaf and Hard of Hearing individuals. *Prerequisites: None. 1 credit 1 period*

SLG110 Fingerspelling I

Introduction to basic fingerspelling techniques. Concentration on receptive and expressive skills including manual alphabet production and numbers. Focus on methods, theory, and applications. *Prerequisites: SLG101, or permission of department/division. 2 credits 2 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: SLG103 and SLG201 with a grade of "C" or better, or permission of department/division. Suggested but not required: ENG101, SLG200, and, CRE101, or CRE111 or exemption by score on the reading placement test. 4 credits 4 periods*

SLG203 American Sign Language V
Advanced study of vocabulary, classifiers, use of space, and grammatical features of American Sign Language (A.S.L). Includes evaluation of changes that occur in A.S.L as a living language. Advanced use of A.S.L in demonstrations, reports, and presentations. *Prerequisites: SLG202, with a grade of "C" or better. 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 racial and ethnic intergroup relations, emphasizing cultural origins, developments, and problems of minority groups in the United States. *Prerequisites: None. 3 credits 3 periods*

SOC141 Sovereign Indian Nations
Explores the sovereign status of American Indians as it relates to social relationships, traditions, and culture of American Indians. Reviews historic relations with non-Indian societies, the development of federal Indian law, tribal governments and their functions. Examines treaty rights, environmental issues, public policy, economic development, other current issues, and contemporary social problems. *Prerequisites: None. 3 credits 3 periods*

SOC142 Sociology of the Chicano Community
Survey of the socioeconomic characteristics of the Chicano community. The interrelationships of Chicano cultural groups and society as a whole. *Prerequisites: None. 3 credits 3 periods*

SOC143 Sociology of African American Problems
Social, economic, political, and domestic problems encountered by African Americans in typical urban environments. Emphasis on the specific dynamics of adjustment, survival, and empowerment of urban African Americans. *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*

SOC242 Latino Community Organization
Theory and practice of organizing the Mexican-American community for creative roles in political and social changes. Includes the role of the professional organizer. *Prerequisites: SOC142 or permission of the department. 3 credits 3 periods*

SOC251 Social Problems
A sociological exploration of selected social problems. Emphasis on current concerns. *Prerequisites: SOC101. 3 credits 3 periods*

SOC253 Social Class and Stratification
Focus on the class structure of American society. Effects of social class position on individual life chances. The occurrence, causes, and consequences of poverty in the United States. *Prerequisites: SOC101. 3 credits 3 periods*

SOC265 Sociology of Aging
Examination of the aging process from post-adolescence through old age from interdisciplinary and multicultural perspectives. Emphasis on positive participation in major social institutions and the amelioration of age-related problems. *Prerequisites: SOC101. 3 credits 3 periods*

SOC270 The Sociology of Health and Illness
Roles of health care providers and patients, various modalities of treatment and prevention, and the history, current status, and future trends in medicine and medical technology, from a cross-cultural sociological perspective. *Prerequisites: SOC101 or permission of instructor. 3 credits 3 periods*

SOC282AA 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 credit 1 period*

SOC282AB 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. 2 credits 2 periods*

SOC282AC 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. 3 credits 3 periods*

SPA-Spanish

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*

SPA103 Elementary Spanish for Spanish Speakers I
Review of basic Spanish grammar and pronunciation. Emphasis on reading and writing skills in Spanish. For native speakers needing review of essential language skills. *Prerequisites: Spanish-speaking or departmental approval. 4 credits 4 periods*

SPA104 Elementary Spanish for Spanish Speakers II
Continued review of grammatical problems in speaking and writing and reading in Spanish. *Prerequisites: SPA103 or equivalent or departmental approval. 4 credits 4 periods*

SPA115 Beginning Spanish Conversation I
Conversational Spanish. Basic sentence structure, pronunciation, and vocabulary necessary to develop speaking ability in Spanish. Designed for students seeking speaking and listening abilities with little emphasis on grammar. *Prerequisites: None. 3 credits 3 periods*

SPA116 Beginning Spanish Conversation II
Continued development of speaking and listening skills for effective communication in Spanish. *Prerequisites: SPA115 or departmental approval. 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*

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 development of skills in conversational Spanish. A review of the major grammatical and pronunciation problems. *Prerequisites: SPA116, or SPA102, or departmental approval. 3 credits 3 periods*

SPA226 Intermediate Spanish Conversation II
Continued development of skills in conversational Spanish with a review of grammatical problems. *Prerequisites: SPA225, or two years Spanish or equivalent or departmental approval. 3 credits 3 periods*

SPA235 Advanced Spanish Conversation I
Continued development of skills in conversational fluency. Class conducted completely in Spanish. *Prerequisites: SPA226 or equivalent or departmental approval. 3 credits 3 periods*

SPA236 Advanced Spanish Conversation II
Further development of skills in conversational fluency. Grammar presented only to clarify student errors. *Prerequisites: SPA235, or equivalent, or departmental approval. 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*

SPA242 Spanish and Spanish-American Film II
Analysis and critique of movies presented in the Spanish language and produced by cinematographers from Bolivia, Paraguay, Venezuela, Ecuador, Puerto Rico, Costa Rica and the Mexican independent film producers. Includes documentary, biography, and works of literature and their film versions as art form and social commentary. *Course Notes: All coursework, class participation, oral and written reports are in Spanish. Prerequisites: SPA241 or permission of instructor. 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*

SPA266 Advanced Spanish II
Further study of Spanish and Spanish-American literature. Reading selections from most Spanish-speaking countries. All oral reports, discussions, and written reports are in Spanish. Graduated level of difficulty from the literature studied in SPA265. *Prerequisites: SPA265 or departmental approval. 3 credits 3 periods*

SPA282AA 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 credit 1 period*

SPA282AB 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. 2 credits 2 periods*

SPA282AC 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. 3 credits 3 periods*

SPH-Spanish Humanities

SPH245 Hispanic Hertiage in the Southwest
A survey of Hispanic heritage in the Southwest. Cultural and social institutions and their contribution to the development of the region and its heritage. *Prerequisites: None. 3 credits 3 periods*

STO-Storytelling

STO290 The Irish Storytelling Tradition
Introduction to the history and practice of storytelling in Ireland. Overview of Irish myths, legends, folktales, and humorous tales. Great story tellers and story collectors of the past and present. Researching, developing, and crafting Irish stories for telling. *Prerequisite: None. 3 credits 3 periods*

SWU-Social Work

SWU101AA Self-Awareness for Paraprofessional Helpers
Explores the paraprofessional helper's feelings and values, and encourages examination of one's own strengths, weaknesses and coping skills within the context of the helping relationship. *Prerequisites: None. 1 credit 1 period*

SWU101AB Awareness of Others for Paraprofessional Helpers
Applies the paraprofessional helper's insights about themselves within the context of knowledge about client populations, diversity, ethics, and beginning stages of assessment. *Prerequisites: SWU101AA. 1 credit 1 period*

SWU101AC Intervention Assessment for Paraprofessional Helpers
Introduction for the paraprofessional helper to intervention techniques, beginning communication skills, community resources, and development of action plans. *Prerequisites: SWU101AB. 1 credit 1 period*

SWU102 Introduction to Social Work
An introduction to the fields within the area of social work through a study of the disciplines of social case work, social group work, and community organization. Opportunities to experience the various techniques of practice within each discipline. Required for students enrolled in the associate degree program of the social work curriculum. *Prerequisites: Eligibility for ENG101 and CRE101. 3 credits 3 periods*

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: SOC101. 3 credits 3 periods*

SWU215 Working with the Chemically Dependent
Assessment and development of a treatment plan; counseling techniques for working with the chemically dependent. *Prerequisites: SWU292 or permission of program director. 3 credits 3 periods*

SWU220 Co-Occurring 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*

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*

SWU275AA Case Report Writing I
Documentation skills for human service helpers. Includes privacy and legal issues. *Prerequisites: None. 1 credit 1 period*

SWU282AA 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 credit 1 period*

SWU282AB 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. 2 credits 2 periods*

SWU282AC 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. 3 credits 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 Clothing Selection
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*

TEC112AQ Pattern Alteration and Fit
Structural features of patterns and altering patterns to achieve proper fit. Includes figure irregularities, pattern style variations, fashion, and individual figure problems. Experience using a sewing machine assumed. May be repeated for a total of 6 credit hours with instructor permission. *Prerequisites: None. 2 credits 2 periods*

TEC112AS Sewing for Children
Basic techniques used in the construction of children's clothing. *Prerequisites: None. 1 credit 1 period*

TEC117 Beginning Quilting
Basic construction techniques used in hand and machine quilting. Includes fabric and thread selection, equipment, batting choices, fabric preparation, pattern selection, cutting methods, patchwork assembly techniques by hand and machine, finishing methods, and uses for quilted items. *Prerequisites: TEC110 or TEC111, or permission of instructor. 2 credits 4 periods*

TEC120 Intermediate Clothing Construction
Application of intermediate clothing and fitting techniques. Emphasis on improving basic construction skills. *Prerequisites: TEC111, or permission of instructor. May be repeated for a total of 8 credit hours with 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. *Prerequisites: TEC111 or permission of instructor. May be repeated for a total of 12 credit hours with 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*

TEC127 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: TEC125. 2 credits 2 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*

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*

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*

TEC217 Advanced Quilting
Advanced techniques used in hand and machine quilting. Includes fabric selection, batting choices, fabric preparation, pattern selection, cutting methods, advanced patchwork and applique assembly techniques by hand and machine, whole-cloth quilting, finishing methods, and uses for quilted items. *Prerequisites: TEC117 or permission of instructor. 2 credits 4 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*

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*

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*

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*

TEC271AB 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. 2 credits 10 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*

TEC274AA 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: Departmental approval. 1 credit 5 periods*

TEC274AB 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. 2 credits 10 days*

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*

TEC296WC 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. 3 credits 15 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*

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*

THE206 Introduction to Television Arts
History and development of electronic media and its impact on popular arts. *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 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 credit 1 period*

THE282AB 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. 2 credits 2 periods*

THE282AC 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. 3 credits 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*

THP120AB Audition Techniques: Cold Readings
Practice in the techniques of auditioning for the stage. Identifies and illustrates techniques of cold reading audition. *Prerequisites: None. 1 credit 2 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*

THP211 Creative Drama
Theory and practice of creative drama, including improvisation, storytelling, puppetry, and script and program development in drama, and their application to elementary and secondary school levels. *Prerequisites: None. 3 credits 3 periods*

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*

THP214 Directing Techniques
Contemporary theory and practice in directing, the evolution of present-day directing procedures, and a sampling of scripts for directing practice. Principles of script analysis, blocking, casting, rehearsing, and performing. *Prerequisites: THP112 and THE220, or permission of instructor. 3 credits 3 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*

THP219 Introduction to Puppetry
Use of different types of puppets in a variety of performance settings. Practical experience with diverse audiences. *Prerequisites: None. 3 credits 4 periods*

THP241 Performance of Literature
The study, analysis, and preparation for performance of prose, poetry, and dramatic literature. Preparation of material for public audiences. *Prerequisites: ENG101 or ENG107 or equivalent. 3 credits 3 periods*

THP243 Interpreters Theatre
Study, analysis, rehearsal, and performance of various types of literature. *Prerequisites: None. 3 credits 4 periods*

THP267 Painting Techniques for Film, TV and Theatre
Theory and skills in scenic artistry. Techniques of painting two-dimensional and three-dimensional scenery, tools, and the use of color. *Prerequisites: THP213. 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*

TLT-Telecommunications Technology

TLT118 Copper-Based Cabling
Explains copper-based twisted-pair technology of the telecommunications industry and services provided. Information and techniques required to install and maintain telephone/data systems. Safety procedures, proper tool usage, connectorization, installation techniques, meter usage, troubleshooting techniques, codes, standards, and regulations related to residential cabling. *Prerequisites: None. 3 credits 5 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*

TQM201 Total Quality Concepts
Examines the concepts of quality as they relate to service, products and the employee. Focuses on the history, rationale and basic principles of Total Quality. Recognizes the scope and requirements for a Total Quality development effort. *Prerequisites: None. 2 credits 2 periods*

TQM214 Pinciples of Process Improvement
Examines the concepts and tools of quality/continuous improvement. Includes mapping processes, statistical measurement, problem-solving tools and methods of presenting findings, evaluating, and implementing changes. *Prerequisites: None. TQM201 is recommended. 2 credits 2 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. 2 credits 2 periods*

TRS-Translation and Interpretation

TRS100 Survey of Translation and Interpretation
Professional, sociolinguistic, and cognitive aspects of translation and interpretation. Includes social justice goals and language policy for interpretation and translation, role of translators and interpreters, consecutive interpretation, role of norms in legal translation, conservation of meaning, register, and style, meaning of translation, health care interpretation and translation, business and technical translation. *Prerequisites: None. 4 credits 4 periods*

WAC-Writing Across Curriculum

WAC101 Writing Across the Curriculum
Emphasis on the elements of sentence and paragraph structure, the four stages of the writing process for personal-based and expository. Extensive journal entries, editing and revision of written assignments. Prepare and write multi-paragraph essays. Assigned readings, participation in extensive workshops and groupwork. *Prerequisites: Appropriate English placement test score, or permission of instructor. 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*

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*

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. *Prerequisites: None. 5 credits 8 periods*

WLD133 Nonferrous Metals
Aluminum and its alloys, characteristics, and tests. Advantages and disadvantages of nonferrous metals. *Prerequisites: None. 3 credits 3 periods*

WLD150 Welding Blueprint Reading
Analysis and interpretation of technical drawings common to the metal fabrication and construction trades. Welding blueprint symbols. *Prerequisites: None. 3 credits 3 periods*

WLD201 Welding II
Further study of electric arc and oxyacetylene welding with emphasis on GTAW (heliarc) and GMAW (mig) processes to weld both ferrous and nonferrous metals. *Prerequisites: WLD101. 3 credits 6 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*

WLD210 Troubleshooting Welding Power Sources
Testing, diagnosis, service, and field repair of electrical welding power sources. *Prerequisites: WLD106 and WLD206, or permission of instructor. 5 credits 8 periods*

WLD220 Arc Pipe Welding I
Selected pipe joints laid out, cut, and welded in all positions with various types of electrodes. Introduction of specific techniques for pipe welding certification. *Prerequisites: WLD106 or approval of welding program coordinator. 5 credits 8 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*

WST105 Women of Color in America
Analysis and discussion of critical issues for women of color in America. *Prerequisites: None. 3 credits 3 periods*

WST110 Women and Gender: A Feminist Psychology
A discussion of the psychology of gender and sex from a feminist perspective. *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*

WST200 Essential Feminist Writing
Literary tracing of feminism from 18th century to present. Explores major issues related to women in the 20th century. *Prerequisites: ENG101 or permission of instructor. 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 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 credit 1 period*

WST282AB 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. 2 credits 2 periods*

WST282AC 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. 3 credits 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 credit 3 periods*

Contact MCC:
Directory and Maps

The faculty and administration of MCC bring a wealth of knowledge, skills, and experience to the classroom and the college, and strive to provide excellent and innovative learning experiences to MCC students. This section contains an alphabetical listing of faculty and administrators and their credentials. Active faculty and administrators are listed first, emeritus faculty and administrators are listed second, and retired faculty and administrators are listed third. This section also contains maps to help you find what you're looking for at MCC.

Active Faculty and Administrators of MCC

ABEL, Diana L. (2005)
Chairperson, Design, Family and Consumer Science
B.A., Ottawa University; M.A., Pacific Oaks College;
Ed.D., Argosy University (MCCCD 1998)

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

ANDELORA, Jeffrey (1996)
English
B.A., M.Ed., Arizona State University

ANDERSON, Linda K. (2003)
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 (MCCCD 1998)

ANDERSON, Keith D. (2005)
English
B.A., Government at Oberline College; M.F.A., University of Alabama; Ph.D., Univeristy of Arizona (MCCCD 2000)

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

ATENCIA-OLIDEN, Elizabeth (2005)
Foreign 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)
Foreign Language
B.A., M.Ed., Arizona State University

BASS, Steve (1994)
Cultural Science/Geography
B.S., Arizona State University;
M.A., Michigan State University

BECKMAN, Christine M. (2000)
Speech Communication
B.S., Northern Arizona University;
M.A., University of California;
Graduate Study: University of California-Berkeley

BENNETT, Glenn M. (1991)
Music
B.M., Stetson University;
M.M., D.M.A., Southwestern Baptist Theological Seminary

BENNETT, Silvia L. (1983)
English
B.A., Trinity College, Washington D.C.;
M.A., Catholic University of America;
Graduate Study: Arizona State University

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)
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
B.S., University of Michigan; M.S., Columbia University

BORMAN, Derek G. (2003)
Psychology
B.S., Brigham Young University;
M.A., Humboldt State University;
Ph.D., Utah 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;
M.Ed., M.B.A., Arizona State University

BROWN, Peter (1995)
Life Science
B.S., University of Maine; M.S., Ph.D., Penn State

BROWN, Marie C. (2005)
Library
B.A., Richmond College, England; M.S.L.I.S.,
Simmons College

BUDGE, Steven T. (1999)
Foreign Language
B.A., M.A., Arizona State University

CALL, Wynn (1990)
Chairperson, Psychology
B.S., Utah State University;
M.Ed., Brigham Young University;
Ph.D., Arizona State University

CAMPBELL, Debra (1992)
Philosophy/Religious Studies
B.A., University of Texas, Austin;
M.A., Arizona State University

CAPAWANA, Sarah (1989)
Chairperson, Art
B.A., Moravian College;
M.F.A., Arizona State University

CARDENAS, Antonio (1994)
Foreign 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

CARREON, Jesus V. (1976)
Chairperson, Mathematics/Computer Science
A.A., Glendale Community College;
B.A., M.A., Arizona State University

CARRILLO, Philip J. (1986)
Reading
B.S., M.A., Northern Arizona University;
Ed.D., 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

CERVANTES, James (1992)
English
B.A., University of Washington; M.F.A., University of Iowa

CERVENY, Nicole Villa (2001)
Cultural Science/Geography
B.S., M.A., 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

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

CHRISTIAN, Rodney D. (1997)
Business
B.S., M.S., Illinois State University (MCCCD 1989)

CHRISTIANSEN, Larry K. (1988)
President
B.A., University of Northern Iowa;
M.S., Drake University; Ed.D., University of North Dakota (MCCCD 1982)

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

COHEN, Roy (1988)
Psychology
B.A., Hofstra University;
M.S., University of Pittsburgh;
Ph.D., Arizona State University (MCCCD 1972)

COLE, George R. (1991)
Mathematics
B.S., Towson State University;
M.S., Michigan State University;
Ph.D., Arizona State University

COLLINS, Linda (2000)
Chairperson, Business
A.A., Rio Salado; B.A., Thomas Edison;
M.S., Walden University (MCCCD 1997)

COLLINS, Alicia (2005)
Mathematics
B.A., Ottawa University;
M.A., Pacific Oaks College;
Ed.D., Argosy University (MCCCD 1998)

CONOVER, Kurt (1997)
Dean of Administrative Services
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

CREWS, Terri (1987)
Nursing
B.S.N., University of Texas;
M.S.N., Texas Women's University;
Graduate Study: Texas Women's University

CRUDUP, Keith (1998)
Philosophy/Religious Studies
B.A., M.A., Ph.D., Arizona State University

D'AMBROSIO, Jon M. (2001)
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

DAVIS, Jerry M. (2005)
Vice President, Administrative Services
B.S., University of California, Riverside; M.B.A., M.P.H., UCLA; D.P.A., University of Sourthern Calirfonia

DELLA PENTA, Catherine R. (1988)
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

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

DORLAND, Elizabeth (1993)
Physical Science/Chemistry
B.S., Kansas State University;
M.S., University of California, Berkeley (MCCCD 1990)

DRACHLER, Carole (1983)
Art
B.A., University of Michigan;
M.A., Northwestern University;
Ph.D., University of Michigan

DRAZENOVIC, Anna M. (2005)
Nursing
A.A., George Brown College;
B.A., York University; M.S.N., University of Phoenix

DRESSLER, Kevin L. (2005)
Speech/Communication
B.A., Univesity of Puget Sound; M.F.A., Washington State

DUTSON, Lyn (1969)
Speech 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

EBERLE, Donella (1976)
Chairperson, English, Humanities, Journalism
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

EFFLAND, Richard (1989)
Cultural Science/Anthropology
Ph.D., Arizona State University

ELLSWORTH, Barbara Grace (1966)
Business
B.A., M.S., Arizona State University

ESHELMAN, Myrna (1980)
Chairperson, Nursing
B.S., M.S.N., Arizona State University

ESPOSITO, Sonia A. (2004)
Counseling
B.S., Arizona State University;
M.Ed., Northern Arizona University

ESTABROOK-FISHINGHAWK, Brooke K. (1997)
Business
B.A., University of California at Los Angeles;
M.S., University of Illinois; M.S., University of North Texas

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)
Speech/Communication
B.A., M.A., Western Michigan University;
Ph.D., Kent State University

FAZIO, Gene S. (1981)
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)

FELNAGLE, Richard H. (1990)
English
B.A., Pomona College; M.F.A., Carnegie-Mellon University

FIATTARONE, Gail Marie (2002)
English
A.B., Occidental College; M.A., New York University

FIERRO, Marcella (1994)
Chairperson, Foreign Language
B.A., M.A., New Mexico State University (MCCCD 1992)

FLORSCHUETZ, Timothy J. (1994)
English
B.A., M.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

FORNEY, Marlene Gilles (2000)
Library
B.M., Purdue University;
A.M.L.S., University of Michigan

FRIDELL, Margaret (1984)
Nursing
B.S.N., Avila College;
M.S., F.N.P., 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)
Speech Communication
B.A., M.A., Old Dominion University;
Ph.D., Arizona State University

GARDETA-HEALEY, Maria (1987)
Foreign 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)
Foreign Language
B.A., Universidad Jorge Tadeo Lozano, Bogota;
M.A., M.Ed., Arizona State University

GAUDET, Donna J. (2002)
Center for Teaching and Learning
B.A., M.S., University of Colorado-Colorado Springs (MCCCD 1991)

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)
Foreign 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

GREENE, Andrea L. (1997)
Dean of Instruction/Director of Institutional Advancement and Planning
B.S., Pennsylvania State University;
M.A., Arizona State University (MCCCD 1996)

GREENING, Cynthia (2000)
Art
B.A., University of Wisconsin, Eau Claire;
Graduate Study: University of Guadalajara (MCCCD 1989)

GROW, Arunee C. (1984)
Social Science/Economics
B.A., Chulalongkorn University;
M.A., Ph.D., University of Cincinnati

GUERIN, Aimee L. (2004)
Foreign Language
B.A., Northern Arizona University;
M.A., Colorado State University

HAMMIL, Rodney (1987)
Technology/Welding
A.A., Arizona Western College (MCCCD 1981)

HANCOCK, Melody (1999)
Mathematics/Computer Science
B.A., Brigham Young University;
M.S.E.E., University of Southern California

HARASHA, Paul (2001)
Cultural Science/Sociology
B.S., M.A., Arizona State University

HARDAWAY, Gail (1998)
English
B.A., Fairmont State College;
M.A., West Virginia University (MCCCD 1990)

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, Geraldine B. (1986)
Mathematics
B.S., Bennett College; M.A.T.M., University of Detroit

HAUAN, Catherine G. (2005)
Music
B.A., Florida State; M.A., Ph.D., Arizona State University

HAUPTLI, Tawn (2001)
Cultural Science/Education
B.A., Sonoma State University;
M.Ed., Arizona State University

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

HERNANDEZ, Luis (1986)
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

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)
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

HOLMES, Rodney (1995)
Dean of Instruction
B.A., Marshall University;
M.C., Arizona State University;
Ed.D., Northern Arizona University (MCCCD 1986)

HOLYCROSS, Andres 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

IPPOLITI, Cinthya M. (2004)
Library
B.A., University of California, Santa Barbara;
M.L.I.S., University of California, Los Angeles

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)

JENNINGS, Janice S. (2002)
Design, Family and Consumer Sciences
B.S., Miami University; M.S., Arizona State University

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

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

KALIA, Rajinder K. (1967)
English
B.A., University of Travancore;
M.A., Panjab University;
M.A., University of California, Los Angeles;
Graduate Study: Arizona State University

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., Arizona State University

KELLY, Doreen (2000)
Mathematics
B.A., M.Ed., Arizona State University

KENNEDY, Glen (1997)
Mathematics
B.S., M.S., Northern Arizona 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

KIM, Kai Y. (2003)
Art
B.F.A., San Francisco Art Institute;
M.F.A., University of Michigan

KINCAID, William Bradley (1990)
Life Science
A.A., Big Bend Community College; B.S., Western Washington University; M.S., PhD., University of Houston
Postdoctoral Study: Arizona State University

KISSELL, Loretta L. (1997)
Speech Communication
B.A., M.A., Arizona State University; Graduate Study: University of California, Berkeley, University of Arizona

KRAFT, Katrien (2000)
Physical Science/Geology
B.A., Colby College;
M.S., Arizona State University

KROELINGER, Sally C. (1981)
Design, Family and Consumer Sciences
B.S., M.S., University of Tennessee;
M.F.A., University of Georgia

KYLE, Marjorie (1986)
English
B.S., Oklahoma State University;
M.A., Ph.D., Arizona State University

LaBELL, Gerald M. (1981)
Technology/Electronics
B.S.E.E., Wayne State University;
M.S.E., Arizona State University;
Graduate Study: Arizona State University

LARSON, Linda S. (1975)
Speech Communication/Theatre Arts
B.S., M.S., Indiana State University;
Graduate Study: Arizona State University,
Northern Arizona University, University of Arizona

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)
Chairperson/Cultural Science
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

LIPINSKI, Edmund R. (2000)
Psychology
A.A., B.A., M.A., Oakland, University of Michigan

LLOYD, Lillis M. (2001)
Counseling
B.A., University of Akron;
M.A., M.A., Ed.S., Ph.D., University of Michigan

LOMBARD, A. J. (1992)
Physical Science/Geology
B.S., M.A., Arizona State University

LOPEZ-PELAEZ CASELLAS, Milagros (2002)
Foreign Language
B.A., University of Jaen, Spain;
M.A., Ph.D., Arizona State University

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

LUTER, Zoe (2004)
Library
B.S., Northern Arizona University;
M.L.S., University of Arizona

LYSCAS, Margie L. (2002)
Mathematics
B.S., Stockton State College; M.S., Arizona State University

MAHAFFEY-LOEBEN, Cherise J. (2004)
Design, Family and Consumer Sciences
B.A., University of Arizona; M.S., Arizona State University

MAINES, Nicki L. (2004)
Business
B.S., Townson University; M.B.A., University of Baltimore

MAINIERI, John V. (1982)
Business
B.S., Rutgers University; M.B.A., Columbia University;
Certified Public Accountant, Arizona

MAKELELE, Ben-And B. (2002)
English
B.A., Universite Nationale du Zaire, Kinshasa;
M.A., Ph.D., Arizona State University

MALENA, Richard F. (1999)
Cultural Science/Education
B.A., Gannon University;
M.Ed., Edinboro University of Pennsylvania;
Ed.D., Arizona State University (MCCCD 1984)

MANCUSO, James B. (1974)
Chairperson, Speech Communication/Theatre Arts
B.A., M.A., Arizona State University;
Graduate Study: Arizona State University (MCCCD 1967)

MARINO, Allie (2002)
Foreign 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)
Foreign Language
B.A., M.A., Montclair 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

MASSEY, Joan A. (1994)
English
B.A., M.A., Arizona State University;
M.A., Northern Arizona University

MAY-UPDIKE, Katherine S. (1992)
Speech Communication
B.A., Arizona State University;
M.A., University of Phoenix (MCCCD 1987)

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)

MEE, Gail C. (1992)
Vice President of Academic Affairs
B.A., Lady Cliff College;
M.S., State University of New York;
Ed.D., Columbia 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)
Speech
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 Unversity

MEYER, Rick (1987)
Mathematics
B.S., M.A., Arizona State University;
Graduate Study: Arizona State University (MCCCD 1979)

MILLER, Susan K. (2000)
English
B.A., Taylor University;
M.T.E.S.L., 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, University of Arizona (MCCCD 1989)

MOORE, Jonelle D. (1999)
English
B.A., Adams State College; M.A., University of Wyoming; M.A., University of New Mexico

MORGAN, Janet (2001)
Mathematics
B.A., M.A.Ed., Arizona State University

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

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)
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

O'BRIEN, Patrick (1995)
Mathematics
B.S., B.S.Ed., University of Wisconsin; M.A.T., Aurora 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

ODGERS, Cindy (1999)
Chairperson, Technology/Agriculture
B.S., Oklahoma State University;
M.S., Arizona State University;
Graduate Study: Arizona State University

OHL, John (1976)
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)
Business
B.S., Southwest Missouri State University;
M.B.A., Drury College (MCCCD 1985)

OLSON, Selmer (1972)
Exercise Science
B.S., California State Polytechnic University;
M.S., Arizona State University

OLSON, Susan K. (2003)
Speech 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

OSGOOD, Christine M. (2000)
Design, Family and Consumer Sciences
B.S., M.Ed., Pennsylvania State University;
Ph.D., Iowa State University

OUDERKIRK, Bert (2004)
Social Science/Justice Studies
B.S., Park University

PARRISH, Gene L. (1971)
Counseling
B.A., M.A., Ph.D., Arizona State University

PAYNE, Gerald L. (1988)
Mathematics
B.S., M.S., Michigan State University;
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, Joseph A. (1997)
Dean of Instruction/
Director of Extended Campus
B.S., M.S., Loyola University;
Ph.D., Arizona State University (MCCCD 1982)

PERALTA, Jesus (1996)
Social Science/History
B.A., M.Ed., Arizona State University

PERALTA, Lorna M. (2003)
Library
B.Ed., University of Liverpool, England;
M.L.S., University of Arizona

PERKINS, Vanessa (1991)
Cultural Science/Sociology
B.S., Winston Salem State University;
M.S.W., Ph.D., Ohio State University

PETERSON, Bruce A. (2000)
Speech Communication
B.A., M.A., Speech; M.A., University of Texas, Pan American

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

PHUNG, Ban (2000)
English/ESL
B.A., M.T.E.S.L., 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)

RAUSCHER, Joseph (1999)
Technology/Automotive
A.A., Indiana Vocational Technical College (MCCCD 1989)

RAWSON, Erin K. (1997)
Speech 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)
Cultural Science/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

RODRIGO, Rochelle L. (2002)
English
B.A., University of California, Riverside;
M.A., Arizona State University

RODRIGUEZ, James C. (2004)
Educational Development Training Center
B.S., Western Pacific University;
M.S.W., Arizona State University

ROE, Jeanette (2005)
Art
B.A., Montana 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

SALAZAR, David (1989)
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

SANDOVAL, Ralph (2004)
Chairperson, Reading
A.A., Phoenix College; B.A., University of Arizona;
M.A., Arizona State University (MCCCD 2000)

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, Mona C. (2000)
Cultural Science/Sociology
B.A., University of Southern California;
M.A., Arizona State University

SCOTT, Michael (2005)
Physical Science
B.S., Northern Arizona University;
M.A., University of California Santa Barbara

SEAGLE, Andy R. (2003)
Music
A.A., Golden West College; A.A., Pima Community College

SEEK, Steven A. (1990)
Reading
B.A., M.Ed., Arizona State University

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)

SHEORAN, Pinny (1995)
Business and Industry Institute
B.A., University Bangalore, Jyoti Nivas College;
M.Ed., Ed.D., University of Cincinnati (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

SNIDER, Ed H. (1981)
Business
A.A., Phoenix College; B.A., M.A., Arizona State University;
Graduate Study: Arizona State University

SOMERS, Mark D. (2005)
Physical Science/Chemistry
B.S., New Mexico Institue of Mining and Technology;
M.S., Ph.D., University of Maryland

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)
Cultural Science/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)

SURBE, 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

SWAIM, Darlene L. (1979)
Art
B.F.A., John Herron Art Institute, Yale University, Indiana University; M.F.A., Arizona State University

TABAR-GAUL, Lo-An N. (1989)
Business
A.A.S., Cochise College; B.A.M., University of Phoenix; M.S., NOVA South Eastern University;
Graduate Study: Arizona State University, 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

THEILMANN, James W. (1970)
Library
A.B., College of Emporia; M.L., Emporia State University

THOMSON, Kara E. (2003)
Speech Communication/Theatre Arts
A.A., Arizona Western College;
B.F.A., Arizona State University;
M.F.A., University of Nebraska-Lincoln

TOLZMAN, Anne (2000)
Library
B.A., Marquette University;
M.L.I.S., University of Wisconsin, Milwaukee

TRAN-NGUYEN, Ly T.L. (2000)
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

VALENCIK, Laura (2004)
Nursing
B.S., University of Arizona

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; M.A., Baylor University;
Ph.D., University of Oklahoma

VENEMA, Jeremy (2002)
English
B.A., M.A., Arizona State University

VERCH, Todd A. (2000)
Technology/Drafting
B.S.D., M.S.D., Arizona State University

VIGO-ACOSTA, Carmen (1991)
Foreign 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

WEBERG, Deb (2001)
Business
A.A.S., Mesa Community College;
B.A., M.A., University of Phoenix

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)

WIGGS, Larry A. (1984)
Business
B.S., M.B.A., Arizona State University;
Graduate Study: Arizona State University

WILL, Lisa M. (2000)
Physical Science/Astronomy/Physics
B.S., University of California, Los Angeles;
M.S., Ph.D., Arizona State University

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/Director of 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)
Chairperson, 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 Collegef;
M.S., University of Southwestern Louisiana;
Ph.D., Arizona State University

ZIENKEWICZ, Lori Hamilton (2004)
Design, Family and Consumer Sciences
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)
Design, Family and Consumer Sciences
B.S., Arizona State University;
M.P.H., University of Hawaii;
Ed.D., Northern Arizona University

Emeritus Faculty and Administrators of MCC

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, 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: Ariozna 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

*Deceased

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

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

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)

EAGAR, Jorge (1998-2004)
Foreign Language
B.A., M.A., University of California, Los Angeles;
Ph.D., Arizona State University (MCCCD 1984)

ELIAS, Sanford (1990-2005)
Speech/Theatre
B.S., M.A., Northwestern University;
M.F.A., Mankato State University (MCCCD 1984)

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

*Deceased

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

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

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

*Deceased

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

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

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

LeROUX, Donna S. (1991-2004)
Nursing
B.Th., Northwestern Christian College;
M.Ed., Phillips University; M.S.N., University of Texas

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

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

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

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

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

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

*Deceased

SMITH, Robert W. (1965-1993)
Philosophy
A.B., Ohio University;
M.A., Arizona State University;
Graduate Study: University of San Diego

STITES, Ken (1987-2000)
Exercise Science
A.A., Phoenix College;
B.A., M.A., Arizona State University (MCCCD 1971)

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)

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

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 (MCCCD 1972)

WOLF, Grant L.* (1970-2003)
Music
B.S., M.A., Northern Arizona University

WOZNIAK, Matthew J. (1984-1996)
Physics (MCCCD 1972)
A.B., Dartmouth College;
M.S., Ph.D., University of Arizona

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)

*Deceased

Retired Faculty and Administrators of MCC

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

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

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)

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

*Deceased

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)

HARRIS, Patricia M.* (1990-2002)
Business
B.S., B.A., University of Phoenix;
Graduate Study: Northern Arizona University, Arizona State University

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

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

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

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

*Deceased

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

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

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

*Deceased

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

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

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

Directory: Administration, Student Services, and Department Chairpersons Administration

ADMINISTRATION

Dr. Larry K. Christiansen
President 480-461-7300

Dr. Gail Mee
Vice President of Academic Affairs 480-461-7325

Dr. Jerry Davis
Vice President of
Administrative Services 480-461-7410

Dr. Patricia Cardenas-Adame
Vice President of Student Affairs 480-461-7104

Ms. Carol Achs
Dean of Instruction 480-461-7742

Dr. Rodney Holmes
Dean of Instruction 480-461-7315

Mr. Lawrence D. Thacker
Dean of Instruction 480-461-7124

Ms. Jo Wilson
Dean of Instruction
Red Mountain 480-654-7700

Ms. Andrea Greene
Dean of Instruction
Research and Planning 480-461-7215

Dr. Joseph Pearson
Dean of Instruction
Extended Education 480-472-0806

Mr. Kurt Conover
Dean of Administrative Services 480-654-7777

Ms. Joni Grover
Dean of Student Affairs
Red Mountain 480-654-7702

Ms. Judy Taussig
Dean of Student Affairs (Acting) 480-461-7104

STUDENT SERVICES

Academic Services/Learning Center ...480-461-7678
Admissions Information 480-461-7600
Advisement Center 480-461-7200
American Indian Center 480-461-7453
Bookstore 480-461-7225
Career/Re-Entry Services 480-461-7592
Cashier Services 480-461-7400
Center for Teaching and Learning 480-461-7331
Child Care 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
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
Information Commons (Library) 480-461-7194
International Education 480-461-7758
Library Reference Desk 480-461-7680
Lost and Found 480-461-7046
Multi-Cultural 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 Activities 480-461-7285
Testing Center Information 480-461-7336
Transfer Services 480-461-7452
Veterans Services 480-461-7426
Writing Center 480-461-7513

DEPARTMENT CHAIRPERSONS

Agriculture/Technology

Cindy Odgers 480-461-7125

Agribusiness . . . . . .AGB
Agricultural Landscape . . . . . .AGL
Agricultural Science . . . . . .AGS
Animal Health . . . . . .ANH
Animal Science . . . . . .ANS
Architecture . . . . . .ARC
Automotive Performance Technology . . . . .APT
Automotive Technology . . . . . .AUT
Building Safety and Construction Technology . .BLT
Caterpillar Technician Training . . . . . .CTT
Civil Engineering Technology . . . . . .CET
Computer Aided Drafting . . . . . .CAD
Construction . . . . . .CNS
Diesel/Heavy Equipment Technology . . . . .DIE
Drafting . . . . . .DFT
Electronic . . . . . .ELE
Equine Science . . . . . .EQS
General Technology . . . . . .GTC
Manufacturing Technology . . . . . .MET
Quality Control Technology . . . . . .QCT
Welding Technology . . . . . .WLD

Art

Sarah Capawana 480-461-7524

Art Humanities . . . . . .ARH
Art . . . . . .ART
Multimedia Technology . . . . . .MMT

Business Administration

Linda Collins 480-461-7077

Accounting . . . . . .ACC
Business/Personal Computers . . . . . .BPC
Business Technology for the Office . . . . . .BTO
Computer Information Systems . . . . . .CIS
Covey . . . . . .COV
Entrepreneurial Studies . . . . . .EPS
General Business . . . . . .GBS
Hotel Restaurant Management . . . . . .HRM
International Business . . . . . .IBS
Information Technology Security . . . . . .ITS
Management . . . . . .MGT
Marketing . . . . . .MKT
Office Automation Systems . . . . . .OAS
Public Administration . . . . . .PAD
Real Estate . . . . . .REA
Small Business Management . . . . . .SBS
Society and Business . . . . . .SBU
Total Quality Management . . . . . .TQM

Counseling

Karen Hardin 480-461-7588

Advising Academic Achievements . . . . . .AAA
Chemical Dependency . . . . . .CHD
Counseling & Personal Development . . . . . .CPD

Cultural Science

Shereen Lerner 480-461-7306

Anthropology . . . . . .ASB, ASM
Cultural Geography . . . . . .GCU
Education . . . . . .EDU
Education Professional Development . . . . . .EPD
Global Citizenship . . . . . .GLO
Physical Geography . . . . . .GPH
Social Work . . . . . .SWU
Sociology . . . . . .SOC

Design, Family and Consumer Sciences

Diana Abel 480-461-7305

Child/Family Studies . . . . . .CFS
Computer Aided Design . . . . . .CAD
Early Childhood Education . . . . . .ECH
Early Education . . . . . .EED
Family and Consumer Science . . . . . .FCS
Food and Nutrition . . . . . .FON
Interior Design . . . . . .INT
Textiles and Clothing . . . . . .TEC

English, English as a Second Language, Humanities, and Journalism

Donella Eberle 480-461-7625

Creative Writing . . . . . CRW
English. . . . . ENG
English Humanities . . . . . ENH
English as a Second Language . . . . . ESL
Humanities . . . . . HUM
Journalism . . . . . JRN
Mass Communication . . . . . MCO
Storytelling . . . . . STO
Telecommunication . . . . . TCM
Women's Studies . . . . . WST
Writing Across Curriculum . . . . . WAC

Exercise Science, Physical Education, Health and Recreation

Ann Stine 480-461-7546

Dance . . . . . DAN
Dance Humanities . . . . . DAH
Health Science . . . . . HES
Physical Education . . . . . PED
Recreation . . . . . REC
Wellness Education . . . . . WED

Foreign Language

Marcella Fierro 480-461-7293

Arabic . . . . . .ARB
Chinese . . . . . .CHI
French . . . . . .FRE
German. . . . . .GER
Hebrew . . . . . .HBR
Italian . . . . . .ITA
Japanese . . . . . .JPN
Latin . . . . . .LAT
Portuguese . . . . . .POR

Russian . . . . . .RUS
Sign Language . . . . . .SLG
Spanish . . . . . .SPA
Spanish Humanities . . . . . .SPH

Library Science
Jane Mente 480-461-7694
Information Studies . . . . . .IFS
Library Skills . . . . . .LBS
Library Technology . . . . . .LBT

Life Science
Saundra Minckley 480-461-7117
Biology . . . . . .BIO

Mathematics and Computer Science
Jesus V. Carreon 480-461-7731
Computer Science . . . . . CSC
Mathematics . . . . . MAT

Music
Sue Anne Lucius 480-461-7577
Music: Commercial/Business . . . . . .MUC
Music: Education . . . . . .MUE
Music: History/Literature . . . . . .MHL
Music: Performance . . . . . .MUP
Music: Theory/Composition . . . . . .MTC

Nursing
Myrna Eshelman 480-461-7108
Community Health Advocate . . . . . .CHA
Health Care Related . . . . . .HCR
Health Core Curriculum. . . . . .HCC
Health Related . . . . . .HLR
Nursing – Continuing Education . . . . . .NCE
Nursing Science . . . . . .NUR

Philosophy and Religious Studies
David Yount 480-461-7833
Philosophy . . . . . .PHI
Religious Studies . . . . . .REL

Physical Science
John Sims 480-461-7010
Astronomy . . . . . .AST
Chemistry . . . . . .CHM
Engineering Science . . . . . .ECE
Geology . . . . . .GLG
Physical Science . . . . . .PHS
Physics . . . . . .PHY

Psychology
Wynn Call 480-461-7899
Direct Care Provider . . . . . DCP
Psychology . . . . . PSY

Reading
Ralph Sandoval 480-461-7889
Critical Reading . . . . . .CRE
Reading . . . . . .RDG

Social Sciences
Harold Cranswick 480-461-7245
Administration of Justice . . . . . .AJS
Economics . . . . . .ECN
Forensics Science . . . . . .FOR
Future Studies . . . . . .FUS
History . . . . . .HIS
Judicial Studies . . . . . .JUD
Justice Agencies Support . . . . . .JAS
Political Science . . . . . .POS

Speech Communication/Theatre Arts
Jim Mancuso 480-461-7522
Speech Communication . . . . . .COM
Theater . . . . . .THE
Theater Performance/Production . . . . . .THP

DIRECTORS

Bonnie Black 480-461-7052
Administration of Justice . . . . . .AJS
Judicial Studies . . . . . .JUD
Public Safety Communication . . . . . .PSC

Larry Thacker 480-472-0830
Emergency Medical Technology . . . . . .EMT
Fire Science . . . . . .FSC

Thomas R. Taggart 480-988-8501
Mortuary Science Program . . . . . MSP

Pinny Sheoran 480-461-6105
Cisco Networking Technology . . . . . CNT
Microsoft Networking Technology. . . . . MST
Networking Technology . . . . . NET

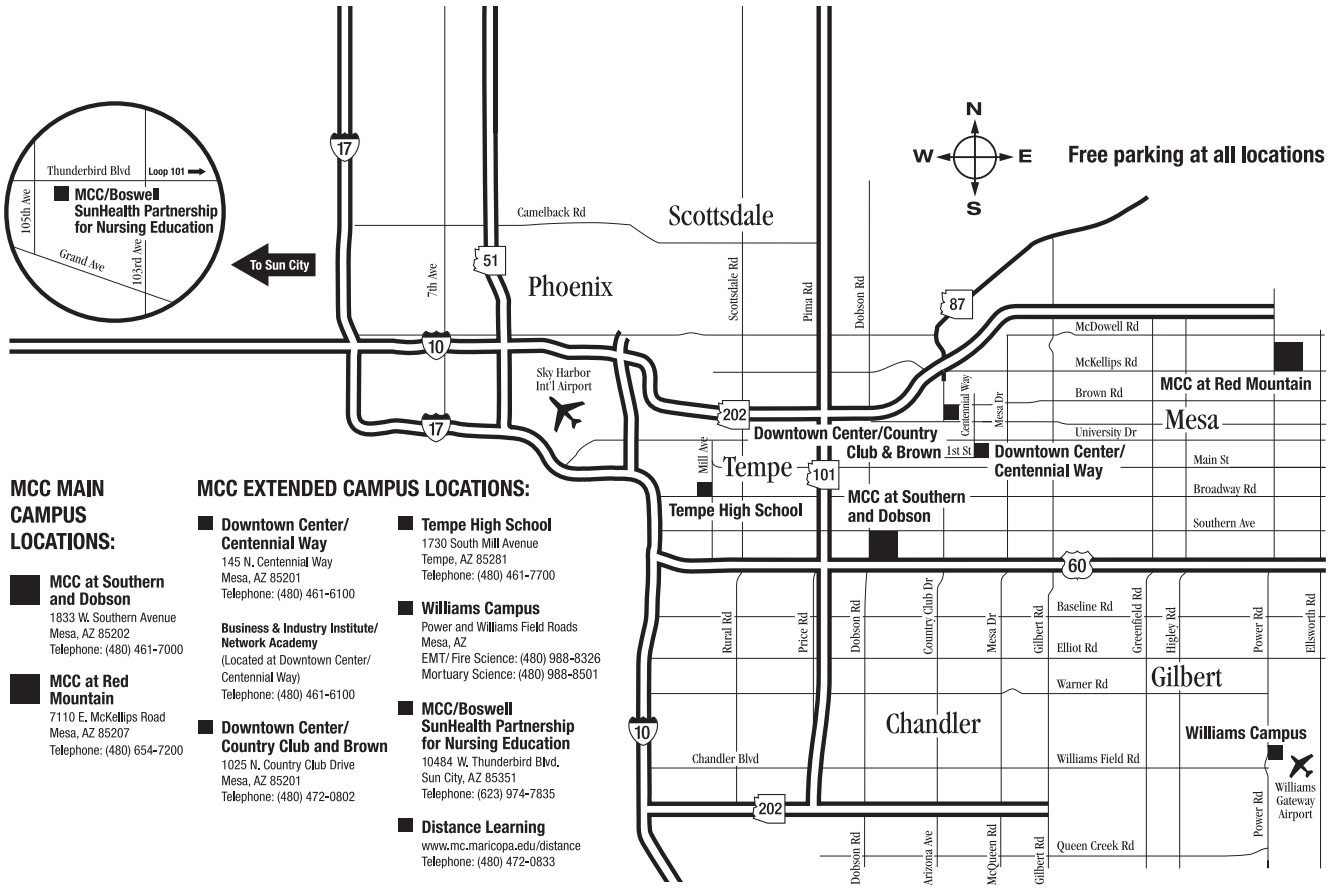
Phebe Bilitz 480-654-7772
Dental Assisting Education . . . . . .DAE
Dental Hygiene Education . . . . . .DHE

Rodney Holmes 480-461-7315
Integrated Studies . . . . . .IGS

Brad Kincaid 480-461-7103
Excellence in Teaching and Learning . . . . . .ETL

ROTC – Arizona State University
Aerospace Studies . . . . . .AES
Military Science . . . . . .MIS

MCC Campus Locations



MCC MAIN CAMPUS LOCATIONS:

MCC at Southern and Dobson
1833 W. Southern Avenue
Mesa, AZ 85202
Telephone: (480) 461-7000

MCC at Red Mountain
7110 E. McKellips Road
Mesa, AZ 85207
Telephone: (480) 654-7200

MCC EXTENDED CAMPUS LOCATIONS:

Downtown Center/ Centennial Way
145 N. Centennial Way
Mesa, AZ 85201
Telephone: (480) 461-6100

Business & Industry Institute/ Network Academy
(Located at Downtown Center/ Centennial Way)
Telephone: (480) 461-6100

Downtown Center/ Country Club and Brown
1025 N. Country Club Drive
Mesa, AZ 85201
Telephone: (480) 472-0802

Tempe High School
1730 South Mill Avenue
Tempe, AZ 85281
Telephone: (480) 461-7700

Williams Campus
Power and Williams Field Roads
Mesa, AZ
EMT/ Fire Science: (480) 988-8326
Mortuary Science: (480) 988-8501

MCC/Boswell SunHealth Partnership for Nursing Education
10484 W. Thunderbird Blvd.
Sun City, AZ 85351
Telephone: (623) 974-7835

Distance Learning
www.mc.maricopa.edu/distance
Telephone: (480) 472-0833

MCC AT SOUTHERN AND DOBSON

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 service to more than 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, noncredit courses and programs for seniors.

MCC AT RED MOUNTAIN

Our MCC at 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. MCC at Red Mountain provides service to thousands of students and offers an associate degree program for transfer to baccalaureate-granting colleges and universities.

EXTENDED CAMPUS

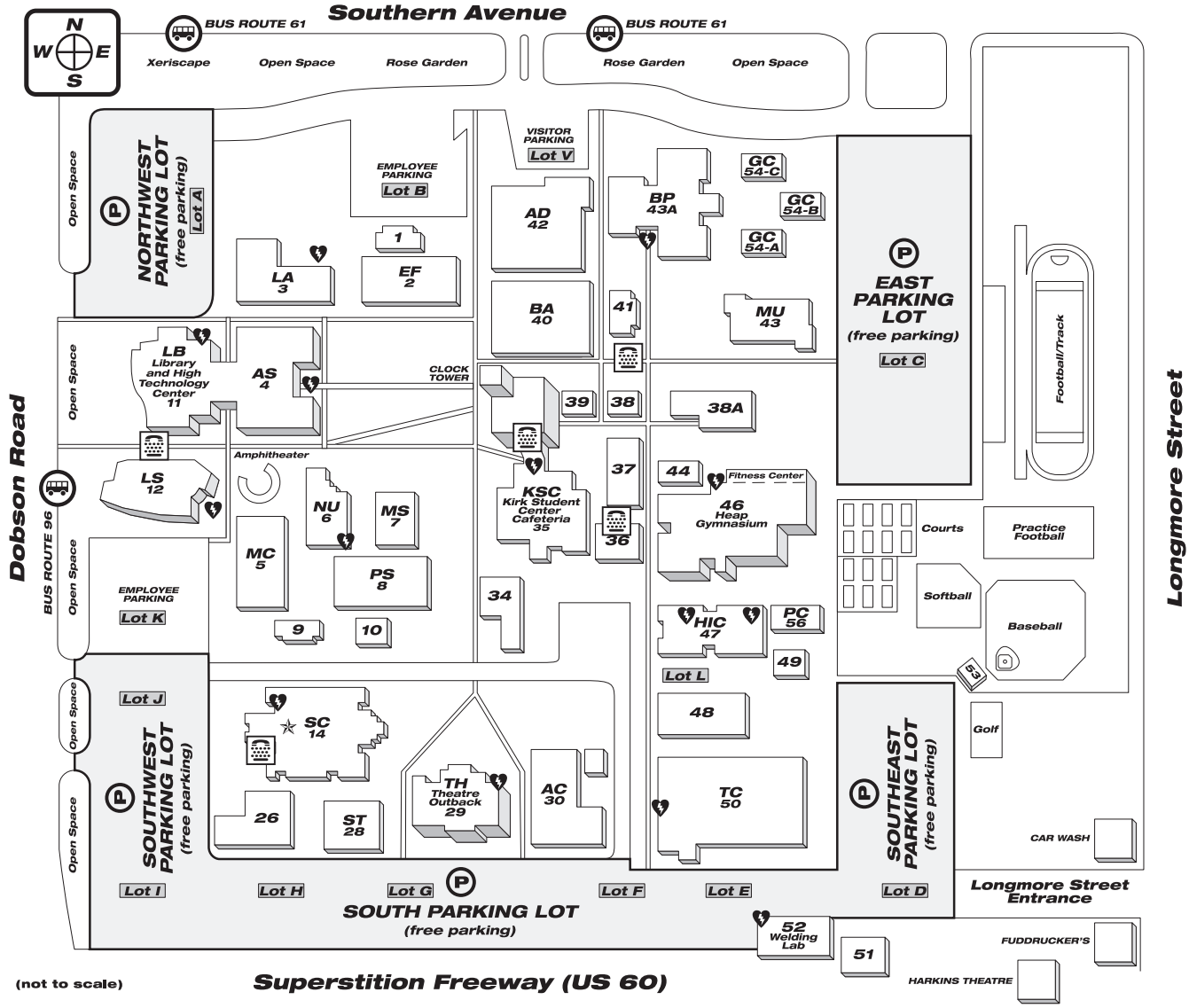
MCC offers a variety of classes through Extended Education at several convenient locations:

- Business and Industry Institute/Network Academy
- Downtown Center/Centennial Way
- Downtown Center/Country Club and Brown
- MCC/Boswell SunHealth Partnership for Nursing Education
- Tempe High School
- Williams Campus

MCC's Extended Campus offers general education, computer science classes, distance learning classes, business and industry training, fire science programs, and mortuary science programs.

MCC at Southern and Dobson

1833 West Southern Avenue, Mesa, Arizona 85202 • 480-461-7000 • www.mc.maricopa.edu



Automatic External Defibrillator (AED) | Teletypewriter (TDD For Hearing Impaired)

2/06

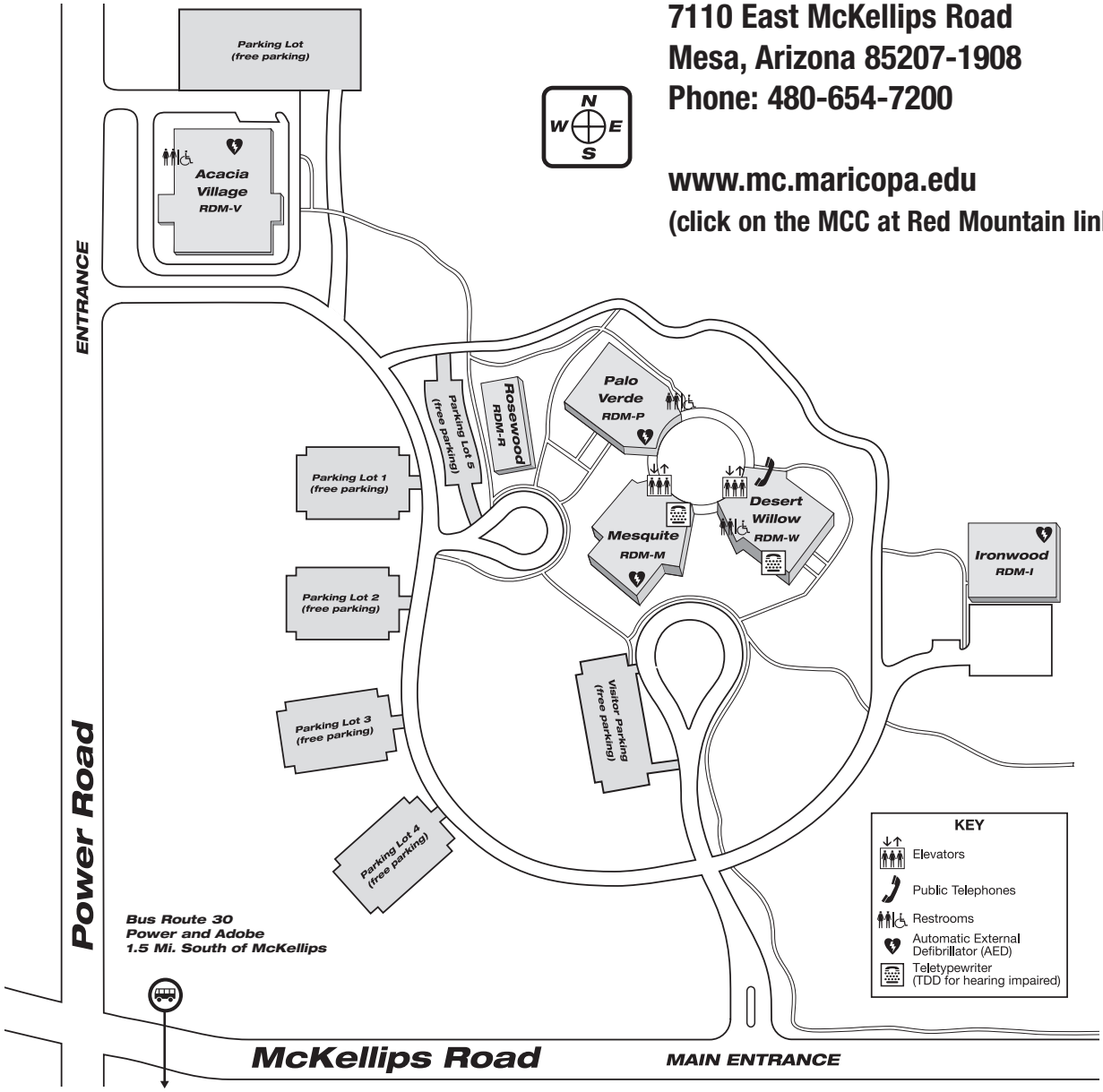
LEGEND:

	1	Faculty Offices
EF	2	English/Foreign Language Classrooms
LA	3	Liberal Arts
AS	4	Academic Support Building/Classrooms/ Copy Center/Media Center/ Foreign Language Learning Center/ Center for Teaching and Learning
MC	5	Math/Computer Science/Faculty Offices
NU	6	Nursing/Faculty Offices
MS	7	Math/Science Classrooms/Geology Labs
PS	8	Physical Science
	9	Faculty Offices
	10	Physical Science Storage
LB	11	Library and High Technology Center
LS	12	Life Science
SC	14	Social/Cultural Science/College Safety ✯
	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 and Re-Entry Services
	37	Financial Aid/Veterans Services/ Multicultural Center/Community Education/ Disability Services
	38	Admissions/Advisement/Transfer Center
	38A	Assessment/Bookstore
	39	Records/Registration
BA	40	Multi-use Lab and Classrooms
	41	International Education/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	Faculty Offices - Athletics
	46	Fitness Center/Heap Gymnasium
HIC	47	Health Improvement Center
	48	Maintenance Offices
	49	Sports Offices
TC	50	Technology/Faculty Offices/ Design, Family and Consumer Science
	51	Greenhouse/Land Lab
	52	Welding Lab
	53	Concession Stand
GC	54	General Classroom A, B, C
PC	56	PE Complex

MCC at Red Mountain

7110 East McKellips Road
Mesa, Arizona 85207-1908
Phone: 480-654-7200

www.mc.maricopa.edu
(click on the MCC at Red Mountain link)



1/06

LEGEND:

RDM V Acacia Village
Classrooms (V116 – V127)
Instructional Support Services
Media 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
Open Lab Computing (OE/SP)
PIRC Lab (2nd Flr.)
Test Proctoring Center (2nd Flr.)
Writing Center

RDM M Mesquite
Administration (2nd Flr.)
Enrollment Services:
Academic Advisement
Admissions
Assessment for Course Placement
Career Services
Cashier Services
Disability Resources & Services
Financial Aid
Records
Recruitment
Registration
Transfer Services
Veteran Services
Bookstore
Campus Grill
Community Room (2nd Flr.)
Fitness Center (M160)
Human Resources
P.E./Exercise Sci. Activity Classroom (M161)
Student Life & Leadership (2nd Flr.)

RDM P Palo Verde
Adjunct Faculty Offices (2nd Flr.)
Center for Teaching and Learning (2nd Flr.)
Classrooms (P105 – P250)
Counseling Services
Faculty Offices (2nd Flr.)
Instructional Support Services (2nd Flr.)
Science Laboratories (P107 – P114)
Study Area

RDM R Rosewood
Classrooms (R101 – R104)

RDM I Ironwood
College Safety & Security
Maintenance & Operations
Receiving

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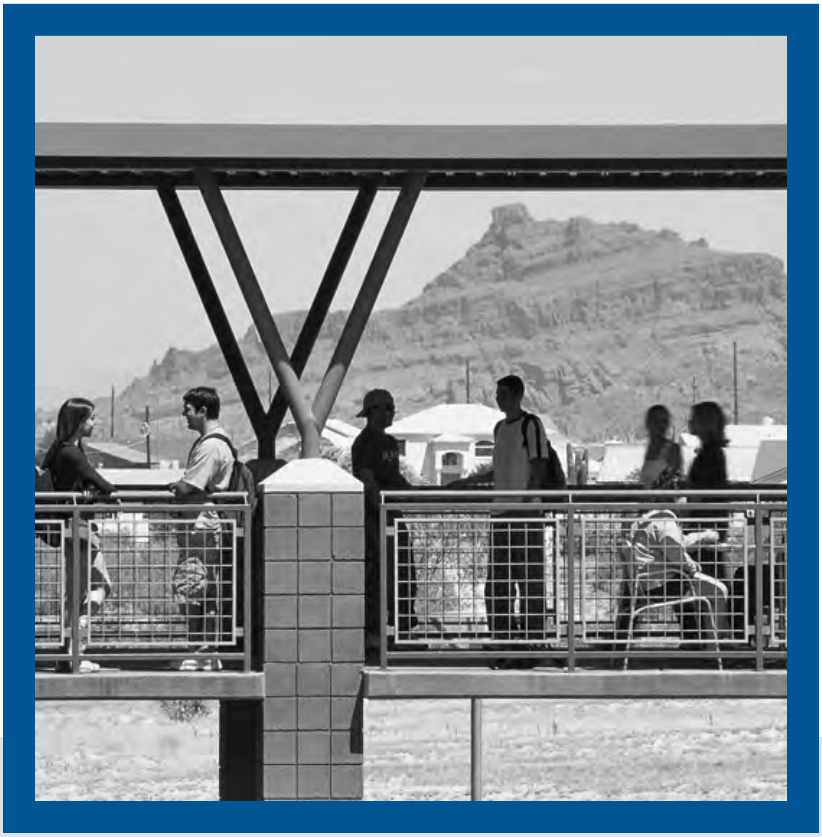

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Notes

Southern & Dobson Campus
1833 West Southern Avenue
Mesa, AZ 85202
480.461.7000
480.461.7321 Fax
www.mc.maricopa.edu

MESA COMMUNITY COLLEGE

Student Information Form

Red Mountain Campus
7110 East McKellips Road
Mesa, AZ 85207-1908
480.654.7200
480.654.7379 Fax
www.mc.maricopa.edu/redmountain

1. **SEMESTER OF ENROLLMENT**
❑ Fall ❑ Spring ❑ Summer 1 ❑ Summer 2 Year: 20____

***SOCIAL SECURITY NUMBER** ❑❑❑–❑❑–❑❑❑❑

❑ New student at college indicated
❑ Former student at college indicated; Last date attended: Month_____Year _____

2. **LEGAL NAME**
(Last, First, Middle)

3. **FORMER NAME(S)**

4 **MAILING ADDRESS** APT #

5. **CITY, STATE** 6. **ZIP CODE**

7. **EVENING/MESSAGE PHONE ( )** **DAY/BUSINESS PHONE ( )** **EXT.**

E-MAIL ADDRESS

RESIDENCY These questions are asked for the purpose of determining tuition and fees. The responsibility of registering under the proper residency classification is placed upon the student. Any student who falsifies his/her residency shall be required to pay full tuition and may be subject to dismissal from the college. Refer to the college catalog for residency guidelines. **Failure to answer questions 8-10 may result in being classified as out-of-state for tuition and fee purposes.**

8a. ❑ United States Citizen (1)
❑ Immigrant/Permanent Resident (2) Date of Issue_____
❑ Refugee (3)
❑ Visa *(specify type of visa and present at time of admission)*
❑ Alien Crewman (7) ❑ Extraordinary Talent (9) ❑ Student (5)
❑ Alien in Transit (7) ❑ Intracompany Transfer (4) ❑ Student Dependent (6)
❑ Cultural Exchange (7) ❑ NAFTA (7) ❑ Visitor (8)
❑ Diplomatic (4) ❑ Non-Academic (7) ❑ Worker (9)
❑ Exchange Visitor (7) ❑ Religious (4) ❑ Other (9)

8b. ❑ Country of Orgin_____

9. Are you currently a member of the U.S. **ARMED FORCES** stationed in Arizona pursuant to military orders? ❑ Yes ❑ No

Are you a dependent of a member of the U.S. Armed Forces stationed in Arizona pursuant to military orders? ❑ Yes ❑ No

Are you a veteran of the U.S. Armed Forces? ❑ Yes ❑ No

10a. What date did your present stay in Arizona begin? _____ MONTH•DAY•YEAR

(If born in Arizona and resided here continuously since birth, use date of birth, go to Section 10b.)

Are you a resident of Arizona? _____

What was your most recent state of residence **prior** to moving to Arizona?_____

10b. In what Arizona county do you reside? _____

If Maricopa, what date did you move to this county? _____ MONTH•DAY•YEAR

What Arizona county did you reside in **prior** to moving to Maricopa? _____
(If born in this county and have resided here continuously since birth, use date of birth.)

PREVIOUS EDUCATION

11. **University/College/Vocational School (Check highest level completed.)**
❑ No college or university (F)
❑ Some college or university, no degree (G)
❑ Associate degree (H)
❑ Bachelor's degree (I)
❑ Master's degree or higher (J)

12. **High School (Check one box.)**
❑ High school diploma (1) HS Name _____ State _____
Month _____ Year _____
❑ GED certificate (2) Month _____ Year _____
❑ Currently enrolled*
❑ High school* HS Name _____ State _____
(3,6,7,8,A,B,D) Expected completion Month _____ Year _____
❑ Home taught* (9) Expected completion Month _____ Year _____
❑ No diploma or GED and under age 18* (4)
❑ No diploma or GED and age 18 or over (5)

Special Permission Required. Contact the Admissions and Recruitment Office.

13. **EDUCATIONAL GOALS**
Students should **seek academic advisement** to discuss their educational plans. **Financial aid students** must be pursuing an eligible degree or certificate program.

13a. Do you plan to earn a degree or certificate from this college? (7142 if undecided)
❑ Yes Degree _____ Select from list on reverse.
Certificate _____ Select from list on reverse.
❑ No (7154) Area of study _____ Select from list on reverse.

13b. What is your **primary** reason for attending this college?
❑ Prepare for employment (1)
❑ Transfer to a University (2) (7152)
Name of Transfer Institution / Name Transfer Major (Select from list 1 on reverse)
❑ Improve my skills at my present job (3)
❑ Prepare for career change (4)
❑ For my personal interest or self-improvement (5)
❑ Transfer to another community college (6)
Name of Transfer Institution / Name of Degree or Certificate
❑ Learn new skills for a better job (7)

14. **EMPLOYMENT HOURS** planned per week while enrolled: *
❑ None (1) ❑ 11-15 (3) ❑ 21-30 (5)
❑ 1-10 (2) ❑ 16-20 (4) ❑ 31 or more (6)

15. **BIRTHDATE** * _____/_____/_____ _____
MONTH DAY YEAR AGE

16. **SEX** * ❑ Male ❑ Female

17. **RACE/ETHNIC BACKGROUND** *
❑ American Indian or Alaskan Native (1) ❑ Black (3) ❑ White (5)
❑ Asian or Pacific Islander (2) ❑ Hispanic (4) ❑ Other (6)

18. **INFORMATION RELEASE**: Do you give permission for the college to release directory information relative to your enrollment *(as per the Family Education Rights and Privacy Act of 1974)*? ❑ Yes ❑ No

19. What was the first language you spoke as a child? _____
What languages were spoken in your home when you were growing up?
_____
What language do you speak most often now? _____
Do you wish assistance with English fluency skills? ❑ Yes ❑ No

20. Would you like **HELP** with: * Y = Yes, M = Maybe, N = No

Y	M	N		Y	M	N	
❑	❑	❑	1. Financial aid	❑	❑	❑	9. Personal concerns
❑	❑	❑	2. Finding work	❑	❑	❑	10. Learning disability**
❑	❑	❑	3. Learning English	❑	❑	❑	11. Physical disability**
❑	❑	❑	4. Reading skills	❑	❑	❑	12. Health problem
❑	❑	❑	5. Study skills	❑	❑	❑	13. Commuter information
❑	❑	❑	6. Writing skills	❑	❑	❑	14. Work experience credit
❑	❑	❑	7. Math skills	❑	❑	❑	15. Day care information
❑	❑	❑	8. Choosing major/career	❑	❑	❑	16. _____

***** If you require assistance or accommodation to participate fully as a student, please contact Disability Resources and Services (DRS). (480.461.7447) TDD Phone (480.969.5587)***

I certify that the answers on this Student Information Form are true, correct and complete.

Signature of Student Date

All of the information on this form is confidential and in compliance with the Family Education Rights and Privacy Act of 1974. The Act's provisions are explained in the General Catalog.

* ***Voluntary information used to comply with Federal Reporting and has no effect on admission to the college. This information will not be used for any discriminatory purposes. The student's Social Security Number is generally used as the Student Identification Number. Students who choose not to disclose their social security number will have a Student Identification Number assigned. Students should be aware that a correct Social Security Number must be on file for reporting information pertaining to potential tax credits, and must be used by federal financial aid applicants. Using an alternative Student Identification Number may impact the ease with which educational records are located.***

3/04

Mesa Community College is an EEO/AA institution.

Educational Program Codes: Select code and enter on section 13a on the reverse side of this form.

LIST 1

University transfer degree program (AA, AC, AS, ABUS) or area of interest

Accounting	7002
Adult Basic Education	7004
Advertising	7006
Aeronautics	7008
Agriculture	7010
Anthropology	7012
Architecture	7014
Art	7016
Art History	7018
Astronomy	7020
Biology	7022
Botany	7024
Business, General	7026
Chemistry	7028
Child Development & Family Relations	7030
Clinical Laboratory Science	7032
Clothing &Textiles	7034
Communications	7036
Computer & Information Systems (Business)	7038
Computer Science (Engineering)	7040
Criminal Justice	7042
Dance	7044
Dental Hygiene	7046
Economics	7048
Education, Early Childhood	7050
Education, Elementary	7052
Education, Secondary	7054
Education, Special	7056
Engineering	7058
English	7060
English as a Second Language	7062
Finance	7064
Foreign Languages	7066
General Studies	7068
Geography	7070
Geology	7072
Health, Education & Services	7074
History	7076
Home Economics	7078
Hotel & Restaurant Management	7080
Humanities	7082
Interior Design	7084
International Studies	7086
Journalism	7088
Management	7090
Marketing	7092
Mathematics	7094
Merchandising & Fashion Promotion	7096
Microbiology	7098
Music	7100
Nursing	7102
Nutrition/Food Science	7104
Philosophy	7106
Physical Education	7108
Physical Therapy	7110
Physics	7112
Political Science	7114
Psychology	7116
Public Administration	7118
Public Relations	7120
Radiology	7122
Real Estate	7124
Recreation	7126
Religious Studies	7128
Social Work	7134
Sociology	7136
Speech Communication	7130
Speech Pathology & Audiology	7132
Technology	7138
Theatre/Drama	7140
Undecided	7142
Urban Planning	7144
Women's Studies	7146
Zoology	7148
Global Citizenship	6212
Women's Studies	6206

LIST 2

Transfer Partnership Degrees (ATP)

Accountancy	ASUM	9104
Accountancy	ASUW	9204
Business (ECN, FIN, MGT, REA or SCM)	ASUM	9106
Computer Info. Systems	ASUM	9105
Elementary Education	ASUM	9101
Elementary Education	ASUW	9201
Global Business	ASUW	9207
Psychology (BA)	ASUM	9102
Psychology (BA)	ASUW	9202
Psychology (BS)	ASUM	9103
Psychology (BS)	ASUW	9203
Social Work	ASUM	9100
Social Work	ASUW	9200

LIST 3

Occupational degree (AAS) or area of interest

Administration of Justice	
Administration of Justice Studies	3398
Judicial Studies	3394
Justice Agencies Support	3833
Police Science	3107
Agriculture	
Agribusiness	3014
Veterinary Technician/Animal Health	3015
Apparel Merchandising	
Apparel Merchandising and Design	3260
Architecture	
Architecture	3802
Automotive Technology	
Automotive Performance Technology	3482
Biotechnology	
Biotechnology	3004
Business	
Business	3852
Organizational Leadership	3727
Quality Customer Service	3729
Caterpillar	
Caterpillar Technician Training	3005
Child Development	
Child Development	3357
Computer Information Systems	
Computer Information Systems	3164
Web Technology	3043
Microsoft Solutions Development	3838
Programming and System Analysis	3844
Construction	
Construction	3502
Dental	
Dental Assisting	3055
Dental Hygiene	3831
Direct Care Practice	
Direct Care Practice	3342
Drafting	
Electro/Mechanical Drafting	3504
Education	
Instructional Assistance	3119
Emergency Management	
Emergency Management	3018
Fire Science	
Fire Science Technology	3416
Horticulture	
Urban Horticulture	3030
Information Assurance	
Information Assurance	3010
Interior Design	
Interior Design	3125
Library	
Library Information Technician	3392
Media Arts	
Media Arts: Computer Art/Illustration	3822
Media Arts: Desktop Publishing	3823
Media Arts: Digital Animation	3825
Media Arts: Digital Imaging	3784
Media Arts: Web Page Design	3824
Mortuary Science	
Mortuary Science	3765
Music	
Audio Production Technologies	3024
Music Business	3017
Network Administration	
Linux Networking Administration	3013
Networking System Administration	3208
Nursing	
Nursing	3812
Paramedicine	
Paramedicine	3792
Public Relations	
Public Relations	3674
Recreation	
Recreation Management	3053
Technology	
Electromechanical Automation Technology	3544
Electronics Engineering Technology	3224
Electronics Technology	3220
Machinist, Tool and Die	3542
Manufacturing Engineering Technology	3512
Manufacturing Technology	3616
Micro Circuit Mask Design	3505
Welding Technology	3244

LIST 4

Occupational certificate (CCL) or area of interest

Administration of Justice	
Judicial Studies	5002
Justice Agencies Support - Level I	5004
Justice Agencies Support - Level II	5006
Police Science I	5211
Police Science II	5106
Police Science III	5107
Victimology	5392
Agriculture	
Pest Management Aide	5020
Ranch & Livestock Management Aide	5041
Ranch & Livestock Management Specialist	5045
Apparel Merchandising	
Costume Design & Production	5406
Image Consultant	5402
Retail Sales Manager	5405
Automotive Technology	
Air Conditioning	5443
Automotive Electrical Systems	5449
Brakes, Alignment, Suspension and Steering	5459
Engine Performance and Diagnosis	5478
Transmissions and Power Trains	5467
Biotechnology	
Biotechnology	5079
Business	
Computer Applications: Microsoft Office Specialist/Basic	5146
Computer Applications: Microsoft Office Specialist/Advanced	5147
Import/Export Trade	5740
International Business	5999
Management	5088
Marketing	5394
Office Software Application Specialist Level I	5997
Office Software Application Specialist Level II	5231
Organizational Leadership	5731
Quality Customer Service	5728
Quality Process Leadership	5727
Real Estate	5102
Retail Management	5286
Salesmanship	5281
Small Business	5191
Child Development	
Child Care	5358
Community Health Advocate	
Community Health Advocate, Diabetes	5197
Computer Information System	
Computer Hardware and Desktop Support	5026
Microsoft Solutions Development	5838
Programming and System Analysis	5048
Programming Methodology	5207
Web Designer	5345
Web Designer Assistant	5344
Web Server Administrator	5342
Web Technology	5060
Dental	
Dental Assisting	5264
Direct Care Practice	
Direct Care Practice	5337
Drafting	
Computer Aided Drafting	5547
Construction Drafting I	5519
Construction Drafting II	5523
Construction Drafting III	5527
Electro/Mechanical Drafting	5551
Mechanical Drafting	5600
Education	
Bilingual Endorsement	5127
ESL Endorsement	5126
Instructional Assistance	5119
Reading Specialist Endorsement	5128
Emergency Management	
Emergency Management	5304
Emergency Medical Technology	
Basic Emergency Medical	5270
Intermediate Emergency Medical Technology	5470
Fire Science	
Basic Firefighter	5417
Driver Operator	5418
Fire Officer I	5420
Geographic Information Systems	
Geographic Information Systems	5135
Horticulture	
Landscape Aide	5069
Landscape Specialist	5073
Information Assurance	
Information Assurance	5227
Cyber Forensics Technicians	5228
Interior Design	
Interior Design Advanced	5430
Home Furnishing and Materials	5429
Library Science and Technology	
Library Information Technician: Advanced	5913
Library Information Technician: Basic	5911
Media Arts	
Media Arts: Computer Art/Illustration	5881
Media Arts: Desktop Publishing	5883
Media Arts: Digital Animation	5887
Media Arts: Digital Imaging	5879
Media Arts: Web Page Design	5885
Music	
Audio Production Technologies	5334
Music Business	5258
Network Administration	
Linux Associate	5219
Linux Networking Administration	5225
Linux Professional	5204
Network Administration: CISCO Associate	5205
Network Administration: CISCO Network Professional	5328
Network Administration: Microsoft Windows	5124
Network Administration: Microsoft Windows NT	5120
Network Administration: Novell	5122
Network Administration: UNIX-Solaris	5123
Network Security	5188
Nursing	
Nurse Assisting	5963
Practical Nursing	5957
Nutrition Fitness and Wellness	
Nutrition Fitness and Wellness	5302
Strength and Conditioning Personal Trainer	5445
Recreation Management	5469
Technology	
Electromechanical Automation Technology	5546
Electronic Technology	5591
Machinist, Tool and Die Level I	5583
Machinist, Tool and Die Level II	5587
Manufacturing CNC	5616
Manufacturing Machining	5614
Manufacturing Management	5625
Manufacturing Welding	5620
Micro Circuit Mask Design	5504
Welding Certification	5444

AGEC, Degree, and Certificate Information

Arizona General Education Curriculum (AGEC) – a 35-semester credit block of lower division general education courses for students transferring to any Arizona public university. Certified completion of the block provides for exemption from Arizona university admission requirements for students who complete the AGEC 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) and will fulfill all lower division general education requirements for the majors with which they articulate. There are three types of AGEC blocks: AGEC-A, intended for many liberal arts majors and others; AGEC-B, intended for business majors; and AGEC-S, intended for majors with more prescriptive mathematics and mathematics-based science requirements.

Associate in Arts (AA) – intended primarily as a transfer degree for students who wish to pursue a baccalaureate program in certain majors.

Associate in Arts-Elementary Education (AAEE) – a statewide degree intended for students who plan to pursue a baccalaureate program in elementary education.

Associate in Applied Science (AAS) – recommended for students who wish to gain a depth of technical expertise by completing an occupational program. The AAS degree is available in a number of different occupational fields.

Associate in Business (ABus) – intended primarily as a transfer degree for students who wish to pursue a baccalaureate in certain business-related majors. Depending on your major, you may pursue an ABus with general requirements (ABus-GR) or an ABus with special requirements (ABus-SR).

Associate in General Studies (AGS) – not intended for the transfer student but recommended for students whose educational goals require flexibility.

Associate in Science (AS) – intended primarily as a transfer degree for students who wish to pursue a baccalaureate program in majors that have extended requirements in math and/or science.

Associate in Transfer Partnership (ATP) – intended specifically for students who have chosen both an academic major and a university to which they plan to transfer. The ATP constitutes the lower-division requirements of a baccalaureate program as agreed to by the Maricopa Community Colleges and the institution to which the student will transfer.

Certificate of Completion (CCL) – a specialized program of study within an occupational field.

Academic Certificate – a specialized program of study within a general education or academic discipline.

7/05

Maricopa County Community Colleges are EEO/AA institutions.

About the Addendum
The contents of this addendum supersede the content specified in the 2006-2007 catalog where noted. Contents of the 2006-2007 catalog not revised in this addendum remain in effect. The unrevised content of the 2006-2007 catalog and the revised content of this addendum are valid for the 2006-2007 academic year.

This section replaces the departmental credit by evaluation and credit by examination statement in the 2006-2007 page 41:

Departmental Credit By Evaluation

Students may apply for Departmental Credit By Evaluation in certain courses by obtaining the appropriate form in the Office of Admissions and Records, 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.

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. Credit awarded through Credit By Evaluation will be posted to a student's transcript upon completion of one or more credit hours (other than by prior learning) at the college granting the credit. 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.

Departmental Credit By Examination

Students may apply for Departmental Credit By Examination in certain courses by obtaining the appropriate form in the Office of Admissions and Records, 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.

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. T**he grade is used in computing the grade point average**. Credit awarded through Departmental Credit By Examination will be posted to a student's transcript upon completion of one or more credit hours (other than by prior learning) at the college granting the credit.