

GENERAL CATALOG 2019-2020



**GLENDALE
COMMUNITY COLLEGE**

A MARICOPA COMMUNITY COLLEGE

2019 - 2020 ACADEMIC CALENDAR

Calendar Applies to GCC, GCC North, and GCC at Other Valley Locations

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.

Summer Semester - 2019 (Subject to 2019-2020 Catalog)

Summer 2019 Priority Registration Begins	March 4
Summer 2019 Open Registration Begins	March 18
Summer Semester Begins	May 28
Observance of Independence Day	July 4
Summer Semester Ends	August 1

Fall Semester - 2019

Fall 2019 Priority Registration Begins	March 4
Fall 2019 Open Registration Begins	March 18
Classes Begin	August 17
Observance of Labor Day	September 2
+ Last Day for Withdrawal without Instructor's Signature (traditional date 10/4) Application for December 2019 Graduation	November 1
Observance of Veterans Day	November 11
Thanksgiving Holiday	November 28-December 1
++ Last Day Student Initiated Withdrawal Accepted (traditional date 12/2) Last Day of Regular Classes	December 8
*Final Exams	December 9-12
Mid-Year Recess Begins for Students	December 13
Fall Semester Ends [Last day of Faculty Accountability]	December 13

Mid-Year Recess (Campus Closed) Dec 25 through Jan 1

Spring Semester - 2020

Spring 2020 Priority Registration for Currently Enrolled Students	September 30
Spring 2020 Open Registration Begins	October 7
Classes Begin	January 11
Observance of Martin Luther King, Jr. Holiday	January 20
Observance of Presidents' Day	February 17
+ Last Day for Withdrawal without Instructor's Signature (traditional date 3/2) Fall 2020 Priority Registration for Currently Enrolled Students	March 2
Application for May 2020 Graduation	March 27
Spring Break	March 9-15
Fall 2019 Open Registration Begins	March 16
++ Last Day Student Initiated Withdrawal Accepted (traditional date 4/24) Last Day of Regular Classes	May 3
*Final Exams	May 4-7
Commencement	May 8
Spring Semester Ends	May 8
Observance of Memorial Day	May 25

Summer Semester - 2020 (Subject to 2020-2021 Catalog)

Summer Semester Begins	May 26
Observance of Independence Day	July 2
Summer Semester Ends	July 30

* Students may register online 7 days a week. Go to my my.maricopa.edu for more information.

+ See your student schedule in my.maricopa.edu for the Last Day to Withdraw without an Instructor Signature for each class in which you are enrolled.

++ Refer to the Important Deadlines for Students to determine the Last Day Student Initiated Withdrawal will be accepted.

Welcome to Glendale Community College!

On behalf of our dedicated faculty and staff who are committed to your success, we hope you have a fantastic experience in the 2019-2020 academic year. We are honored you have chosen to pursue your education with us.

Glendale Community College is the largest provider of higher education in the West Valley, and a proud member of the Maricopa County Community College District (MCCCD). GCC was founded in 1965 and has helped more than 500,000 students reach their educational goals.

We want you to feel welcome at GCC - this is your place to thrive - whether you are seeking a transfer degree to a university, a two-year degree, a certificate to enter the workforce, or simply here for your own pursuit of lifelong learning. I encourage you to experience all that GCC has to offer by joining one of the more than 50 student clubs; catch a play, dance performance or concert; or cheer on the Glendale Gauchos at any number of sporting events.

GCC has two campuses to meet your needs, the main campus at 59th and Olive Avenues, located in the heart of Glendale, and a smaller campus located at 59th Avenue and Happy Valley Road, known as GCC North. Both campuses have dedicated faculty and staff to meet your needs including supportive student services, a fitness center, bookstore, cafeteria, library, computer commons, and laboratory sciences. We invite you to take advantage of our free counseling, career advising and tutoring.

This catalog, as well as our website at www.gccaz.edu, are useful in discovering what awaits you at GCC. Student success is at the center of our mission - to support you in attaining your personal, professional and educational goals.

Best wishes on your academic journey!

Dr. Teresa Leyba Ruiz
President, Glendale Community College



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GLENDALE COMMUNITY COLLEGE ESTABLISHED 1965

Glendale Community College (GCC) keeps pace with the constant growth of the West Valley, offering increased breadth and depth of educational opportunity. Last year, approximately 30,000 students enrolled in courses or pursued degree and certificate programs at one of two GCC campuses, making the College's enrollment the third largest in the Maricopa County Community College District (MCCCD). Since 1965, more than 500,000 students have enrolled in credit courses at GCC to prepare for transfer, to advance or change their careers, to earn a degree or certificate, or to enrich their lives through special interest classes.

Created in 1962 with one college, the MCCCD currently consists of ten separately accredited colleges. MCCCD is one of the largest community college districts in the United States. On April 12, 1965, GCC was established by the Governing Board as the second MCCCD college, and charged with serving the higher educational needs of the West Valley. In August 1967, the North Central Association of Colleges and Secondary Schools first accredited GCC as an individual college. Accreditation continues today through The Higher Learning Commission/North Central Association and includes the GCC Main and GCC North campuses.

Higher Learning Commission
230 South La Salle St., Suite 7-500
Chicago, IL, 60604
312.263.0456
www.ncahlc.org

GCC Main Campus

Located at 59th and Olive Avenues, the GCC Main campus spans 147 acres and serves as a focal point for diverse community activities. The College offers a friendly, welcoming environment for learning. During GCC's inaugural fall semester, 2,000 students enrolled in classes held at two temporary locations. September 16, 1966, was the first day of classes on this beautiful, palm tree-lined campus.

The GCC Main campus accommodates the changing needs and interests of students and community members. Recent improvements and renovations include the Dr. Phillip D. Randolph Automotive Technology Center, the Exercise Science and Nutrition Building, and the Veteran Services Center. GCC also is a designated Hispanic Serving Institution (HSI) by the U.S. Department of Education. This designation is given to colleges with a full-time student equivalent (FTSE) that is at least 25 percent Hispanic. By qualifying as an HSI institution, GCC was able to apply for and was awarded Title V grant funding to expand and enhance academic programs and services for the benefit of all students, particularly high-need students in STEM areas.



GCC North Campus

GCC continually reaches out to where students live. A good example is GCC North, a campus extension at 57th Avenue and Happy Valley Road. GCC North opened in fall 2000 with 797 students and has grown in excess of 2,500 students in 2017. Thanks to the voter-approved 2004 capital development bond, facilities were expanded in 2008 elevating GCC North to a full-service campus under GCC Main. Most recently, GCC North opened an astronomy observatory pad, a semi-circular telescope pad located on the west end of campus that hosts public viewing events throughout the year.

GCC Vision

GCC fosters student success by providing innovative, quality learning experiences for all members of the community.

GCC Mission

Glendale Community College prepares students for further higher education, employment and advancement, and successful participation in a global society.

How Well Is GCC Helping You Achieve Your Goals?

At GCC we want to have no doubts that we are doing our best to help you, our students, achieve your goals. As our mission indicates, "...GCC prepares students..." At GCC, that's not just a lofty statement. In order to determine how thoroughly we are accomplishing our mission, we measure and track key pieces of information; this is formally known as Institutional Effectiveness.

What does GCC measure and track in order to determine how effective we are as a community college? How about how well GCC graduates can write, read critically, and reason critically. Also, how well can our students give a speech, locate and evaluate information, and use technology like computers and email?

Additionally, we care about how extensively GCC prepares you for work or to transfer to a university. Also, we want to know if we are helping you start and successfully complete each semester, or complete a degree or certificate - if that is what you want to accomplish. We also care about how successfully GCC is preparing you to make decisions every day in life, for the rest of your life!

And finally, we really care about serving you, our students, along every step of your journey at GCC. In the classroom and out, we want to have no doubts that we are doing the best we can to help you achieve your goals.

Assessment of Student Learning at GCC

GCC is committed to hearing the voices of our students and wants to ensure that these voices represent the learning and engagement of students on campus. By contributing to assessments, students benefit from improved instruction and programs. On occasion, students may be asked to complete nationally recognized assessment instruments and should take their participation in these activities seriously. There is no cost to students to participate in any nationally recognized assessment. Any information obtained from these instruments will be used solely in determining the effectiveness of programs and student learning in ways that do not reflect personally on individual students.

Are students learning what we want them to learn in our courses, programs, campus activities, and throughout their education at GCC? Our process of assessment addresses that question. Through a comprehensive assessment program of student learning, our goal is to increase student retention, persistence, and



completion at GCC. We seek to accomplish these goals by using an integrated, iterative, and effective process of assessment of student learning to Apply Sustainable Solutions to Empower Student Success (ASSESS).

Assessment of student learning occurs at multiple levels at GCC - course, program, co-curricular, student affairs, and institutional - with each typically on a three-year cycle. At the course level, student learning is assessed by individual and/or collaborating groups of faculty within an academic department with the goal of improving student learning in a particular course. In addition to participation in program review and institutional assessment as described below, student affairs managers and co-curricular advisors have begun conducting assessment targeting to the specific learning outcomes of their student activities.

Academic and Degree Programs, Career and Technical Education (CTE), and Student Affairs and Administrative Services engage in a process of program review and assessment. Students can find the program goals/competencies for all certificate and degree programs here: <https://www.maricopa.edu/academics/degrees-certificates>.

The assessment of institutional learning outcomes with common rubrics is a recent change to our prior methods of assessment. Faculty and co-curricular advisors will assess student learning in their courses and activities using these common rubrics. The data will be analyzed to identify student strengths and areas of improvement with regard to our institutional learning outcomes.

GCC updated our institutional learning outcomes in the fall of 2017 and began an authentic process of assessment of these outcomes. We recognize that the knowledge represented in our institutional learning outcomes develops through intentional, guided, and iterative experiences across disciplines and programs throughout students' time in college, from the first semester to the last. We also recognize that technological literacy, rather than being separate from these outcomes, is embedded within each one and as such, will be assessed as it relates to each of the seven institutional outcomes. Our institutional learning outcomes are as follows:

By the end of their college experience, students at GCC will have demonstrated:

- effective communication skills (oral, written, visual).
- critical and creative thinking skills.
- quantitative reasoning and analysis.
- personal and civic responsibility.
- awareness and appreciation of diversity.
- information literacy.
- clarification of career goals and the knowledge and skills needed for success in the workplace.

Full descriptions of the GCC institutional learning outcomes, currently approved rubrics, and assessment cycles can be found on our website by searching "assessment".

As GCC continues our assessment journey, we will use the knowledge gained about student learning to make changes to improve student success. Findings from our assessment activities will be posted on our assessment website.



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GRADUATION/GENERAL EDUCATION POLICIES

All students are required to complete the degree and/or certificate requirements as approved by the MCCCC Governing Board. The college reserves the right to make necessary course and program changes in order to meet current educational standards. In addition, students must:

1. Be credited in the Admissions and Records Office/Office of Student Enrollment with no fewer than: 60 semester credit units in courses numbered 100 or above for the Associate in Arts degree, Associate in Science 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. Minimum semester credits for completion of major-specific pathway versions of the AA and AS degrees vary slightly by pathway. Refer to the Program (Degree) Search at curriculum.maricopa.edu for credit minimums for individual degree programs. For specific certificate programs, be credited with no fewer than the minimum total of credit units required for the certificate program.

Students not continuously enrolled, as outlined in the Catalog under Which a Student Graduates Policy, must satisfy current graduation requirements.

2. Have earned a minimum of 12 semester credit units toward the degree or certificate at the district college granting the degree or certificate. The 12 hours in the AAS degree curricula must be in the Required Courses area and/or Restricted Electives courses. Courses from the General Education Core and Distribution area are excluded. In cases where the certificate requires fewer than 12 credit units, a minimum of six credit units must be completed at the college awarding the certificate. The minimum of six credit hours in the certificate or degree curricula must be in the Required Courses area and/or the Restricted Electives. Courses from the General Education Core and Distribution areas are excluded.

Shared Programs are programs offered at multiple colleges but not available at all colleges. The requirements are identical at all the colleges offering the program.

A shared program requires a minimum of six credit hours from the total program requirements to be completed with a grade of C or better at the college awarding the certificate or degree. The minimum of six credit hours in the certificate or degree curricula may be in the Required Courses area and/or the Restricted Electives. (The exception is the Nursing program; Nursing students must apply for graduation from the college where they have successfully completed Block 4 of the Associate in Applied Science in Nursing.) Courses from the General Education Core and Distribution areas are excluded. For those shared programs with less than six credit hours, the total hours for the program must be completed at the college awarding the certificate.

3. Have filed an application for the degree or certificate with the Admissions and Records Office/Office of Student Enrollment Services on the date determined by the college/center.

4. Have a minimum cumulative grade point average of 2.000 at the college granting the degree.
5. Have a minimum cumulative grade point average of 2.000 in all courses used to fulfill degree requirements. Some specific programs have higher grade requirements. It is the student's responsibility to be aware of these program requirements.
6. Have removed, thirty (30) days after the anticipated graduation date, all deficiencies on the record to use those courses toward program completion.
7. Have removed any indebtedness to any MCCCC college / center.
8. Have paid graduation ceremony fee, if participating in ceremony. See fee schedule for charges. See Graduation with Honors for information on honors designation.

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"

CERTIFICATES/DEGREES

The Maricopa Community Colleges offer Certificates of Completion as well as Associate Degrees, which are conferred on students who have completed a program of study. These certificates and degrees are as follows:

1. Certificate of Completion (Career Program Specified);
2. Academic Certificate;
3. General Education Certificate;
4. Associate in Arts;
5. Associate in Science;
6. Associate in Business;
7. Associate in General Studies;
8. Associate in Applied Science (Career Program Specified).

All candidates for a degree and/or certificate must complete the General Graduation Requirements as approved by the MCCCC 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

LICENSURE DISCLAIMER

Maricopa Community Colleges courses and programs prepare students for entry into a variety of professions. Many of these professions require that a person hold an occupational license or certificate in order to work in a particular field. Typically, a

person must meet certain legal requirements before obtaining such a license or certificate. These requirements are established by county, state or federal agencies, and often are based on a person's character, or whether the person has been convicted of a criminal offense. It is possible for a student who has obtained a degree or certificate from a community college to be denied the right to work in a particular profession after completing the degree or certificate because of concerns over the student's character or criminal background. Any student preparing to enter a field for which a professional license or certificate is required is strongly advised to consult with the appropriate government agency that issues such credentials. That agency can provide the student complete information about any requirements the law imposes for working in a particular occupation.

MCCCD GENERAL EDUCATION STATEMENT

The general education core of the program of study for an associate degree or a certificate helps students develop a greater understanding of themselves, of their relationship with others, and of the richly diverse world in which they live. The general education experience provides students with opportunities to explore broad areas of commonly held knowledge and prepares them to contribute to society through personal, social, and professional interactions with others. General education fosters students' personal development by opening them to new directions, perspectives, and processes.

Through its general education requirements, the Maricopa County Community College District is committed to helping students develop qualities and skills that will serve them throughout their lives. General education opportunities encourage students to:

1. Build self-awareness, self-respect, and self-confidence
2. Recognize and respect the beliefs, traditions, abilities, and customs of all people and all cultures
3. Consider the local, global, and environmental impacts of personal, professional, and social decisions and actions
4. Access, evaluate, analyze, synthesize, and use information wisely
5. Communicate effectively personally, socially, and professionally
6. Think critically, make informed decisions, solve problems, and implement decisions
7. Consider the ethical implications of their choices
8. Value the learning process throughout their lives
9. Integrate and connect ideas and events in a historical perspective, and see relationships among the past, the present, and the future
10. Develop a personal sense of aesthetics
11. Use technological resources appropriately and productively
12. Work cooperatively and respectfully with others to serve their communities

The general education experience at MCCCD is composed of specific elements across the curriculum designed to provide the learner with essential knowledge and skills:

- Communication
- Arts and Humanities
- Numeracy
- Scientific Inquiry in the Natural and Social Sciences

- Information Literacy
- Problem-Solving and Critical Thinking
- Cultural Diversity

GENERAL EDUCATION DESIGNATIONS

(example: [FYC], [SB], [HU], etc.)

Effective Fall 2000 the course evaluation and/or general education designation, as listed in the Arizona Course Equivalency Guide (CEG) within AZ Transfer, is valid for the term in which the student is awarded credit on the transcript. A course evaluation and/or general education designation may be subject to change. Given that curriculum is dynamic at both MCCCD and the institutions to which MCCCD students transfer, students have the option to petition for general education evaluations and/or general education designations.

The college reserves the right to make necessary course and program changes in order to meet current educational standards.

CATALOG UNDER WHICH A STUDENT GRADUATES

Students maintaining continuous enrollment at any public Arizona community college or university may graduate according to the requirements of the catalog in effect at the time of initial enrollment or according to the requirements of any single catalog in effect during subsequent terms of continuous enrollment. Students may maintain continuous enrollment whether attending a single public community college or university in Arizona or transferring among public institutions in Arizona while pursuing their degrees.

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

EXAMPLE A:

Admitted and Earned Course Credit at a Public Community College or University	F17 (Active)
Continued at a Public Community College	S18, F18 (Active)
Transferred to a University	S19 (2017 or Any Subsequent Catalog)

EXAMPLE B:

Admitted and Earned Course Credit at a Public Community College or University	F14 (Active)
Enrolled But Earned All Ws, Zs, or Fs	S15 (Inactive)
Enrolled in Audit Courses Only	F15 (Inactive)
Nonattendance	S16 (Inactive)
Transferred to a University	F16 (2016 or Any Subsequent Catalog)

2. Students who do not meet the minimum enrollment standard stipulated in No. 1 during three consecutive semesters (fall/spring/fall or spring/fall/spring) and the intervening summer term* at any public Arizona community college or university are no longer considered continuously enrolled, and must meet requirements of the public Arizona community college or university catalog in effect at the time they are readmitted or of any single catalog in effect during subsequent terms of continuous enrollment after readmission.

EXAMPLE A:

Admitted and Earned Course Credit at a
Public Community College or University F14 (Active)
Nonattendance S15, F15, S16 (Inactive)

Readmitted and Earned Course Credit at a
Public Community College F16 (Active)
Transferred to a University F17 (2016 or Any
Subsequent Catalog)

EXAMPLE B:

Admitted and Earned Course Credit at a
Public Community College or University F14(Active)
Nonattendance S15 (Inactive)

Readmitted and Earned Course Credit at a
Public Community College Su15 (Active)
Nonattendance F15, S16 (Inactive)
Transferred to a University F16 (2014 or Any
Subsequent Catalog)

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

- 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 Su16 (Active)
Continued at a Public Community College F16, S17 (Active)
Nonattendance F17 (Inactive)
Readmitted and Earned Course Credit at a
Public Community College S18 (Active)
Transferred to a University Su18 (2016 or Any
Subsequent Catalog)

- Students transferring among Arizona public higher education institutions must meet the admission requirements, residency requirements, and all curricular and academic requirements of the degree-granting institution.

NOTE: Time Limit for Transfer Coursework

Students should be aware that the receiving institution may have age and credit limits on certain coursework to be used in transfer. Students should be knowledgeable about the policies on time limits for transfer coursework for the institution to which they plan to transfer.

GENERAL ACADEMIC POLICIES FOR ASSOCIATE DEGREES DESIGNED FOR UNIVERSITY TRANSFER

The following academic policies govern the associate degrees designed for university transfer (Associate in Arts [AA]; Associate in Business [ABUS]; and Associate in Science [AS]). Also governed by these policies are the majorspecific pathway maps within the AA, ABUS, and AS degrees. Note that academic policies that govern the Associate in General Studies [AGS] and Associate

in Applied Science [AAS] degrees are listed separately, with the requirements for each of those degrees

- The graduation policies within the general catalog must be satisfied (administrative regulation 2.3.9).
- Minimum semester credits for completion vary slightly by degree. Refer to the Program (Degree) Search at curriculum.maricopa.edu for credit minimums for individual degree programs.
- Credits completed toward these minimums must be in courses numbered 100 or above with a grade of C or better. These credits must include a minimum of 35 in satisfaction of the requirements of the Arizona General Education Curriculum (AGEC) along with a maximum of 6 credits towards MCCC'D's Additional Requirements.
- Detailed degree requirements are maintained by the Center for Curriculum and Transfer Articulation (CCTA); refer to the program search at <https://curriculum.maricopa.edu/>. Advisement check sheets are maintained at <https://curriculum.maricopa.edu/curriculum/degrees-certificates/associate-degrees/academic-degree-checklists-aaas-abus-ags>.

GENERAL EDUCATION REQUIREMENTS

- The AGEC requirements include a designated number of courses approved for each of the following areas:
 - Core
 - First Year Composition [FYC],
 - Mathematical Applications [MA], Computer/Statistics/Quantitative Applications [CS] (CS not required for Associate in Science),
 - Literacy and Critical Inquiry [L],
 - Humanities, Arts and Design [HU],
 - Social-Behavioral Sciences [SB], and
 - Natural Sciences (Science Quantitative [SQ], Science-General [SG]).
 - Awareness Areas
 - Cultural Diversity in the U.S. [C]
 - Global [G] or Historical [H] Awareness
- Note that there are three different AGECs each aligning with a different subset of associate Degrees--AGEC-A for the Associate in Arts degree (and major-specific pathway maps), AGEC-B for the Associate in Business degree (and major-specific pathway maps), and AGEC-S for the Associate in Science degree (and major-specific pathway maps). For some types of AGECs/Associate degrees, students are allowed to choose from a broad list of courses; for others the courses are more restricted or even specified.
- A single course can simultaneously count toward a Core Area, one or more Awareness Areas, MCCC'D Additional Requirements and, for some degree types, other lower division courses used to meet the degree requirements. For example, CRE101 may be used to satisfy both the MCCC'D Reading Requirement and the Literacy and Critical Inquiry

area [L] of AGECE core. While multiple requirements can be met with a single course, the credits are only counted one time toward the required minimum for the degree.

- Except for the Associate in Science degree, a single course cannot be used to satisfy more than one AGECE Core Area.
- The AGECE-A and AGECE-B require a minimum of 35 credits and the AGECE-S requires a minimum of 36 credits, however, the AGECE credit count within the total credits for a degree may be under these minimums if courses are also applied toward Required Courses or Restricted Electives and the credits are counted in those areas. Awareness Areas and MCCCDC's Additional Requirements may also be shared with AGECE Core Areas. Optimizing credits in this way is often recommended because some programs and universities limit transferable credits at 64.

COURSEWORK BEYOND GENERAL EDUCATION

- For some degree types, the additional coursework required to complete the degree is specified while others offer the student more latitude. See degree checksheets for more complete description. Consultation with an academic advisor about course selection is always recommended.
- Oral Communication and Critical Reading are MCCCDC Additional Requirements required for Associate in Arts and Associate in Science degrees and the major-specific pathway maps within the AA and AS degrees. Refer to the Program (Degree) Search at curriculum.maricopa.edu for acceptable options to meet these requirements for individual degree programs.
- Within the Restricted Electives, course recommendations are made for specific transfer institutions. Students should select a subplan (group of courses) based on their intended transfer institution. However, not all transfer institutions are reflected in these recommendations. Therefore, students may instead select the general subplan and meet the minimum number of Restricted Elective credits using a combination of courses from the other subplans. Restricted Electives should be selected in consultation with an academic, faculty, or program advisor.
- General Electives may need to be selected to meet the minimum total credits required for the degree. All courses numbered 100-or-higher may be applied as General Electives. Students are encouraged to select courses that align with their goals.
- Note that some majors require up to a 4th semester proficiency (202-course level) in a non-English language. Students should consult with an academic advisor to discuss options to complete these requirements.
- Maricopa courses and external courses evaluated as Maricopa equivalents, departmental electives, (e.g., HISELC for a history elective), or general electives (GENELC) that are numbered 100 level or higher, and completed with a grade of C or higher, may be applied in the elective area, regardless of potential transferability to other institutions. It

is recommended, however, that students planning to transfer to a baccalaureate-granting institution meet these general elective requirements with courses that are transferable and applicable to their intended university degree. Transfer advisement information is accessible on the following websites: aztransfer.com, curriculum.maricopa.edu, as well as those of individual universities. For appropriate course selection, students should consult with an academic advisor.

- Any course cross-referenced under another prefix(es) (for example ENH291/EDU291/STO291-Children's Literature) covers identical content and its credits can only be counted once toward requirements.

TRANSFER CREDIT FROM INSTITUTIONS OUTSIDE OF MCCCDC

- Credits transferred from outside of MCCCDC must be at a grade of C (2.0 on a 4.0 scale) or better.
- External courses evaluated either as equivalent to an MCCCDC course or as elective credit may be applied toward the minimum credits for degree completion.
- Transfer credit graded pass/fail or pass/no credit may be used to satisfy AGECE requirements if documentation collected by the community college indicates that this was the only grading option available and that the Pass grade ("P") is equivalent to a C or better.
- The AGECE (Arizona General Education Curriculum) designations of courses completed at other Arizona public colleges or universities will be applied as listed on AZTransfer's Course Equivalency Guide (CEG) for the semester(s) in which the course(s) were completed. If a transcript evaluation determines there is no MCCCDC direct equivalency to a course from another Arizona public college or university, applicability to AGECE and/or associate degree requirements will be based on the source institution's AGECE designation for the semester in which the course was completed.
- Courses from private, out-of-state, and/or online institutions (i.e., outside of the Arizona Transfer System comprised of Arizona's public community colleges, tribal colleges and universities) will be applied toward AGECE and/or associate degree requirements based on the courses' evaluated MCCCDC equivalence. If courses are not directly equivalent, the credit may be articulated as a departmental elective, and if deemed appropriate, may have a general education designation applied to the course
- Credit awarded at a Maricopa Community College for prior learning is transferable to the other colleges in the district but is not necessarily transferable to other colleges and universities. No more than 20 such assessed semester credit hours may be applied toward AGECE, and no more than 30 credits (including up to 20 toward AGECE) may be applied toward a degree.

COMPLETION AND TRANSFER

- Completion of the AGECE with a minimum Grade Point Average of at least 2.0 on a 4.0 scale for Arizona residents and 2.50

for non-residents meets Arizona public university general admission requirements. It does not ensure admission to specific university majors or programs with selective admission processes and/or limited enrollment.

- While MCCC's associate degrees are designed to facilitate a seamless transfer to other Arizona institutions, courses may be transferable and/or meet associate degree requirements, but may not necessarily meet the specific requirements of a particular degree, major, or area of emphasis at another institution.

Students planning to transfer to another college or university are urged to refer to university requirements and academic advisors from both institutions to be certain that all their selected coursework is applicable to the requirements of their intended transfer degree and within their allowed transferable credit limit. For some majors, the statewide Common Course matrix and AZTransfer Major Guides at aztransfer.com and/or university transfer guides can also provide some guidance. For appropriate course selection, students should consult with an academic advisor.

University Transfer and Pathways

Most public university majors are matched with one of the following Maricopa Community Colleges Associate Degree Pathways. Students should consult with an advisor to determine the specific degree requirements for the selected major, or visit the following website: <https://aztransfer.com/>.

Associate in Arts (AA) 60-64 credits	<ul style="list-style-type: none"> • AGEC-A <ul style="list-style-type: none"> A. Core Areas up to 43 Credits B. Awareness Areas 0-6 Credits • MCCCD Additional Requirements (Communication, Reading) 0-6 Credits • General Electives (Select courses 100 level or higher to complete a minimum of 60 credits but no more than a total of 64 semester credits.) 0-25 Credits
Associate in Arts, Elementary Education (AAEE) 60-68 credits	<ul style="list-style-type: none"> • AGEC A <ul style="list-style-type: none"> A. Core Areas 35-43 Credits B. Awareness Areas 0-3 Credits • MCCCD Additional Requirements (Communication, Reading) 0-3 Credits • Elementary Education Requirements <ul style="list-style-type: none"> I. Education Foundations 17 Credits II. Electives for AZ Prof'I Teacher Standards 8 Credits
Associate in Arts, Fine Arts - Art, Dance, Music, Theatre (AAFA) 60-64 credits	<ul style="list-style-type: none"> • AGEC A <ul style="list-style-type: none"> A. Core Areas up to 49 Credits B. Awareness Areas 0-6 Credits • MCCCD Additional Requirements (Communication, Reading) 0-6 Credits • General Electives (Select courses 100 level or higher to complete a minimum of 60 credits but no more than a total of 67 semester credits.) 0-25 Credits
Associate in Business, General Requirements (ABUS-GR) 62-72 credits All Business Majors except CIS	<ul style="list-style-type: none"> • AGEC B <ul style="list-style-type: none"> A. Core Areas 29-37 Credits B. Awareness Areas 0-6 Credits • Required Courses 21-25 Credits • Restricted Electives 3-6 Credits • General Electives (Select courses 100 level or higher to complete a minimum of 62 credits but no more than a total of 64 semester credits.) 0-12 Credits
Associate in Business, Special Requirements (ABUS-SR) 62-71 credits CIS Majors	<ul style="list-style-type: none"> • AGEC B <ul style="list-style-type: none"> A. Core Areas 29-37 Credits B. Awareness Areas 0-6 Credits • Required Courses 27-31 Credits • General Electives (Select courses 100 level or higher to complete a minimum of 62 credits but no more than a total of 64 semester credits.) 0-12 Credits
Associate in Science (AS) 60-64 credits	<ul style="list-style-type: none"> • AGEC-S <ul style="list-style-type: none"> A. Core Areas up to 46 Credits B. Awareness Areas 0-6 Credits • MCCCD Additional Requirements (Communication, Reading) 0-6 Credits • General Electives (Select courses 100 level or higher to complete a minimum of 60 credits but no more than a total of 64 semester credits.) 0-28 Credits

Additional Programs for University Transfer

Associate in General Studies (AGS) 60-64 credits	<ul style="list-style-type: none"> • General Education Core Areas 12-18 Credits • General Education Distribution 22-29 Credits • Elective Courses 13-26 Credits
Associate in Applied Science (AAS) 60 credits	<ul style="list-style-type: none"> • General Education Core Areas 12-15 Credits • General Education Distribution 9-10 Credits • Required Courses (credits vary) • Elective Courses (credits vary)

Arizona General Education Curriculum (AGEC)-A, B, S

Description

The Maricopa County Community College District Arizona General Education Curriculum (MCCCD AGEC) is a general education certificate that fulfills lower-division general education requirements for students planning to transfer to any Arizona public community college or university. Generally, the MCCCD AGEC transfers as a block without loss of credit. The AGEC-A and AGEC-B require a minimum of 35 credit hours, and the AGEC-S requires a minimum of 36 credit hours.

In most cases, all courses used to satisfy the MCCCD AGEC will apply to graduation requirements of the university major for which the AGEC was designed.

There are three types of AGECS in MCCCD. They are the AGEC-A, the AGEC-B, and the AGEC-S. As described below, these AGECS are also a component of most MCCCD Associate degrees and comparable degrees at other Arizona public community colleges. The AGEC-A is the general education block of the MCCCD Associate in Arts (AA) degree (and major-specific pathway versions), the AGEC-B is part of the MCCCD Associate in Business (ABUS) degree (and major-specific pathway versions), and the AGEC-S defines the general education requirements in the MCCCD Associate in Science (AS) degree (and major-specific pathway versions).

As described in more detail below, all AGECS require designated Core courses in First Year Composition [FYC], Literacy and Critical Inquiry [L], Mathematical Studies [MA/CS] (Exception: The AGEC-S does not require CS.), Social-Behavioral Sciences [SB], Humanities, Design and Fine Arts [HU], and Natural Science [SQ/SG]. Students must satisfy two Awareness areas: Cultural Diversity in U.S. and either Global Awareness or Historical Awareness.

Purpose of the AGECS

AGECS were designed to articulate with different academic majors, and their particular requirements vary accordingly. In some major-specific pathways, students are allowed to choose from a broad list of courses to satisfy the AGEC requirements; for others the courses are more restricted or even specified. Additional information on academic majors at the Arizona public universities can be accessed via the following website: www.aztransfer.com

1. The AGEC-A is designed to satisfy requirements in many liberal arts majors as well as other majors that articulate with an Associate in Arts degree (e.g., social sciences, fine arts, humanities, elementary education). AGEC-A requires a minimum of college mathematics or college algebra to satisfy the Mathematics [MA] requirement.
2. The AGEC-B is designed to satisfy requirements in business majors that articulate with the Associate in Business. AGEC-B requires a minimum of brief calculus to satisfy the Mathematics [MA] requirement.
3. The AGEC-S is designed to satisfy requirements in majors with more prescriptive mathematics and mathematics-based

science requirements such as many in the sciences, technology, engineering and mathematics. 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 for majors to satisfy the Natural Sciences [SQ/SG] requirement. In addition, students must select six to ten additional credits of math and/or science appropriate to their major.

Academic Policies that Govern the AGEC-A, -B, -S

- Requires completion of at least 35 credit hours (AGEC-A, AGEC-B) and 36 credit hours (AGEC-S) in courses numbered 100 and above and that a minimum of 12 of those credits be taken at one or any combination of the MCCCD colleges.
- All courses applied to the AGEC must be completed with a grade of " or better.
- A single course can simultaneously count toward a Core Area and one or more Awareness Areas. For example, a course in world geography can be used to satisfy [SB] and [G] requirements. While multiple requirements can be met with a single course, the credits for that course are only counted one time toward the required minimum total for the AGEC. Except as detailed below for the AGEC-S, a single course cannot be used to satisfy more than one AGEC Core Area.
- The AGEC-A and AGEC-B require a minimum of 35 credits and the AGEC-S requires a minimum of 36 credits, however, the AGEC credit count within the total credits for a degree may be lower than these minimums if courses are also applied toward Required Courses or Restricted Electives and the credits are counted in those areas. Awareness Areas and MCCCD's Additional Requirements may also be shared with AGEC Core Areas. Optimizing credits in this way is often recommended because some programs and universities limit transferable credits at 64.

Transfer Credits from Institutions Outside of MCCCD

- Credits transferred from outside of MCCCD must be a grade of C (2.0 on a 4.0 scale) or better.
- External courses evaluated either as equivalent to an MCCCD course or as elective credit may be applied toward the minimum credits for degree completion.
- Transfer credit graded pass/fail or pass/no credit may be used to satisfy AGEC requirements if documentation collected by the community college indicates that this was the only grading option available and that the Pass grade ("P") is equivalent to a C or better.
- The AGEC (Arizona General Education Curriculum) designations of courses completed at other Arizona public colleges or universities will be applied as listed on AZTransfer's Course Equivalency Guide (CEG) for the semester(s) in which the course(s) were completed. If a transcript evaluation determines there is no MCCCD direct equivalency to a course from another Arizona public college or university, applicability

to AGEC and/or associate degree requirements will be based on the source institution's AGEC designation for the semester in which the course was completed.

- Courses from private, out-of-state, and/or online institutions (i.e., outside of the Arizona Transfer System comprised of Arizona's public community colleges, tribal colleges and universities) will be applied toward AGEC and/or associate degree requirements based on the courses' evaluated MCCCDCD equivalency. If courses are not directly equivalent, the credit may be articulated as a departmental elective, and if deemed appropriate, may have a general education designation applied to the course.
- Credit awarded at a Maricopa Community College for prior learning in non-traditional setting is transferable to the other colleges in the MCCC district but is not necessarily transferable to other colleges and universities. No more than 20 such assessed semester credit hours may be applied toward AGEC.

Completion and Transfer

- Completion of the AGEC with a minimum grade point average of at least 2.0 on a 4.0 scale for Arizona residents and 2.50 for non-residents meets Arizona public university general admission requirements. It does not ensure admission to specific university majors or programs with selective admission processes and/or limited enrollment.
- Students planning to transfer to another college or university are urged to refer to university requirements and academic advisors from both institutions to be certain that all their selected coursework is applicable to the requirements of their intended transfer degree. For some majors, the statewide Common Course matrix, AZTransfer Pathway Guides and/or University Transfer Guides posted on the AZTransfer website can also provide some guidance. For appropriate course selection, students should consult with an academic advisor.

AGEC Requirements

Descriptions and definitions of the requirements for each of the three AGECs follow. The following website identifies the courses that apply to the different General Education Core and Awareness Areas within each AGEC:

AGEC matrix. Courses available for both Areas during a current or upcoming semester can also be found using the "Find a Class" tool on maricopa.edu and on each MCCCDCD college's website.

Note that for students pursuing a major-specific pathway within the Associate in Arts, Associate in Business or Associate in Science, the AGEC course requirements may be more prescriptive. Students pursuing a major-specific pathway should consult the Program (Degree) Search at curriculum.maricopa.edu for specific degree and AGEC requirements. Consultation with an academic advisor about course selection is always recommended.

Credits

Arizona General Education Curriculum--Arts (AGEC-A)..... 35 min

The AGEC-A requires a minimum of 35 credits, however, the AGEC credit count within the total credits for a degree may be under 35 if courses are also applied toward Required Courses or Restricted Electives and the credits are counted in those areas. Credits count once toward the total for the degree. Therefore, the AGEC-A may be met with fewer than 35 credits within an associate degree provided that all requirements listed below are completed.

A. Core Areas:

Some courses may be met by Required Courses or Restricted Electives. Some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area, Required Course(s) or Restricted Elective(s). AGEC designations are subject to change. Courses may meet more than one requirement but are only counted once toward the total credits for the degree. See AGEC matrix for each course's value(s) in the semester it is taken.

1. First-Year Composition [FYC]..... 6
ENG101 OR ENG107.....(3)
AND ENG102 OR ENG108.....(3)
2. Literacy and Critical Inquiry [L] 3
3. Mathematical Applications [MA].....3-6
Requires a course in college mathematics (MAT140, MAT141, MAT142, MAT145, MAT146) or college algebra (MAT150, MAT151, MAT152, MAT155, MAT156) or pre calculus (MAT187) or higher [MA]-approved general education course.
4. Computer/Statistics/Quantitative Applications [CS]..... 3
5. Humanities, Arts and Design [HU]..... 6
Students are encouraged to choose course work from more than one discipline.
6. Social-Behavioral Sciences [SB] 6
Students are encouraged to choose course work from more than one discipline.
7. Natural Sciences [SQ/SG]..... 8

The lecture courses selected for Natural Sciences must include or be accompanied by the corresponding laboratory courses for a total of four credits each. Credits for lecture and lab components may be combined or each may carry separate credit. At least four credits must be designated as SQ-Science Quantitative. Eight credits of SG-Science General will not satisfy this requirement.

B. Awareness Areas 0-6

Some courses may be used to satisfy both a Core Area and one or more Awareness Area(s). (See AGEC matrix for current course values.)

1. Cultural Diversity in the United States [C] (0-3)
2. Global Awareness [G] OR Historical Awareness [H]... (0-3)

	Credits		Credits
Arizona General Education Business (AGEC-B)	35 min	Arizona General Education Curriculum--Science (AGEC-S)	36 min
<p>The AGECE-B requires a minimum of 35 credits, however, the AGECE credit count within the total credits for a degree may be under 35 if courses are also applied toward Required Courses or Restricted Electives and the credits are counted in those areas. Credits count once toward the total for the degree. Therefore, the AGECE-B may be met with fewer than 35 credits within an associate degree provided that all requirements listed below are completed.</p>		<p>The AGECE-S requires a minimum of 36 credits, however, the AGECE credit count within the total credits for a degree may be under 35 if courses are also applied toward Required Courses or Restricted Electives and the credits are counted in those areas. Credits count once toward the total for the degree. Therefore, the AGECE-S may be met with fewer than 36 credits within an associate degree provided that all requirements listed below are completed.</p>	
<p>A. Core Areas:</p> <p>Some courses may be met by Required Courses or Restricted Electives. Some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area, Required Course(s) or Restricted Elective(s). AGECE designations are subject to change. Courses may meet more than one requirement but are only counted once toward the total credits for the degree. See AGECE matrix for each course's value(s) in the semester it is taken.</p>		<p>A. Core Areas:</p> <p>Some courses may be met by Required Courses or Restricted Electives. Some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area, Required Course(s) or Restricted Elective(s). AGECE designations are subject to change. Courses may meet more than one requirement but are only counted once toward the total credits for the degree. See AGECE matrix for each course's value(s) in the semester it is taken.</p>	
1. First-Year Composition [FYC]	6	1. First-Year Composition [FYC]	6
ENG101 OR ENG107 AND	(3)	ENG101 OR ENG107	(3)
ENG102 OR ENG108	(3)	AND ENG102 OR ENG108	(3)
2. Literacy and Critical Inquiry [L]	3	2. Literacy and Critical Inquiry [L]	0-3
3. Mathematical Applications [MA]	3-5 (0 only if shared	
MAT212 Brief Calculus OR	(3) with HU or SB)	
MAT213 Brief Calculus OR	(3)	Students are strongly encouraged to choose	
Higher [MA] designated course	(3-5)	an [L] course that also has [HU] or [SB] designation or to use CRE101 or COM225 from the Maricopa Additional Requirements Area to satisfy the [L] requirement. It may also have been approved to satisfy one or more Awareness Areas ([C], [G], [H]). (AGECE designations are subject to change. See AGECE matrix for each course's value(s) in the semester it is taken.)	
4. Computer/Statistics/Quantitative Applications [CS]	3	3. Mathematical Applications [MA]	4-5
CIS105 Survey of Computer Information Systems		Requires the first semester of calculus courses designed for scientists and engineers (MAT220 or MAT221) or any other [MA] designated course for which Calculus I is a pre-requisite.	
5. Humanities, Arts and Design [HU]	6	4. Humanities, Arts and Design [HU]	6
Students are encouraged to choose		For the AGECE-S, a single course with both [HU] and [L] designations may satisfy both Areas. Note that some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area(s). (AGECE designations are subject to change. See AGECE matrix for each course's value(s) in the semester it is taken.)	
course work from more than one discipline.		5. Social-Behavioral Sciences [SB]	6
6. Social-Behavioral Sciences [SB]	6	For the AGECE-S, a single course with both [SB] and [L] designations may satisfy both Areas. Note that some of these courses also have Awareness Areas designations and	
ECN211 Macroeconomics AND			
ECN212 Microeconomics.			
7. Natural Sciences [SQ/SG]	8		
The lecture courses selected for Natural			
Sciences must include or be accompanied by			
the corresponding laboratory courses for a total			
of four credits each. Credits for lecture and			
lab components may be combined or each			
may carry separate credit. At least four credits			
must be designated as SQ-Science Quantitative.			
Eight credits of SG-Science General will			
not satisfy this requirement.			
B. Awareness Areas	0-6		
Some courses may be used to satisfy both a Core			
Area and one or more Awareness Area(s). (See			
AGECE matrix for current course values.)			
1. Cultural Diversity in the United States [C]	(0-3)		
2. Global Awareness [G] OR Historical Awareness [H]	(0-3)		

can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area(s). (AGEC designations are subject to change. See AGECEC matrix for each course's value(s) in the semester it is taken.)

- 6. Natural Sciences [SQ/SG].....8
 Students must complete eight (8) credits of General Chemistry, University Physics or General Biology for Majors. Consult specific requirements of university transfer major for guidance.
 [(CHM150 or CHM151) & CHM151LL] or CHM150AA or CHM151AA General Chemistry I AND [CHM152 & CHM152LL] or CHM152AA General Chemistry II OR BIO181 & BIO182 General Biology (Majors) I and II.
- 7. Subject Options - Math/Science6-10
 Refer to transfer resources, including academic advisement and transfer guides, to select six (6)-ten (10) additional math and/or science credits that meet requirements for selected major.

Select Mathematics course(s) [MAT] above Calculus I and/or Computer Science course(s) [CSC] and/or Science courses from the following disciplines: Astronomy, Biology, Botany, Chemistry, Engineering, Environmental Science, Geology, Physical Geography, Physics, Zoology (MC-CCD prefixes AST, BIO (except BIO174), CHM, ECE, EEE, ENV, GLG, GPH, and/or PHY)

- B. Awareness Areas 0-6
 Some courses may be used to satisfy both a Core Area and one or more Awareness Area(s). (See AGECEC matrix for current course values.)
- 1. Cultural Diversity in the United States [C] (0-3)
- 2. Global Awareness [G] OR Historical Awareness [H]... (0-3)

AGECEC Area Requirements Descriptions/Definitions

Core Areas

First-Year Composition (FYC)

First-Year Composition courses emphasize skills necessary for college-level expository writing, including correct grammar and punctuation, logical organization of ideas, and identification of supporting documentation.

Literacy and Critical Inquiry [L]

In the [L] course students, typically at the sophomore level, 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 [L] requirement sustains and extends students' ability to thoughtfully use and critically analyze written and/or spoken language.

Mathematical Applications [MA]

The Mathematical Studies requirement is intended to ensure that students have requisite skill in mathematics appropriate for their discipline and can apply mathematical analysis in their chosen fields.

Computer/Statistics/Quantitative Applications [CS]

AGECEC-A and AGECEC-B require a course that emphasizes the use of statistics, other mathematical methods, computer programming languages and/or software in the interpretation of data and in describing and analyzing quantitative relationships.

Humanities, Arts and Design [HU]

The study of the humanities and the disciplines of art and design deepen awareness of the complexities of the human condition and its diverse histories and cultures. Courses in the humanities are devoted to the production of human thought and imagination, particularly in philosophical, historical, religious and artistic traditions. Courses with an emphasis in fine arts and design are devoted to the study of aesthetic experiences and the processes of artistic creation. They may also feature a design emphasis in which material culture is studied as a product of human thought and imagination.

Social-Behavioral Sciences [SB]

The Social-Behavioral Sciences Core area provides scientific methods of inquiry and empirical knowledge about human behavior, both within society and within individuals. This area of emphasis in general education curriculum may include study of such disciplines as anthropology, economics, history, political science, psychology, or sociology. The courses in this area address the challenge of understanding the diverse natures of individuals and cultural groups who live together in a complex and evolving world.

Natural Sciences [SQ/SG]

In addition to an understanding of basic scientific principles and concepts, courses in the Natural Sciences Core area are designed to help students appreciate, from firsthand laboratory and/or field research experience, the nature of science as a process that embraces curiosity, inquiry, testing, and communication to better understand natural phenomena. At least one of the two natural science courses must include an introduction to the fundamental behavior of matter and energy in physical or biological systems.

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 one. 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 which exhibit mutuality and reciprocity. These problems occur in a wide variety of activities, such as food supply, ecology, health care delivery, language planning, information exchange, economic and social developments, law, technology transfer, and even philosophy and the arts. The Global Awareness Area recognizes the need for an understanding of the values, elements, and social processes of cultures other than the culture of the United States. The Global Awareness Area includes courses that recognize the nature of other contemporary cultures and the relationship of the American cultural system to generic human goals and welfare.

Courses that satisfy the global awareness option in the requirements are of one or more of the following types:

- I. Area studies that are concerned with an examination of culture-specific elements of a region of the world;
- II. The study of a non-English language;
- III. Studies of international relationships, particularly those in which cultural change is facilitated by such factors as social and economic development, education, and the transfer of technology; and
- IV. 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.

Associate in Arts (AA)**Description**

The Maricopa County Community College District Associate in Arts degree requires a minimum of 60 semester credits for the program of study; minimum total credits for major-specific pathway versions of the Associate in Arts degree vary. Refer to the Program (Degree) Search at curriculum.maricopa.edu for credit minimums for individual degree programs. A minimum grade point average of 2.0 and grades of C or higher are required to earn the degree. The Associate in Arts degree, including major-specific pathways within the degree, is governed by the MCCCDC General Academic Policies for Transfer Degrees.

The Associate in Arts degree includes the following components:

- I. Program Prerequisites (if applicable)
- II. Required Courses (for major-specific pathway versions only)
- III. Restricted Electives (for major-specific pathway versions only)
- IV. Arizona General Education Curriculum for Arts (AGEC-A)
- V. MCCCDC Additional Requirements (Oral Communication and Critical Reading)
- VI. General Electives (if needed to reach minimum credits for degree)

Purpose of the Degree

The Associate in Arts degree is designed for students planning to transfer to four-year colleges and universities. In general, the components of the degree meet requirements for majors in the Liberal Arts or programs of study other than business or science. Generally, the degree will transfer as a block without loss of credit to Arizona’s public universities and other institutions with district-wide articulation agreements.

In most cases, courses used to satisfy the MCCCDC Associate in Arts will apply to general university graduation requirements of the majors that align with the Associate in Arts degree; however, students need to be aware of any specific requirements of their intended major at the university to be sure they select courses that will meet them. Information regarding the articulation of the Associate in Arts with majors at the Arizona public universities can be accessed via the following website: www.aztransfer.com

Degree Requirements

The requirements for the Associate in Arts follow. All versions of the Associate in Arts require a minimum of 60 credits; for major-specific pathways within the degree, minimum credits for categories within the degree, as well as the total, vary. Refer to the Program (Degree) Search at curriculum.maricopa.edu for credit minimums for major-specific pathways within the degree. The following websites identify the courses that apply to the different General Education Core and Awareness Areas: AGEC-A and the AGEC matrix. Courses available for both Areas during a current or upcoming semester can also be found using the "Find A Class" tool on maricopa.edu and on each MCCC college's website.

Requirements

I. Program Prerequisites **Credits Number varies**

Program prerequisites vary by type of Associate in Arts degree, and are not required for the non-major-specific version of the degree. Refer to the Program (Degree) Search at curriculum.maricopa.edu for specific courses and credit minimums required for major-specific pathways within the degree.

II. Required Courses **Number varies**

Required (major-specific) courses vary by type of Associate in Arts degree, and are not required for the non-major-specific version of the degree. Refer to the Program (Degree) Search at curriculum.maricopa.edu for specific courses and credit minimums required for major-specific pathways within the degree.

III. Restricted Electives **Number varies**

Restricted electives vary by type of Associate in Arts degree, and are not required for the non-major-specific version of the degree. Refer to the Program (Degree) Search at curriculum.maricopa.edu for specific courses and credit minimums required for major-specific pathways within the degree.

IV. Arizona General Education Curriculum--Arts (AGEC-A) **Up to 44**

The AGEC-A requires a minimum of 35 credits, however, prerequisite/required/restricted elective courses may also meet AGEC-A requirements and credits count once toward the total for the degree. Therefore, the AGEC-A may be met with fewer than 35 credits as long as all requirements listed in this section (IV) are completed.

A. Core Areas:

Some courses may be met by Required Courses or Restricted Electives. Some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area, Required Course(s) or

Restricted Elective(s). AGEC designations are subject to change. Courses may meet more than one requirement but are only counted once toward the total credits for the degree. See AGEC matrix for each course's value(s) in the semester it is taken.

1. First-Year Composition [FYC] 6
 ENG101 OR ENG107 AND (3)
 ENG102 OR ENG108 (3)
2. Literacy and Critical Inquiry [L] 3
3. Mathematical Applications [MA] 3-6
 Requires a course in college mathematics (MAT140, MAT141, MAT142, MAT145, MAT146) or college algebra (MAT150, MAT151, MAT152, MAT155, MAT156) or pre calculus (MAT187) or higher [MA]-approved general education course.
4. Computer/Statistics/Quantitative Applications [CS] .. 3
5. Humanities, Arts and Design [HU] 6
 Students are encouraged to choose course work from more than one discipline.
6. Social-Behavioral Sciences [SB] 6
 Students are encouraged to choose course work from more than one discipline.
7. Natural Sciences [SQ/SG] 8
 The lecture courses selected for Natural Sciences must include or be accompanied by the corresponding laboratory courses for a total of four credits each. Credits for lecture and lab components may be combined or each may carry separate credit. At least four credits must be designated as SQ-Science Quantitative. Eight credits of SG-Science General will not satisfy this requirement.
- H. Awareness Areas 0-6
 Some courses may be used to satisfy both a Core Area and one or more Awareness Area(s). (See AGEC matrix for current course values.)
 1. Cultural Diversity in the United States [C] (0-3)
 2. Global Awareness [G] OR Historical Awareness [H] (0-3)

V. MCCC Additional Requirements **0-6**

As noted below, courses in this area may also be applied toward AGEC-A Core Area requirements.

- A. Oral Communication** (0-3)
- COM100 [SB] Introduction to Human Communication OR
 - COM110 [SB] Interpersonal Communication OR
 - COM225 [L] Public Speaking OR
 - COM230 [SB] Small Group Communication (3 credits) OR
 - COM100AA & COM100AB & COM100AC [SB] (3 credits) OR
 - COM110AA & COM110AB & COM110AC [SB] (3 credits)

- B. Critical Reading.....(0-3)
Students may demonstrate proficiency through assessment.

CRE101 [L] Critical Reading OR equivalent
as indicated by assessment 3

VI. General Electives0-25

Select courses 100-level or higher if needed to complete a minimum of 60 semester credits but no more than a total of 64 semester credits, which is the maximum number of credits accepted toward most degree programs at Arizona's public universities. Ideally, students should select courses that meet requirements for their major/area of interest and transfer institution. See General Associate Degree Academic Policies for further details, limitations, and guidelines.

Maricopa courses and external courses evaluated as Maricopa equivalents, departmental electives (e.g., HISELC for a history elective), or general electives (GENELC) that are numbered 100 level or higher, and completed with a grade of C or higher, may be applied in the elective area, regardless of potential transferability to other institutions. It is recommended, however, that students planning to transfer to a baccalaureate-granting institution meet these general elective requirements with courses that are transferable and applicable to their intended university degree. Transfer and major guides are accessible on the following websites: aztransfer.com, maricopa.edu/transfer/partners, as well as those of individual universities. For appropriate course selection, students should consult with an academic advisor.

ASSOCIATE IN ARTS TOTAL CREDITS: 60-64

Associate in Arts - Elementary Education (AAEE)

Description

The Maricopa County Community College District Associate in Arts, Elementary Education degree requires a minimum of 60 semester credits for the program of study. A minimum grade point average of 2.0 and grades of C or higher are required to earn the degree. The Associate in Arts, Elementary Education degree is governed by the MCCCDC General Academic Policies for Transfer Degrees.

The Associate in Arts, Elementary Education degree includes the following components:

- I. Required Courses
- II. Restricted Electives
- III. Arizona General Education Curriculum for Arts (AGEC-A)
- IV. MCCCDC Additional Requirements (Oral Communication and Critical Reading)

Purpose of the Degree

The AAEE is designed for the student who plans to transfer to an Elementary Education, Early Childhood, Multicultural/Multilingual, or Special Education program at an Arizona public higher education institution and/or who plans to become a classroom instructional aide. Generally, the degree transfers as a block without loss of credit to Arizona's public universities, and in most cases, its required courses apply to graduation requirements for these Education majors.

Degree Requirements

The requirements for the Associate in Arts in Elementary Education follow. The following websites identify the courses that apply to the different General Education Core and Awareness Areas: AGECE-A and the AGECE matrix. Courses available for both Areas during a current or upcoming semester can also be found using the "Find A Class" tool on maricopa.edu and on each MCCCDC college's website.

<u>Requirements</u>	<u>Credits</u>
I. Required Courses 17	
EDU221 Introduction to Education	(3)
EDU222 Introduction to the Exceptional Learner	(3)
EDU230 Cultural Diversity in Education	(3)
MAT256 Investigating Quantity: Number, Operations, and Numeration Systems	(4)
MAT257 Investigating Geometry, Probability, and Statistics.....	(4)

II. Restricted Electives 8

A total of 8 semester credits is required to satisfy the Electives for Arizona Professional Teacher Standards: 3 credits in an additional Education course and 5 credits in Content Area Electives, as outlined below.

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.

Select one additional EDU course (other than EDU221, EDU222, EDU230 or EDU250).....(3)

Recommended:

EDU110	Education in Film
EDU220	Introduction to Serving English Language Learners (ELL)
EDU236	Classroom Relationships
EDU/HUM/STO292	The Art of Storytelling

Choose any combination from the following list of courses and prefixes to total 5 credits of additional coursework. Course(s) selected must be different from those used to fulfill a requirement of the AGECE-A or to fulfill an Education Foundations requirement.

Content Area Electives: Select 5 credits from the following(5)

- AAA/CPD115 Creating College Success
- ARH+++ Any ARH Art Humanities course(s)
- ART+++ Any ART Art course(s)
- CFS/ECH176 Child Development
- CFS205 Human Development
- CIS+++ Any CIS Computer Information Systems course(s)
- ECN+++ Any ECN Economics course(s)
- BPC+++ Any BPC Business-Personal Computers course(s)
- EED215 Early Learning: Health, Safety, Nutrition and Fitness
- EDU+++ Any EDU Education course(s) (except EDU221, EDU222, EDU230, and EDU250)
- ENG+++ Any ENG English course(s)
- ENH+++ Any ENH English Humanities course(s)
- GCU+++ Any GCU Cultural Geography course(s)
- GPH+++ Any GPH Physical Geography course(s)
- HIS+++ Any HIS History course(s)
- MAT+++ Any MAT Mathematics course(s) 140 or higher (except MAT256 and MAT257)
- MHL+++ Any MHL Music: History/Literature course(s)
- MTC+++ Any MTC Music: Theory/Composition course(s)
- POS+++ Any POS Political Science course(s)
- THE+++ Any THE Theatre course(s)
- THF+++ Any THF Theatre and Film course(s)
- THP+++ Any THP Theatre Performance/Production course(s)
- Any Foreign Language course(s)
- Any Natural Science course(s)

III. Arizona General Education Curriculum--Arts (AGEC-A)35-44

The AGECA requires a minimum of 35 credits, however, prerequisite/required/restricted elective courses may also meet AGECA requirements and credits count once toward the total for the degree. Therefore, the AGECA may be met with fewer than 35 credits as long as all requirements listed in this section (III) are completed.

A. Core Areas:

Some courses may be met by Required Courses or Restricted Electives. Some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area, Required Course(s) or Restricted Elective(s). AGECA designations are subject to change. Courses may meet more than one requirement but are only counted once toward the total credits for the degree. See AGECA matrix for each course's value(s) in the semester it is taken.

1. First-Year Composition [FYC]6
 ENG101 OR ENG107 AND.....(3)
 ENG102 OR ENG108.....(3)
2. Literacy and Critical Inquiry [L].....3
3. Mathematical Applications [MA]3-6
 Requires a course in college mathematics (MAT140, MAT141, MAT142,

MAT145, MAT146) or college algebra (MAT150, MAT151, MAT152, MAT155, MAT156) or pre calculus (MAT187) or any other [MA] designated course for which college algebra is a pre-requisite. (Note that MAT256, MAT257, MAT182, and MAT206 are excluded)

4. Computer/Statistics/Quantitative Applications [CS] ..3
 BPC110 Computer Usage and Applications OR
 CIS105 Survey of Computer Information Systems
5. Humanities, Arts and Design [HU]6
 Note that some of these courses also have Awareness Areas designations (see section 2 below) and can be used to satisfy [G] and/or [H] requirement as well as [HU]. (AGECA designations are subject to change. See AGECA matrix for each course's value(s) in the semester it is taken.)
 1. Select one of the following ARH, DAH, MHL or THE courses:(3)
 - ARH100 Introduction to Art OR
 - ARH101 Prehistoric through Gothic Art OR
 - ARH102 Renaissance through Contemporary Art OR
 - DAH100 Introduction to Dance OR
 - DAH201 World Dance Studies OR
 - DAH250 Dance in Popular Culture OR
 - MHL140 Survey of Music History OR
 - MHL145 American Jazz and Popular Music OR
 - MHL146 Survey of Broadway Musicals OR
 - MHL153 Rock Music and Culture OR
 - THE111 Introduction to Theatre OR
 - THE220 Modern Drama
 - AND
 2. Select one of the following EDU, ENH or HUM courses:.....(3)
 - EDU/ENH291 Children's Literature (Recommended) OR
 - ENH110 Introduction to Literature OR
 - ENH241 American Literature Before 1860 OR
 - ENH242 American Literature After 1860 OR
 - HUM250 Ideas and Values in the Humanities OR
 - HUM251 Ideas and Values in the Humanities
6. Social-Behavioral Sciences [SB].....6
 Note that some of these courses also have Awareness Areas designations (see section 2 below) and can be used to satisfy [G] and/or [H] requirement as well as [SB]. (AGECA designations are subject to change. See AGECA matrix for each course's value(s) in the semester it is taken.)

1. Select one of the following US History/
Government courses*:(3)
These courses satisfy the United States Constitution requirement for state teacher certification
HIS103 United States History to 1865 OR
POS110 American National Government OR
GCU/POS113 United States and Arizona Social Studies
 - AND
 2. Select one of the following CFS, ECH, GCU, ECN, HIS or PSY courses:(3)
CFS205 Human Development OR
ECH/CFS176 Child Development OR
GCU121 World Geography I: Eastern Hemisphere OR
GCU122 World Geography II: Western Hemisphere OR
ECN211 Macroeconomic Principles OR
ECN212 Microeconomic Principles OR
HIS104 United States History 1865 to Present OR
PSY101 Introduction to Psychology
 7. Natural Sciences [SQ/SG] 8
The lecture courses selected for Natural Sciences must include or be accompanied by the corresponding laboratory course for a total of 4 credits each. At least four (4) credits must be designated as SQ. Eight (8) credits of SG will not satisfy this requirement.
 1. Life Sciences: Select four (4) credits of SQ in Biology (BIO) from the following courses:(4)
BIO100 Biology Concepts
BIO101 Introduction to Human Genetics for Non-Majors
BIO102 Cells to Systems: An Introduction to Biology for Non-Majors
BIO105 Environmental Biology
BIO107 Introduction to Biotechnology
BIO108 Plants and Society
BIO156 Introductory Biology for Allied Health
BIO156XT Introductory Biology for Allied Health
BIO181 General Biology (Majors) I
BIO241 Human Genetics
 - AND
 2. Physical Sciences or Earth/Space Sciences: Select four (4) credits or SG from one of the following prefixes: AGS, ASM, AST, CHM, GPH, GLG, PHS, or PHY(4)
- Note: Students are advised to check with the university they plan to attend as specific requirements for lab science may vary.
- B. Awareness Areas 0-3
1. Cultural Diversity in the United States [C].....(0)
Met by EDU230 in Required Courses

2. Global Awareness [G] OR
Historical Awareness [H] (0-3)
May be met by [HU] and/or [SB] course depending on specific courses selected. (AGEC designations are subject to change. See AGECEC matrix for each course's value(s) in the semester it is taken.)

IV. MCCCDC Additional Requirements0-6

As noted below, courses in this area may also be applied toward AGECEC-A Core Area requirements.

- A. Oral Communication (0)
Met by COM225 in Required Courses
- B. Critical Reading.....(0-3)
Students may demonstrate proficiency through assessment.
CRE101 [L] Critical Reading OR equivalent as indicated by assessment..... 3

ASSOCIATE IN ARTS ELEMENTARY EDUCATION TOTAL CREDITS: 60-68**

*NOTE: State certification requirements include courses on the constitutions of US and Arizona. Taking GCU/POS113 for [SB] fulfills this requirement completely. Students who instead take HIS103 or POS110 for [SB] should consider taking POS221 as a Content Area Elective so they have completed study of both constitutions. POS220 meets state certification requirements for both constitutions but does not meet [SB].

**64 semester credits is the maximum accepted toward most degree programs at Arizona's public universities. Some exceptions apply; consult with an academic advisor for additional transfer pathways.

Associate in Arts, Fine Arts (AAFA) - Art, Dance, Music, Theatre

Description

The Maricopa County Community College District Associate in Arts, Fine Arts degree requires a minimum of 60 semester credits for the program of study; minimum total credits for major-specific pathway versions (Art, Dance, Music, Theatre) of the Associate in Arts, Fine Arts degree vary. Refer to the Program (Degree) Search at curriculum.maricopa.edu for credit minimums for individual degree programs. A minimum grade point average of 2.0 and grades of C or higher are required to earn the degree. The Associate in Arts, Fine Arts degree, including major-specific pathways within the degree, is governed by the MCCCDC General Academic Policies for Transfer Degrees.

The Associate in Arts, Fine Arts degree includes the following components:

- I. Required Courses
- II. Restricted Electives
- III. Arizona General Education Curriculum for Arts (AGECEC-A)
- IV. MCCCDC Additional Requirements (Oral Communication and Critical Reading)

Purpose of the Degree

The Associate in Arts, Fine Arts (AAFA) degree is designed for students planning to transfer to four-year colleges and universities. In general, the components of the degree meet requirements for majors in the Fine Arts. The degree is designed to prepare students to meet selective admission criteria for programs such as the Bachelor of Fine Arts, which may require a portfolio or performance requirement.

In most cases, courses used to satisfy the MCCC Associate in Arts, Fine Arts (AAFA) will apply to general university graduation requirements of the majors that align with AAFA degree; however, students need to pay attention to any specific requirements of their intended focus at the university to be sure they select courses that will meet them. Information regarding the articulation of the AAFA degree with majors at the Arizona public universities can be accessed via the following website: www.aztransfer.com.

Degree Requirements

The requirements for the Associate in Arts, Fine Arts follow. All versions of the Associate in Arts, Fine Arts require a minimum of 60 credits; for major-specific pathway versions (Art, Dance, Music, Theatre) within the degree, minimum credits for categories within the degree, as well as the total, vary. Refer to the Program (Degree) Search at curriculum.maricopa.edu for credit minimums for major-specific pathways within the degree. The following websites identify the courses that apply to the different General Education Core and Awareness Areas: AGEC-A and the AGEC matrix. Courses available for both Areas during a current or upcoming semester can also be found using the "Find A Class" tool on maricopa.edu and on each MCCC college's website.

Requirements

I. Program Prerequisitesvaries

Program prerequisites vary by type of Associate in Arts, Fine Arts degree. Refer to the Program (Degree) Search at curriculum.maricopa.edu for specific courses and credit minimums required for major-specific pathways (Art, Dance, Music, Theatre) within the degree.

Credits
Number

II. Required Coursesvaries

Required (major-specific) courses vary by type of Associate in Arts, Fine Arts degree. Refer to the Program (Degree) Search at curriculum.maricopa.edu for specific courses and credit minimums required for major-specific pathways (Art, Dance, Music, Theatre) within the degree.

Number

III. Restricted Electivesvaries

Restricted electives vary by type of Associate in Arts, Fine Arts degree. Refer to the Program (Degree) Search at curriculum.maricopa.edu for specific courses and credit minimums required for major-specific pathways (Art, Dance, Music, Theatre) within the degree.

Number

IV. Arizona General Education Curriculum--Arts (AGEC-A) up to 44

The AGEC-A requires a minimum of 35 credits. However, prerequisite/required/restricted elective courses may also meet AGEC-A requirements and credits count once toward the total for the degree. Therefore, the AGEC-A may be met with fewer than 35 credits as long as all requirements listed in this section (IV) are completed.

A. Core Areas:

Some courses may be met by Required Courses or Restricted Electives. Some of these courses also have Awareness Area designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area, Required Course(s) or Restricted Elective(s). AGEC designations are subject to change. Courses may meet more than one requirement but are only counted once toward the total credits for the degree. See AGEC matrix for each course's value(s) in the semester it is taken.

1. First-Year Composition [FYC] 6
 ENG101 OR ENG107 AND.....(3)
 ENG102 OR ENG108(3)
2. Literacy and Critical Inquiry [L]..... 3
3. Mathematical Applications [MA]3-6
 Requires a course in college mathematics (MAT140, MAT141, MAT142, MAT145, MAT146) or college algebra (MAT150, MAT151, MAT152, MAT155, MAT156) or pre calculus (MAT187) or higher [MA]-approved general education course
4. Computer/Statistics/Quantitative Applications [CS] .. 3
5. Humanities, Arts and Design [HU] 6
 Major specific pathways for the AAFA will specify courses to be taken to fulfill the Humanities, Arts and Design area. Students should refer to their specific pathway for courses to meet this requirement.
6. Social-Behavioral Sciences [SB]..... 6
 Students are encouraged to choose course work from more than one discipline.
7. Natural Sciences [SQ/SG] 8
 The lecture courses selected for Natural Sciences must include or be accompanied by the corresponding laboratory courses for a total of four credits each. Credits for lecture and lab components may be combined or each may carry separate credit. At least four credits must be designated as SQ-Science Quantitative. Eight credits of SG-Science General will not satisfy this requirement.

- B. Awareness Areas 0-6
Some courses may be used to satisfy both a Core Area and one or more Awareness Area(s). (See AGECEC matrix for current course values.)

1. Cultural Diversity in the United States [C](0-3)
2. Global Awareness [G] OR Historical Awareness [H](0-3)

III. MCCCDC Additional Requirements0-6

As noted below, courses in this area may also be applied toward AGECEC-A Core Area requirements.

- A. Oral Communication(0-3)
COM100 [SB] Introduction to Human Communication OR
COM110 [SB] Interpersonal Communication OR
COM225 [L] Public Speaking OR
COM230 [SB] Small Group Communication (3 credits) OR
COM100AA & COM100AB & COM100AC [SB] (3 credits) OR
COM110AA & COM110AB & COM110AC [SB] (3 credits)
- B. Critical Reading(0-3)
Students may demonstrate proficiency through assessment.
CRE101 [L] Critical Reading OR equivalent as indicated by assessment..... 3

VI. General Electives0-25

Select courses 100-level or higher if needed to complete a minimum of 60 semester credits but no more than a total of 64 semester credits, which is the maximum number of credits accepted toward most degree programs at Arizona's public universities. Ideally, students should select courses that meet requirements for their major/area of interest and transfer institution. See General Associate Degree Academic Policies for further details, limitations, and guidelines.

Maricopa courses and external courses evaluated as Maricopa equivalents, departmental electives (e.g., HISELC for a history elective), or general electives (GENELC) that are numbered 100 level or higher, and completed with a grade of C or higher, may be applied in the elective area, regardless of potential transferability to other institutions. It is recommended, however, that students planning to transfer to a baccalaureate-granting institution meet these general elective requirements with courses that are transferable and applicable to their intended university degree. Transfer and major guides are accessible on the following websites: aztransfer.com, maricopa.edu/transfer/partners, as well as those of individual universities. For appropriate course selection, students should consult with an academic advisor.

ASSOCIATE IN ARTS, FINE ARTS (AARA) - ART, DANCE, MUSIC, THEATRE TOTAL CREDITS: 60-64*

*64 semester credits is the maximum accepted toward most degree programs at Arizona's public universities. Some exceptions apply; consult with an academic advisor for additional transfer pathways.

Associate in Science (AS)

Description

The Maricopa County Community College District Associate in Science degree requires a minimum of 60 semester credits for the program of study; minimum total credits for major-specific pathway versions of the Associate in Science degree vary. Refer to the Program (Degree) Search at curriculum.maricopa.edu for

credit minimums for individual degree programs. A minimum grade point average of 2.0 is required to earn the degree. The Associate in Science degree, including major-specific pathways within the degree, is governed by the MCCCDC General Academic Policies for Transfer Degrees.

The Associate in Science degree includes the following components:

- I. Program Prerequisites (if applicable)
- II. Required Courses (for major-specific pathway versions only)
- III. Restricted Electives (for major-specific pathway versions only)
- IV. Arizona General Education Curriculum for Science (AGECEC-S)
- V. MCCCDC Additional Requirements (Oral Communication and Critical Reading)
- VI. General Electives (if needed to reach minimum credits for degree)

Purpose of the Degree

The Associate in Science degree is designed for students planning to transfer to four-year colleges and universities. In general, the components of the degree meet requirements for majors with more stringent mathematics and mathematics-based science requirements. Generally, the degree will transfer as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements.

In most cases, courses used to satisfy the MCCCDC Associate in Science will apply to general university graduation requirements of the majors that align with Associate in Science degree; however, students need to be aware of any specific requirements of their intended major at the university to be sure they select courses that will meet them. Information regarding the articulation of the Associate in Science with majors at the Arizona public universities can be accessed via the following website: www.aztransfer.com

It is recommended that students select courses that meet more than one general education and/or awareness area requirement. Doing so will maximize the number of math and science electives the student can take as part of his/her Associate in Science degree.

Special Academic Policies that Govern the Associate in Science Degree

- The AGECS does not require a course with [CS] Computer/Statistics designation.
- Unlike the AGECA and AGECS, the same course is allowed to satisfy the ([L] and [HU]) or ([L] and [SB]) areas of the AGECS's Core Area. The credits for such a "shared" course are only counted one time toward the required minimum for the degree.

Degree Requirements

The requirements for the Associate in Science follow. All versions of the Associate in Science require at least 60 credits; for major-specific pathways within the degree, prescribed courses and minimum credits for categories within the degree, as well as the total, vary. Refer to the Program (Degree) Search at curriculum.maricopa.edu for credit minimums for major-specific pathways within the degree. The following websites identify the courses that apply to the different General Education Core and Awareness Areas: AGECS and the AGECS Matrix. Courses available for both Areas during a current or upcoming semester can also be found using the "Find A Class" tool on each MCCC college's website.

Requirements

Credits
Number

I. Program Prerequisites.....varies

Program prerequisites vary by type of Associate in Science degree, and are not required for the non-major-specific version of the degree. Refer to the Program (Degree) Search at curriculum.maricopa.edu for specific courses and credit minimums required for majorspecific pathways within the degree.

Number

II. Required Coursesvaries

Required (major-specific) courses vary by type of Associate in Arts degree, and are not required for the non-major-specific version of the degree. Refer to the Program (Degree) Search at curriculum.maricopa.edu for specific courses and credit minimums required for major-specific pathways within the degree.

Number

III. Restricted Electivesvaries

Restricted electives vary by type of Associate in Arts degree, and are not required for the non-major-specific version of the degree. Refer to the Program (Degree) Search at curriculum.maricopa.edu for specific courses and credit minimums required for majorspecific pathways within the degree.

IV. Arizona General Education Curriculum--Science (AGECS).....Up to 56

The AGECS requires a minimum of 36 credits, however, prerequisite/required/restricted elective courses may also meet AGECS requirements and credits count once toward the total for the degree. Therefore, the AGECS may be met with fewer

than 36 credits as long as all requirements listed in this section (IV) are completed.

A. Core Areas:

Some courses may be met by Required Courses or Restricted Electives. Some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area, Required Course(s) or Restricted Elective(s). AGECS designations are subject to change. Courses may meet more than one requirement but are only counted once toward the total credits for the degree. See AGECS matrix for each course's value(s) in the semester it is taken.

1. First-Year Composition [FYC]6
ENG101 OR ENG107 AND.....(3)
ENG102 OR ENG108.....(3)
2. Literacy and Critical Inquiry [L].....0-3
(0 only if shared
with HU or SB)

Students are strongly encouraged to choose an [L] course that also has [HU] or [SB] designation or to use CRE101 or COM225 from the Maricopa Additional Requirements Area to satisfy the [L] requirement. It may also have been approved to satisfy one or more Awareness Areas ([C], [G], [H]). (AGECS designations are subject to change. See AGECS matrix for each course's value(s) in the semester it is taken.)

3. Mathematical Applications [MA].....4-5
Requires the first semester of calculus courses designed for scientists and engineers (MAT220 or MAT221) or any other [MA] designated course for which Calculus I is a pre-requisite.
4. Humanities, Arts and Design [HU]6
For the AGECS, a single course with both [HU] and [L] designations may satisfy both Areas. Note that some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area(s). (AGECS designations are subject to change. See AGECS matrix for each course's value(s) in the semester it is taken.
5. Social-Behavioral Sciences [SB].....6
For the AGECS, a single course with both [SB] and [L] designations may satisfy both Areas. Note that some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area(s). (AGECS designations are subject to change. See AGECS matrix for each course's value(s) in the semester it is taken.

6. Natural Sciences [SQ/SG]8

Students must complete eight (8) credits of General Chemistry, University Physics or General Biology for Majors. Consult specific requirements of university transfer major for guidance.

[(CHM150 or CHM151) & CHM151LL] or CHM150AA or

CHM151AA General Chemistry I

AND

[CHM152 & CHM152LL] or

CHM152AA General Chemistry II

OR

PHY115 or PHY121 University Physics I

AND

PHY116 or PHY131 University Physics II

OR

BIO181 & BIO182 General

Biology (Majors) I and II.

7. Subject Options - Math/Science.....6-10

Refer to transfer resources, including academic advisement and transfer guides, to select six (6)-ten (10) additional math and/or science credits that meet requirements for selected major.

Select Mathematics course(s) [MAT] above Calculus I and/or

Computer Science course(s) [CSC] and/or

Science courses from the following disciplines: Astronomy, Biology, Botany, Chemistry, Engineering, Environmental Science, Geology, Physical Geography, Physics, Zoology (MCCCD prefixes AST, BIO (except BIO174), CHM, ECE, EEE, ENV, GLG, GPH, and/or PHY)

B. Awareness Areas0-6

Some courses may be used to satisfy both a Core Area and one or more Awareness Area(s). (See AGECS matrix for current course values.)

1. Cultural Diversity in the United States [C]..... (0-3)

2. Global Awareness [G] OR
Historical Awareness [H] (0-3)

V. MCCC Additional Requirements0-6

As noted below, courses in this area may be used to satisfy both an MCCC requirement and an AGECS Core Area requirement.

A. Oral Communication(0-3)

COM100 [SB] Introduction to Human Communication OR

COM110 [SB] Interpersonal Communication OR

COM225 [L] Public Speaking OR

COM230 [SB] Small Group Communication (3 credits) OR

COM100AA & COM100AB & COM100AC [SB] (3 credits) OR

COM110AA & COM110AB & COM110AC [SB] (3 credits)

B. Critical Reading.....(0-3)

Students may demonstrate proficiency through assessment.

CRE101 [L] Critical Reading OR equivalent as indicated by assessment..... 3

VI. General Electives0-28

Select courses 100-level or higher if needed to complete a minimum of 60 semester credits but no more than a total of 64 semester credits, which is the maximum number of credits accepted toward most degree programs at Arizona's public universities. Ideally, students should select courses that meet requirements for their major/area of interest and transfer institution. See General Associate Degree Academic Policies for further details, limitations, and guidelines.

Maricopa courses and external courses evaluated as Maricopa equivalents, departmental electives (e.g., HISELC for a history elective), or general electives (GENELC) that are numbered 100 level or higher, and completed with a grade of C or higher, may be applied in the elective area, regardless of potential transferability to other institutions. It is recommended, however, that students planning to transfer to a baccalaureate-granting institution meet these general elective requirements with courses that are transferable and applicable to their intended university degree. Transfer and major guides are accessible on the following websites: aztransfer.com, maricopa.edu/transfer/partners, as well as those of individual universities. For appropriate course selection, students should consult with an academic advisor.

ASSOCIATE IN SCIENCE TOTAL CREDITS: 60-64*

*64 semester credits is the maximum accepted toward most degree programs at Arizona's public universities. Some exceptions apply; consult with an academic advisor for additional transfer pathways.

Associate in Business (ABUS-GR)**Description**

The Maricopa County Community College District Associate in Business General Requirements (ABUS-GR) degree requires a minimum of 62 semester credits for the program of study. A minimum grade point average of 2.0 and grades of C or higher are required to earn the degree. The Associate in Business General Requirements degree is governed by the MCCC General Academic Policies for Transfer Degree.

This degree provides the first two years of a four-year curriculum for students who wish to specialize in business. For a comprehensive list of bachelor's degrees at Arizona's public universities, refer to the AZTransfer Business Matrix. With a bachelor's degree, students may pursue a number of careers, including but not limited to accountancy, business administration, business data analytics,

economics, entrepreneurship, finance, marketing, management, retail management, and supply chain management

The Associate in Business-General Requirements degree includes the following components:

- I. Required Courses
- II. Restricted Electives
- III. Arizona General Education Curriculum for Business (AGEC-B)
- IV. General Electives (if needed to reach minimum credits for degree)

Purpose of the Degree

The Associate in Business General Requirements (ABUS-GR) degree is designed for students who plan to transfer to four-year colleges and universities. In general, the components of this degree meet requirements for the various business majors (except Computer Information Systems) at Arizona's public universities. Computer Information Systems majors should follow the Associate in Business Special Requirements (ABUS-SR) pathway instead. Generally, the degree transfers as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements:

Special Academic Policies that Govern the ABUS-GR Degree

- The ABUS-GR does not include any MCCCDC Special Requirements for Oral Communication and/or Critical Reading like the other associate degrees. (However, some university programs have a speech requirement; consult your academic advisor or transfer guide to verify the specifics for your program.)
- A single course can be used to satisfy multiple areas within the degree simultaneously (AGEC-B Core Area and/or Awareness Area(s), Required Courses (Common Lower Division Requirements), and/or Restricted Electives (Business Electives)). Credits are counted once toward the total for the degree.

Degree Requirements

The 62-72 semester credits required for the Associate in Business General Requirements follow. The following websites identify the courses that apply to the different General Education Core and Awareness Areas: AGECEC-B and the AGECEC Matrix. Courses available for both Areas during a current or upcoming semester can also be found using the "Find A Class" tool on each MCCCDC college's website.

<u>Requirements</u>	<u>Credits</u>
I. Required Courses	21-25
Accounting	(6-9)
ACC111 Accounting Principles AND	
ACC230 Uses of Accounting Information I AND	
ACC240 Uses of Accounting Information II	
OR	
ACC211 Financial Accounting AND	
ACC212 Managerial Accounting	
OR	
ACC111 Accounting Principles I AND	
ACC112 Accounting Principles II AND	
ACC212 Managerial Accounting	
Some of the following courses can be used to	

satisfy both this requirement and an AGECEC-B Core Area. AGECEC designations are subject to change. See AGECEC matrix for each course's value(s) in the semester it is taken.

ECN211 [SB] Macroeconomic Principles	(3)
ECN212 [SB] Microeconomic Principles	(3)
GBS205 Legal, Ethical, and Regulatory Issues in Business.....	(3)
GBS221 Business Statistics	(3)
Quantitative Methods.....	(3-4)

GBS220 Quantitative Methods in Business OR
 MAT217 or MAT218 Mathematical Analysis for Business
Note: Students planning to attend ASU W. P. Carey School of Business will be required to take MAT217 or MAT218.

II. Restricted Electives0-6

Select two courses (6 credits) from the following options: Some courses may be used to satisfy both Restricted Elective and Arizona General Education Curriculum (AGECEC) requirements, as indicated in [brackets] below, but two courses must be completed. AGECEC designations are subject to change. See AGECEC matrix for each course's value(s) in the semester it is taken.

GBS151 Introduction to Business (Recommended)	(3)
CIS114DE Excel Spreadsheet	(3)
CIS162AD C#: Level I	(3)
GBS110 Human Relations in Business and Industry OR	
MGT251 Human Relations in Business	(3)
GBS233 [L] Business Communication	(3)
GBS220 Quantitative Methods in Business (If course used to satisfy Required Courses, it cannot be used to satisfy Restricted Electives.)	(3)
IBS101 [G] Introduction to International Business	(3)
MGT253 Owning and Operating a Small Business	(3)
REA179 Real Estate Principles I	(3)
REA180 Real Estate Principles II	(3)
MKT271 Principles of Marketing	(3)
PAD100 21st Century Public Policy and Service.....	(3)
SBU200 [SB,G] Society and Business	(3)

III. Arizona General Education Curriculum-- Business (AGECEC-B)29-37

The AGECEC-B requires a minimum of 35 credits, however, Required and Restricted elective courses may also meet AGECEC-B requirements and credits count once toward the total for the degree. Therefore, the AGECEC-B may be met with fewer than 35 credits as long as all requirements listed in this section (III) are completed.

- A. Core Areas:
- Some courses may be met by Required Courses or Restricted Electives. Some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area, Required Course(s) or Restricted Elective(s). AGECEC designations are subject to change. Courses may meet more than one requirement but are only counted

once toward the total credits for the degree. See AGECEC matrix for each course's value(s) in the semester it is taken.

1. First-Year Composition [FYC] 6
 ENG101 OR ENG107 AND.....(3)
 ENG102 OR ENG108.....(3)
 2. Literacy and Critical Inquiry [L].....0-3
(Note: Students planning to attend ASU W.P. Carey will be required to take COM225.)
 3. Mathematical Applications [MA].....3-5
 MAT212 Brief Calculus OR.....(3)
 MAT213 Brief Calculus OR.....(4)
 Higher [MA] designated course.....(3-5)
 4. Computer/Statistics/Quantitative Applications [CS] .. 3
 CIS105 Survey of Computer Information Systems
 5. Humanities, Arts and Design [HU] 6
 Students are encouraged to choose course work from more than one discipline.
 6. Social-Behavioral Sciences [SB].....0
 Met by Required Courses ECN211 AND ECN212.
 7. Natural Sciences [SQ/SG] 8
 The lecture courses selected for Natural Sciences must include or be accompanied by the corresponding laboratory courses for a total of four credits each. Credits for lecture and lab components may be combined or each may carry separate credit. At least four credits must be designated as SQ-Science Quantitative. Eight credits of SG-Science General will not satisfy this requirement.
- B. Awareness Areas 0-6
 Some courses may be used to satisfy both a Core Area and one or more Awareness Area(s). (See AGECEC matrix for current course values.)
1. Cultural Diversity in the United States [C]..... (0-3)
 2. Global Awareness [G] OR
 Historical Awareness [H]..... (0-3)

(Note: Students transferring to ASU in Accountancy should take two of the following courses: Sociology with [SB] value, Psychology with [SB] value, and COM230 or COM225. If students do not take these prior to transfer, they may need to take additional hours to meet ASU requirements.)

- IV. General Electives0-12**
 Select courses 100-level or higher if needed to complete a minimum of 62 semester credits but no more than a total of 64 semester credits, which is the maximum number of credits accepted toward most degree programs at Arizona's public universities. Ideally, students should select courses that meet requirements for their major/area of interest and transfer institution. See General Associate Degree Academic Policies for further details, limitations, and guidelines.

Maricopa courses and external courses evaluated as Maricopa equivalents, departmental electives (e.g., HISELC for a history elective), or general electives (GENELC) that are numbered 100 level or higher, and completed with a grade of C or higher, may be applied in the elective area, regardless of potential transferability to other institutions. It is recommended, however, that students planning to transfer to a baccalaureate-granting institution meet these general elective requirements with courses that are transferable and applicable to their intended university degree. Transfer advisement information is accessible on the following websites: aztransfer.com, curriculum.maricopa.edu, as well as those of individual universities. For appropriate course selection, students should consult with an academic advisor.

ASSOCIATE IN BUSINESS GENERAL REQUIREMENTS-TOTAL CREDITS: 62-72*

*64 semester credits is the maximum accepted toward most degree programs at Arizona's public universities. Some exceptions apply; consult with an academic advisor for additional transfer pathways.

Associate in Business (ABUS-SR)

Description

The Maricopa County Community College District Associate in Business, Special Requirements (ABUS-SR) degree requires a minimum of 62 semester credits for the program of study. A minimum grade point average of 2.0 and grades of C or higher are required to earn the degree. This degree provides the first two years of a four-year curriculum for students who wish to pursue Computer Information Systems majors at Arizona's public universities. With a bachelor's degree, students may pursue a number of careers, including but not limited to accountancy, business administration, business data analytics, computer information systems, economics, entrepreneurship, finance, marketing, management, retail management, and supply chain management. The Associate in Business Special Requirements degree is governed by the MCCCD General Academic Policies for Transfer Degree.

The Associate in Business-Special Requirements degree includes the following components:

- I. Required Courses
- II. Arizona General Education Curriculum for Business (AGECEC-B)
- III. General Electives (if needed to reach minimum credits for degree)

Purpose of the Degree

The Associate in Business Special Requirements (ABUS-SR) degree is designed for students who plan to transfer to four-year colleges and universities. In general, the components of this degree meet requirements for Business' Computer Information Systems majors at Arizona's public universities. Other Business majors should follow the Associate in Business General Requirements

(ABUS-GR) pathway instead. Generally, the degree transfers as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements:

Special Academic Policies that Govern the ABUS-SR Degree

- The ABUS-SR does not include any MCCCDC Special Requirements for Oral Communication and/or Critical Reading like the other associate degrees. (However, some university programs have a speech requirement; consult your academic advisor or transfer guide to verify the specifics for your program.)
- A single course can be used to satisfy multiple areas within the degree simultaneously (AGEC-B Core Area and/or Awareness Area(s), Required Courses (Common Lower Division Requirements), and/or Restricted Electives (Business Electives)). Credits are counted once toward the total for the degree.

Degree Requirements

The 62-71 semester credits required for the Associate in Business Special Requirements follow. The following websites identify the courses that apply to the different General Education Core and Awareness Areas: AGECE-B and the AGECE Matrix. Courses available for both Areas during a current or upcoming semester can also be found using the "Find A Class" tool on each MCCCDC college's website.

Requirements Credits

I. Required Courses27-31

Accounting.....(6-9)	
ACC111	Accounting Principles AND
ACC230	Uses of Accounting Information I AND
ACC240	Uses of Accounting Information II
OR	
ACC211	Financial Accounting AND
ACC212	Managerial Accounting
OR	
ACC111	Accounting Principles I AND
ACC112	Accounting Principles II AND
ACC212	Managerial Accounting

Some of the following courses can be used to satisfy both this requirement and an AGECE-B Core Area. AGECE designations are subject to change. See AGECE matrix for each course's value(s) in the semester it is taken.

ECN211 [SB]	Macroeconomic Principles(3)
ECN212 [SB]	Microeconomic Principles.....(3)
GBS205	Legal, Ethical, and Regulatory Issues in Business.....(3)
GBS221	Business Statistics(3)
CIS162AD	C#: Level 1(3)
CIS250	Management of Information Systems.....(3)
Quantitative Methods.....(3-4)	

GBS220 Quantitative Methods in Business OR
 MAT217 or MAT218 Mathematical Analysis for Business
Note: Students planning to attend ASU W. P. Carey School of Business will be required to take MAT217 or MAT218.

II. Arizona General Education Curriculum-- Business (AGECE-B)29-37

The AGECE-B requires a minimum of 35 credits, however, Required and Restricted elective courses

may also meet AGECE-B requirements and credits count once toward the total for the degree. Therefore, the AGECEB may be met with fewer than 35 credits as long as all requirements listed in this section (II) are completed.

A. Core Areas:

Some courses may be met by Required Courses or Restricted Electives. Some of these courses also have Awareness Areas designations and can be used to satisfy [C], [G] and/or [H] requirement(s) as well as their respective Core Area, Required Course(s) or Restricted Elective(s). AGECE designations are subject to change. Courses may meet more than one requirement but are only counted once toward the total credits for the degree. See AGECE matrix for each course's value(s) in the semester it is taken.

1. First-Year Composition [FYC] 6
 ENG101 OR ENG107 AND.....(3)
 ENG102 OR ENG108.....(3)
2. Literacy and Critical Inquiry [L].....0-3
(Note: Students planning to attend ASU W.P. Carey will be required to take COM225.)
3. Mathematical Applications [MA].....3-5
 MAT212 Brief Calculus OR.....(3)
 MAT213 Brief Calculus OR.....(4)
 Higher [MA] designated course.....(3-5)
4. Computer/Statistics/Quantitative Applications [CS] .. 3
 CIS105 Survey of Computer Information Systems
5. Humanities, Arts and Design [HU] 6
 Students are encouraged to choose course work from more than one discipline.
6. Social-Behavioral Sciences [SB].....0
 Met by Required Courses ECN211 AND ECN212.
7. Natural Sciences [SQ/SG] 8
 The lecture courses selected for Natural Sciences must include or be accompanied by the corresponding laboratory courses for a total of four credits each. Credits for lecture and lab components may be combined or each may carry separate credit. At least four credits must be designated as SQ-Science Quantitative. Eight credits of SG-Science General will not satisfy this requirement.

B. Awareness Areas 0-6

Some courses may be used to satisfy both a Core Area and one or more Awareness Area(s). (See AGECE matrix for current course values.)

1. Cultural Diversity in the United States [C]..... (0-3)
2. Global Awareness [G] OR
 Historical Awareness [H] (0-3)

(Note: Students transferring to ASU in Accountancy should take two of the following courses: Sociology

with [SB] value, Psychology with [SB] value, and COM230 or COM225. If students do not take these prior to transfer, they may need to take additional hours to meet ASU requirements.)

III. General Electives0-6

Select courses 100-level or higher if needed to complete a minimum of 62 semester credits but no more than a total of 64 semester credits, which is the maximum number of credits accepted toward most degree programs at Arizona's public universities. Ideally, students should select courses that meet requirements for their major/area of interest and transfer institution. See General Associate Degree Academic Policies for further details, limitations, and guidelines.

Maricopa courses and external courses evaluated as Maricopa equivalents, departmental electives (e.g., HISELC for a history elective), or general electives (GENELC) that are numbered 100 level or higher, and completed with a grade of C or higher, may be applied in the elective area, regardless of potential transferability to other institutions. It is recommended, however, that students planning to transfer to a baccalaureate-granting institution meet these general elective requirements with courses that are transferable and applicable to their intended university degree. Transfer advisement information is accessible on the following websites: aztransfer.com, curriculum.maricopa.edu, as well as those of individual universities. For appropriate course selection, students should consult with an academic advisor.

ASSOCIATE IN BUSINESS SPECIAL REQUIREMENTS TOTAL CREDITS: 62-71*

*64 semester credits is the maximum accepted toward most degree programs at Arizona's public universities. Some exceptions apply; consult with an academic advisor for additional transfer pathways.

Associate in General Studies (AGS)

Description

The Maricopa County Community College District Associate in General Studies degree requires 60-64 semester credits in courses numbered 100 and above. The degree includes the following components.

- I. General Education (minimum of 38 credits)
Core curriculum (requires a grade of C or better)
Distribution courses (require a grade of "D" or better)
- II. General Electives (enough additional courses numbered 100 or above, passed with a grade of "D" or better, to bring total credits to at least 60)

Purpose of the Degree

The Associate in General Studies (AGS) degree is recommended for students whose educational goals require flexibility. The AGS allows students to apply any course numbered 100 or above, including some that are not transferable to a state university, toward the credits required for the degree. Therefore, for students who intend to transfer to another college or university in the future to pursue a bachelor's degree, this degree may be less appropriate than other Associate degrees offered (Associate in Arts, Associate in Business, Associate in Science, and all major-specific pathway map versions of these degrees) by the Maricopa Community Colleges:

Academic Policies that Govern the Associate in General Studies Degree

- The graduation policies within the general catalog must be satisfied.
- A single course can simultaneously count towards a Core Area and a Distribution requirement. Courses that meet this criterion are bold print and underscored in the Core areas and Distribution areas (on the course list at the conclusion of this document). For example, CRE101 may be used to satisfy both the Literacy and Critical Inquiry requirement [L] of Distribution area and the Core Curriculum's Critical Reading area. While multiple requirements can be met with a single course, the credits are only counted one time toward the required minimum for the degree. 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.
- Credits transferred from outside of MCCCDC must be at a grade of C (2.0 on a 4.0 scale) or better. Transfer credit graded pass/fail or pass/no credit may be transferred if documentation collected by the community college indicates that this was the only grading option available to the student and that the Pass grade ("P") is equivalent to a C or better.
- Completion of the AGS with a minimum Grade Point Average of at least 2.0 on a 4.0 scale for Arizona residents and 2.50 for non-residents meets Arizona public university general admission requirements. However, meeting all AGS minimums does not ensure admission to specific university majors or programs with selective admission processes and/or limited enrollment. Furthermore, because the AGS is not designed to align with the requirements for bachelors degrees, not all credits may be transferable and students may have deficiencies in lower division (100- and 200-level) courses for a particular major.

Summary of Degree Requirements:

Details on how to identify courses approved for each of the different categories is described following the outline.

	Credits
I. MCCC General Education	34-47
Core Areas	12-18
1. First-Year Composition [FYC].....	6
ENG101 OR ENG107 AND.....	(3)
ENG102 OR ENG108.....	(3)
2. Mathematics	3-5
3. Computer Usage	1
4. Oral Communication.....	3
COM100 Introduction to Human Communication OR	
COM110 Interpersonal Communication OR	
COM225 Public Speaking OR	
COM230 Small Group Communication (3 credits) OR	
COM100AA & COM100AB & COM100AC (3 credits) OR	
COM110AA & COM110AB & COM110AC (3 credits)	
5. Critical Reading	0-3
Students may demonstrate proficiency through assessment.	
CRE101 Critical Reading OR equivalent as indicated by assessment.	
Distribution Areas	22-29
1. Humanities, Arts and Design	9
Students are encouraged to choose course work from more than one discipline.	
2. Social-Behavioral Sciences	6-9
Students are encouraged to choose course work from more than one discipline. Social-Behavioral Sciences requirements may be met with 6 credits only if COM100, COM110, or COM230 is shared between Core and Distri- bution (see Academic Policies section on prior page). The credits are only counted once, but may be applied to meet Oral Communication and Social-Behavioral Science requirements.	
3. Natural Sciences	7-8
Two lecture courses and one corresponding laboratory course are to be selected. Credits for lecture and lab components may be combined or each may carry separate credit. For appropriate course selection, students should consult with an academic advisor.	
4. Literacy and Critical Inquiry	0-3
Literacy requirement may be met with 0 credits only if CRE101 or COM225 is shared between Core and Distribution (see Academic Policies section on prior page). The credits are only counted once, but may be applied to meet [Oral Communication and Literacy] or [Critical Reading and Literacy and Critical Inquiry] requirements.	

II. General Electives 13-26

Select additional courses 100-level or higher to complete a minimum of 60 semester credits but no more than a total of 64 semester credits.

ASSOCIATE IN GENERAL STUDIES TOTAL CREDITS: 60-64

All courses listed meet AGS requirements as specified. Courses in Purple Italic Underline also meet Arizona General Education Curriculum AGECE requirements.

Courses in **bold print and underscored** simultaneously count towards a Core Area and a Distribution requirement.

Degree Requirements

GENERAL EDUCATION CORE

(16 Credits - grade of C or better)

First-Year Composition (6 credits)

ENG English [101, 107] & [102, 108]

Oral Communication (3 credits)

COM Communication 100, 100AA & 100AB & 100AC, 110, 110AA & 110AB & 110AC, 225, 230

Critical Reading (3 credits)

CRE Critical Reading 101 or Equivalent as indicated by assessment

Mathematics (3 credits)

MAT Mathematics 112, 120, 121, 122, 140, 141, 142, 145, 146, 150, 150&182, 151, 151&182, 152, 152*182, 155, 155&182, 156, 156&182, 172, 187, 206, 212, 213, 220, 221, 230, 231, 240, 241, 256, 257, 261, 262, 276, 277, Equivalent course/Satisfactory completion of a higher level Mathematics course.

Computer Usage (1 credit)

Computer-related course or demonstrator of comparable computer skills. Additional courses may be approved by individual colleges. Students should contact their advisor for college-specific courses satisfying the requirement.

ACC	Accounting 115
ADA	Advertising Arts 169, 175, 177, 183, 283, 283AA, 289
AJS	Administration of Justice Studies 205
AMS	Automated Manufacturing System <u>150</u>
ARC	Architecture 243, 244, 245
ART	Art 100, 169, 170, 173, 175, 177, 179, any 180 ++ course, 183, 283, 289
BIO	Biology <u>283</u>
BPC	Business-Personal Computers Any BPC Course(s), including <u>110</u>
CIS	Computer Information Systems Any CIS Course(s) including <u>105, 162AB, 162AD, 163AA</u> (and except 159, 162, 162AC, 169, 183AA, 217AM, 259, 262)
CSC	Computer Science Any CSC Course(s), including <u>100AA, 100AB, 110, 110AA, 110AB, 120, 150, 150AA, 180, 180AA, 180AB, 181, 181AA, 181AB, 182, 182AA, 205, 205AA, 205AB, 205AC, 205AD, 283</u> (and except 200, 200AA, 200AB, 210, 210AA, 210AB)
CTR	Court Reporting 101, 102
DFT	Drafting Technology <u>105AA**</u> , 251, 254AA, 256AA
	<u>**Must be taken with CSC100AA or AB to meet AGECE value</u>

ECH	Early Childhood Education 238	211AA , 211AE , 212, 213 , 214 , 215 , 216 , 220 , 235 , 245 , 250 , 251 , 260 , 261 , 292 , 295, (and except 120, 225)
EEE	Electrical Engineering 120	
ELE	Electronic 131, 181, 241, 243, 245	INT Interior Design 115 , 120
ELT	Electronics Technology 131, 241 , 243	LAT Latin 201 , 202
ENG	English 100AE	MHL Music: History/Literature 140 , 143 , 145 , 146 , 153 , 155 , 194 , 204 , 241 , 242 , 295
FON	Food and Nutrition 100	PHI Philosophy Any PHI Course(s), including 101 , 102 , 103 , 104 , 105 , 106, 113, 201 , 212 , 213 , 214, 215, 216 , 218 , 224 , 233AA , 233AB , 233AC, 234AC , 244 , 245 , 250, 251 , 282AA-AC
GBS	General Business 221	REL Religious Studies Any REL Course(s), 100 , 101 , 151 , 200 , 202 , 203 , 205 , 206 , 207 , 210 , 211, 212, 213, 214, 218, 223, 225 , 230, 240 , 244 , 245, 248, 250 , 251 , 271 , 277, 292, 294, 295, 282AA-AC, 290 , 291
GIS	Geographic Information Science 205 , 211	SLC Studies in Language and Culture 201 , 202
GPH	Physical Geography 220	SPA Spanish 241 , 242 , 265 , 266
HRM	Hotel Restaurant Management 126	SPH Spanish Humanities 241 , 245
JRN	Journalism 133	SSH Sustainability/Social Sciences and Humanities 111
LAS	Paralegal Studies 229	STO Storytelling 292 , 294
MAT	Mathematics 206	SWU Social work 183
MET	Manufacturing Technology 264	TCM Telecommunication 107
MTC	Music Theory/Composition 180 , 191	TEC Textiles and Clothing 105
NET	Networking Technology 181	THE Theater 111 , 220
OAS	Office Automation Systems111AA/111AB/113/119/130DK	THF Theatre and Film 205 , 206 , 210
PSY	Psychology 230	THP Theater/Performance/Production 241
SBS	Small Business 211	WST Women's Studies 209 , 284 , 285 , 290
SWU	Social Work 225	
TVL	Travel Agent Technology 203	
VPT	Video Production Technology 106	

GENERAL EDUCATION DISTRIBUTION AREAS (28-29 credits)

Humanities, Arts and Design (9 credits)

Students are encouraged to choose courses from more than one discipline.

AHU	Arabic Humanities 245
AIS	American Indian Studies 213
AJS	Administration of Justice Studies 123
ARH	Art Humanities Any ARH Course(s), including 100 , 101 , 102 , 109, 110, 112, 115 , 118 , 131 , 145 , 201 , 203 , 204 , 217 , 216, 240, 250
ASB	Anthropology 211 , 214 , 220 , 222 , 223 , 253
CCS	Chicana and Chicano Studies 101
COM	Communication 241
CON	Construction 101 (formerly CNS101)
DAH	Dance Humanities 100 , 101 , 201 , 250 , 255
EDU	Education 291 , 292 , 294
ENG	English 200 , 213 , 218
ENH	English Humanities Any ENH Course(s), including 110 , 111, 112 , 113 , 114 , 117, 130, 140AA , 190 , 200, 201 , 202 , 204 , 206 , 214 , 221 , 222 , 230 , 231 , 232 , 235 , 241 , 242 , 245 , 251 , 252 , 253, 254 , 255 , 256 , 259 , 260 , 275 , 277, 277AA-AK, 280 , 284 , 285 , 291 , 294 , 295 , (and except 250)
FRE	French 265
GST	FAME Studies 202
HCR	Health Care Related 210
HIS	History 101 , 102 , 103 , 108 , 110 , 111 , 113 , 114 , 203 , 212 , 251 , 252 , 253, 254, 275
HON	Honors 190
HUM	Humanities Any HUM course(s) including 100, 101 , 105AA , 107 , 108 , 190AA , 190AB , 190AC , 190AD , 190AE , 190AF , 190AG , 190AH , 190AI , 201 , 202 , 205 , 206 , 209 , 210 ,

Social-Behavioral Sciences (6-9 credits)

Students are encouraged to choose courses from more than one discipline. Social-Behavioral Sciences requirements may be met with 6 credits only if COM100, COM110, or COM230 is shared between Core and Distribution (see Academic Policies section). The credits are only counted once, but may be applied to meet Oral Communication and Social-Behavioral Science requirements.

AFR	African American Studies 202 , 203 , 204
AIS	American Indian Studies 101 , 140 , 141 , 160
AJS	Administration of Justice Studies 101 , 119, 200 , 225 , 258 , 259, 270
ASB	Anthropology 100 , 102 , 202 , 211 , 222 , 223 , 226 , 230 , 235 , 252
ASM	Anthropology 104/275
BHS	Behavioral Health Services Technology 150
CCS	Ethnic Relations 202
CFS	Child/Family Studies 112 , 157 , 159 , 176 , 205 , 235 , 259
COM	Communication 100 , 100AA&100AB&100AC , 110 , 110AA&110AB&110AC , 163, 230 , 250 , 263
ECH	Early Childhood Education 176
ECN	Economics 160 , 211 , 212 , 213 , 250
EDU	Education 221 , 222
EED	Early Education 200 , 205 , 222
EMT	Emergency Medical Technology 258
ENG	English 213
FOR	Forensic Science 275
FSC	Fire Science Technology 258
FUS	Future Studies 101
GCU	Cultural Geography 102 , 113 , 121 , 122 , 141 , 221
HES	Health Science 100

HIS	History any HIS Course(s) including 100 , 101 , 102 , 103 , 104 , 105 , 106 , 108 , 109 , 113 , 114 , 140 , 145 , 173 , 190 , 201 , 203 , 204 , 209 , 240 , 241 , 242 , 273 , 275 , 277 , 282AA-AC (and except 111, 170, 251, 252, 253, 254)
HON	Honors 201
IBS	International Business 109
IFS	Research in Global Society 201 , 210
MCO	Mass Communications 120
MGT	Management 229 , 230
PAD	Public Administration 200
POS	Political Science Any POS course(s), including 100 , 101, 110 , 113 , 114 , 115 , 120 , 125 , 130 , 140 , 180, 210 , 212, 221, 222, 223 , 230, 270 , 281AB, 282AA-AC, 285
PSY	Psychology 101 , 123, 132 , 156, 157 , 215 , 218 , 225 , 235 , 240 , 241 , 243 , 250 , 260 , 266 , 277 , 280 , 292
REC	Recreation 120
SBU	Society and Business 200
SLC	Studies in Language and Culture 201
SOC	Sociology Any SOC course(s), including 101 , 110 , 130 , 141 , 157 , 180 , 212 , 220 , 241 , 251 , 266 , 270 (and except 143, 245, 253, 265)
SSH	Sustainability/Social Sciences and Humanities 111
SUS	Sustainability/Natural Sciences 110
SWU	Social Work 102 , 171 , 182 , 250 , 258 , 295
TEC	Textiles and Clothing 105
WED	Wellness Education 110
WST	Women's Studies 100 , 161
YAQ	Yaqui Indian History and Culture 100

Natural Sciences (7-8 credits)

Two lecture courses and one corresponding laboratory course are to be selected. The lecture and corresponding laboratory course(s) may carry separate credit. For appropriate course selection students should consult with an advisor.

AGS	Agricultural Science 164 , 260
ASB	Anthropology 231
ASM	Anthropology 104 , 265 , 275
AST	Astronomy 101 , 106 , 111 , 112
BIO	Biology 100 , 101 , 102 , 105 , 107 , 108 , 109 , 111 , 145 , 149AF, 149AH, 149AK, 149AI, 149AM, 149AN, 156 , 156XT , 160 , 181 , 181XT , 182 , 201 , 202 , 205 , 241 , 245
CHM	Chemistry 107&107LL , 130&130LL , 130AA , 150&151LL , 150AA , 151&151LL , 151AA , 152&152LL , 152AA , 154&154LL , 230&230LL
CON	Construction 106 (formerly CNS106)
ENV	Environmental Sciences 101
FON	Food and Nutrition 241&241LL
FOR	Forensic Science 105 , 106 , 275
GLG	Geology 101&103 , 101IN , 102&104 , 102IN , 105 , 106 , 110&111 , 110IN , 121, 140, 229AB-AC, 230AA-AC, 231AA-AD, 280, 281, 282AA
GPH	Physical Geography 111 , 112&113 , 211 , 212&214 , 213&215
PHS	Physical Science 110 , 120
PHY	Physics 101 , 101AA , 111 , 111AA , 112 , 115 , 116 , 121 , 131
PSY	Psychology 275 , 290AB , 290AC

Literacy and Critical Inquiry (0-3 credits)

Literacy requirements may be met with 0 credits only if CRE101 or COM225 is shared between Core and Distribution (see Academic Policies section). The credits are only counted once but may be applied to meet [Critical Reading and Literacy and Critical Inquiry] or [Oral Communication and Literacy and Critical Inquiry] requirements.

AIS	American Indian Studies 213
COM	Communication 222 , 225 , 241
CPD	Counseling and Personal Development 160
CRE	Critical Reading 101 , 201
CUL	Culinary Arts 223
DAH	Dance Humanities 255
EDU	Education 282AC
ENG	English 111 , 200 , 215 , 216 , 217 , 218
ENH	English Humanities 241 , 254 , 255
EXS	Exercise Science 290
GBS	General Business 233
GPH	Physical Geography 267
HUM	Humanities 225 , 250 , 251
IFS	Information Studies 201
JRN	Journalism 201 , 215 , 234
MCO	Mass Communications 220
MGT	Management 230
MHL	Music: History/Literature 204
PHI	Philosophy 103 , 106 , 218 , 244
POS	Political Science 115
PSY	Psychology 290AB , 290AC
REL	Religious Studies 203 , 205 , 207
SLC	Studies in Language and Culture 202
THE	Theater 220
THP	Theater Performance/Production 241

Elective Courses (15-22 credits)

May select courses from prefixes already chosen for General Education Distribution requirements in order to develop depth in one or more subject areas.

AGS DEGREE TOTAL CREDITS:

60-64

Associate in Applied Science (AAS)

Description

The Associate in Applied Science (AAS) degree requires at least 60 credits in its program of study. The exact number of credits for a specific degree is identified as part of the presentation of its requirements on the web or in the college catalog.

Purpose of the Degree

The Maricopa County Community College District Associate in Applied Science (AAS) degree is recommended for students who wish to gain a depth of technical expertise in a particular workforce-related area of study. The AAS degree options vary at the different MCCCDC colleges and can be searched alphabetically or by field of interest. Requirements for each degree can be found on the linked webpages and in the corresponding college(s)'s catalog.

Academic Policies that Govern the AAS degree:

- Requires 60 or more credits numbered 100 or above and includes credits or the equivalent in the General Education Core areas and credits in the Distribution areas. AAS degree requirements follow with the use of a diagonal character (/) between course numbers to signify options. An asterisk (*) following the course number defines requirements with an effective begin term of spring;
 - All courses must be completed with a grade of C or higher; any additional requirements such as grade of B or higher or minimum grade point average requirements are listed on individual degrees and certificates;
 - Follows the graduation policies within the general catalog;
 - Includes both courses and their modular equivalents, either the course or the modular equivalents will satisfy the Associate in Applied Science requirements.
 - Requires at least 12 semester credit hours earned at the college awarding the AAS degree. The 12 hours in the AAS degree curricula may be in the Required Courses area and/or Restricted Electives courses. Courses from the General Education Core and Distribution area are excluded.
 - Shared Programs are programs offered at multiple colleges but not available at all colleges. The requirements are identical at all the colleges offering the program.
 - A shared program requires a minimum of six credit hours from the total program requirements to be completed with a grade of C or better at the college awarding the certificate or degree (The exception is the Nursing program. Students must apply for graduation from the college where they have successfully completed Block 4 of the Associate in Applied Science in Nursing).
 - The minimum of six credit hours in the 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;
- Requires completion of General Education courses as indicated in the General Education Requirements for the Associate in Applied Science degree from the Maricopa County Community College District, or completion of a curriculum as stated in the catalog;
 - Accepts one of the courses that is cross-referenced with other courses.

General Education Core (12-15 credits)

Demonstrate college-level skills in the following areas:

First-Year Composition (6 credits)

ENG English [101/107] & [102/108/111]

Oral Communication (3 credits)

COM Communication 100/100AA&100AB&100AC/110/110AA&110AB&110AC/225/230

Critical Reading (3 credits)

CRE Critical Reading 101²/111¹/Equivalent as indicated by assessment

Mathematics (3 credits)

MAT Mathematics 103AA & 103AB/112/120/121/122/140/141/142/145/146/150/150&182/151/151&182/152/152&182/155/155&182/156/156&182/172/187/206/212/213/220/221/230/231/240/241/256/257/261/262/276/277/equivalent course/Satisfactory completion of a higher level mathematics course

General Education Distribution Areas (9-10 credits)

Humanities, Arts and Design (2-3 credits)

AHU Arabic Humanities 245
 AIS American Indian Studies 213
 AJS Administration of Justice Studies 123
 ARH Art Humanities Any ARH Course(s)
 ART Art 131
 ASB Anthropology 211/214/220/222/223/253
 CCS Chicana and Chicano Studies 101
 CON Construction 101 (formerly CNS101)
 COM Communication 241
 DAH Dance Humanities 100/101/201/250/255
 EDU Education 291/292/294
 ENG English 200/213/218
 ENH English Humanities Any ENH Course(s) (except 250)
 FRE French 265
 GST Fame Studies 202
 HCR Health Care Related 210
 HIS History 101/102/103/108/110/111/113/114/203/212/251/252/275
 HON Honors 190
 HUM Humanities Any HUM course(s) (except 120, 225)
 INT Interior Design 115/120
 LAT Latin 201/202
 MHL Music: History/Literature 140/143/145/146/153/155/194/204/241/242/295
 PHI Philosophy Any PHI Course(s)
 REL Religious Studies Any REL Course(s)
 SLC Studies in Language and Culture 201/202

SPA	Spanish 241/242/265/266
SPH	Spanish Humanities 241, 245
SSH	Sustainability/Social Sciences and Humanities 111
STO	Storytelling 292/294
SWU	Social Work 183
TCM	Telecommunications 107
TEC	Textiles and Clothing 105
THE	Theater 111/220
THF	Theatre and Film 205/206/210
THP	Theater/Performance/Production 241
WST	Women's Studies 209/284/285/290

Social-Behavioral Sciences (3 credits)

AFR	African American Studies 202/203/204
AIS	American Indian Studies 101/140/141/160
AJS	Administration of Justice Studies 101/200/225/258/259/270
ASB	Anthropology 100/102/202/211/222/223/226/230/235/252
ASM	Anthropology 104/275
BHS	Behavioral Health Services Technology 150
CCS	Chicana and Chicano Studies 202
CFS	Child/Family Studies 112/157/159/176/205/235/259
COM	Communications 100/100AA&100AB&100AC/110/ 10AA&110AB&110AC/163/230/250/263
ECH	Early Childhood Education 176
ECN	Economics Any ECN course(s)
EDU	Education 221/222
EED	Early Education 200/205/222
EMT	Emergency Medical Technology 258
ENG	English 213
FOR	Forensic Science 275
FSC	Fire Science 258
FUS	Future Studies 101
GCU	Cultural Geography 102/113/121/122/141/221
HES	Health Science 100
HIS	History Any HIS course(s) (except 111, 170, 251, 252, 253, 254)
HON	Honors 201
IBS	International Business 109
IFS	Information Studies 201, 210
MCO	Mass Communications 120
MGT	Management 229/230
PAD	Public Administration 200
POS	Political Science Any POS course(s)
PSY	Psychology 101/123/132/156/157/215/218/225/235/240/241/243/ 250/260/266/277/280/292
REC	Recreation 120
SBU	Society and Business 200
SLC	Studies in Language and Culture 201
SOC	Sociology Any SOC course(s) (except 143, 245, 253, 265)
SSH	Sustainability/Social Sciences and Humanities 111
SUS	Sustainability/Natural Sciences 110
SWU	Social Work 102/171/182/250/258/295
TEC	Textiles and Clothing 105
WED	Wellness Education 110

WST	Women's Studies 100/161
YAQ	Yaqui Indian History and Culture 100

Natural Sciences (4 credits)

The lecture course(s) selected for Natural Sciences must include or be accompanied by the corresponding laboratory course. The lecture and corresponding laboratory course(s) may carry separate credit. Students should consult with an advisor for appropriate course selection.

AGS	Agricultural Science 164, 260
ASB	Anthropology (Soc/Behv. Science) 231
ASM	Anthropology (Science/Math) 104/265/275
AST	Astronomy 101/106/111/112/113/114
BIO	Biology 100/101/102/105/107/108/109/111/145/149AN/156/ 156XT/160/181/181XT/182/201/201XT/202/205/241/245
CHM	Chemistry 107&107LL/130&130LL/130AA/150AA/150&151LL/ 151AA/151&151LL/152AA/152&152LL/154&154LL/230&230LL
CON	Construction 106 (formerly CNS106)
ENV	Environmental Sciences 101
FON	Food and Nutrition 241 & 241LL
FOR	Forensic Science 105/106/275
GLG	Geology Any GLG course(s)
GPH	Physical Geography 111/112&113/211/212&214/213&215
PHS	Physical Science 110/120
PHY	Physics 101/101AA/111/111AA/112/115/116/121/131
PSY	Psychology 275/290AB/290AC

Academic Certificate (AC)

Purpose of the Academic Certificate

The Maricopa County Community College District Academic Certificate (AC) is a defined and coherent program of study that is recommended for students who wish to gain additional expertise in a specific area of emphasis in an academic discipline. While this program of study can result in proficiency in specified skills and competencies, as well as mastery of a body of knowledge, it is not designed to prepare someone for employment in a specific occupation. The coursework for an Academic Certificate may be from a variety of disciplines or it can be discipline specific. There is no required general studies component to an Academic Certificate; however, the program may include some courses that have specific general studies designations such as Humanities, Arts and Design [HU], Social-Behavioral Sciences [SB], Literacy and Critical Inquiry [L], or Cultural Awareness [C]. (See AGECEC matrix for current course values.)

Academic Policies that Govern the Academic Certificate:

- Although, the program of study for an Academic Certificate (AC) does not have a mandated minimum number of credit hours, most ACs require approximately 12-39 credit hours in courses numbered 100 and above;
- Requires a cumulative GPA of 2.0 or better in required courses for completion;
- Follows the graduation policies listed in the college's general catalog for the appropriate catalog year;
- Any course cross-referenced under another prefix(es) (for example ENH291/EDU291/STO291-Children's Literature) covers identical content and its credits can only be counted once toward certificate requirements;
- Although ACs may include a subset of coursework required in particular transfer degrees, the intent of an AC is not to align with any specific university major. There is no presumption of block transfer to another college or university;
- May have admission criteria established by the college if and when appropriate;
- Generally offered at a limited number of colleges. For a listing of all ACs available in the district and their affiliated college(s) see the CCTA web site.





GCC DEGREES AND CERTIFICATES

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Digital Cinema Arts AAS	70
Digital Media Arts AAS.....	71
Photography CCL	117

Automotive Technology

Automotive Automatic Transmission and Transaxle CCL.....	46
Automotive Brake Systems CCL	46
Automotive Chassis CCL.....	47
Automotive Drive Trains CCL	47
Automotive Electrical, Heating, Ventilation and Air Conditioning Systems CCL	48
Automotive Electronic/Electrical Systems CCL ..	48
Automotive Engine Performance CCL.....	48
Automotive Engine Repair CCL.....	49
Automotive Engine Repair and Performance CCL.....	49
Automotive Heating, Ventilation and Air Conditioning CCL	50

Automotive Maintenance and Light Repair CCL	50
Automotive Manual Drive Train and Axles CCL..	50
Automotive Service AAS & CCL	51-52
Automotive Steering and Suspension CCL	53
Basic Automotive Maintenance CCL	54

Biology

Biotechnology and Molecular Biosciences AAS .	56
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Business and Information Technology

Accounting CCL.....	39
Accounting Paraprofessional AAS.....	39
Adobe Foundations CCL	42
Business Office Assistant CCL	58
Business Office Computer Applications AAS & CCL.....	58-59
Computer Information Systems AAS & CCL..	66-67
Entrepreneurial Studies Level I CCL	80
Game Technology CCL.....	85
General Business AAS & CCL.....	86-87
Healthcare Technology Systems AAS & CCL ...	88-89

GCC degrees and certificates appear in alphabetical order by title. This index provides the programs by department/division.

Information Security AAS & CCL	91
Insurance Studies AAS & CCL	92
iOS Application Development CCL.....	93
Linux Networking Administration AAS & CCL....	97-98
Linux Professional CCL	99
Marketing AAS & CCL	100
Microsoft Desktop Support Technology CCL....	101
Microsoft Networking Technology AAS.....	101
Microsoft Server Administration CCL.....	103
Organizational Leadership CCL.....	114
Organizational Management AAS	114
Programming and Systems Analysis AAS	122
Programming and Systems Analysis Level I CCL.....	123
Programming and Systems Analysis Level II CCL.....	124
Retail Management AAS & CCL.....	126-126
Small Business Management Level I CCL	128
Web Design CCL.....	129
Web Developer CCL.....	129

Communication and World Languages

Chicana and Chicano Studies AC	62
Communication Competence in the Workplace AC.....	64
Communication Skills for Non-Native English Speakers AC.....	64
Language Studies AC.....	95
Oral Communication Fluency for Non-Native English Speakers AC.....	114

Counseling

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Basic Behavioral Health Sciences CCL.....	54
Behavioral Sciences AAS	54

English, Reading and Journalism

Creative Writing AC	68
Journalism and New Media Studies AAS & CCL	94-95

Fitness and Wellness

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Personal Trainer CCL.....	116
Personal Training Specialist CCL	116

Nursing

Nurse Assisting CCL.....	111
Nursing AAS	112
Practical Nursing CCL	118

Performing Arts

Audio Production Technologies AAS & CCL.....	45
Electronic Music AC.....	75
Music Business AAS.....	105

Psychology

Developmental Disabilities Specialist CCL.....	69
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Public Safety Sciences

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Corrections CCL	67
Crime Scene Investigation CCL.....	69
Driver Operator CCL.....	72
Emergency Medical Technology CCL.....	76
Emergency Response and Operations AAS.....	76
Fingerprint Identification and Photography CCL.	82
Fire Officer Leadership CCL	82
Fire Science CCL.....	83
Firefighter Operations CCL.....	83
Forensic Science AAS	84
Homeland Security	89
Law Enforcement CCL.....	96
Law Enforcement Investigator CCL.....	96
Law Enforcement Training Academy CCL.....	97
Legal Studies CCL.....	97
Paramedicine CCL.....	115
Victimology	128

Social Sciences

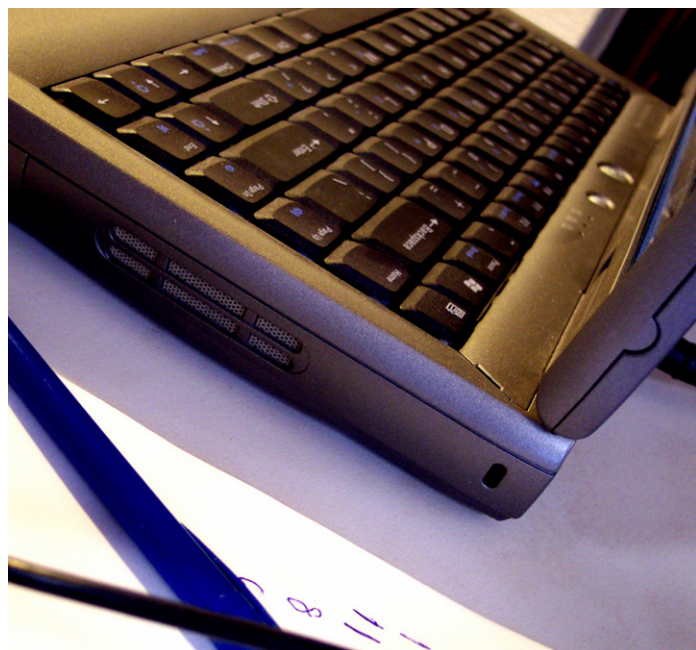
Sustainability AC.....	128
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Technology and Consumer Sciences

CAD Application CCL.....	59
CAD Fundamentals CCL	59
CAD Technology AAS	59
Child and Family Organizations Management Administration CCL.....	62
Computer and Networking Technology AAS.....	65
Early Childhood Administration and Management AAS.....	72
Early Childhood Education AAS & CCL.....	73-74
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Foundations of Early Childhood Education CCL.....	85
Network Maintenance CCL.....	107
Networking Administration: Cisco CCL.....	107
Networking Technology: Cisco AAS & CCL..	107-109

GCC degrees and certificates appear in alphabetical order by title. This index provides the programs by department/division.

¹ Final Term Summer 2019, ² Effective Term Fall 2019



Accounting

General Information

For Information: Scott Stroher
Phone: 623.845.3453
www.gccaz.edu/business-information-technology

Student Goals: Transfer/Career Related.

Accountants function in different ways. They offer their services to the public on a fee basis (public accounting), or are employed by individual profit or nonprofit organizations (private accounting), or work for governmental units (governmental accounting). Accountants provide financial information about an organization to its owners, managers, and creditors, as well as to appropriate governmental authorities. They also design, install, manage, and maintain information systems which produce this important information.

There is considerable demand for accountants and demand should increase. Pay is relatively high, and the accounting field offers many opportunities for professional growth and advancement.

Students take Accounting courses to:

- Prepare for Employment: An Associate of Applied Science (AAS) degree program is available to prepare students for immediate employment as a paraprofessional accountant.
- Prepare for a major in accounting at a four-year institution. Students may complete most or all of their lower division requirements at Glendale. Students should follow the ABus-GR and consult with a business department advisor to plan for transfer.

Students should consult with a department advisor in planning their academic schedule in order to complete degree requirements in an expedient manner.

Accounting

Certificate of Completion - CCL 5665
23-26 credits

For Information: Scott Stroher
Phone: 623.845.3453
www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Accounting program is designed for students seeking to gain skills and knowledge in the field of accounting. Possible entry-level positions for this program include accounting clerk, accounts payable/receivable clerk, claims clerk, credit clerk, full-charge bookkeeper, accounting intern, or comparable positions. An Associate in Applied Science (AAS) also is available.

This certificate also is offered at Chandler-Gilbert, Estrella Mountain, GateWay, Phoenix, Rio Salado, and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better in all courses required within the program. Consultation with an Academic Advisor is recommended for course selection.

Program Prerequisites: None

Required Courses: (23-26 credits)		Credits
ACC111	Accounting Principles I (3) AND	
+ ACC230	Uses of Accounting Information I (3) AND	
+ ACC240	Uses of Accounting Information II (3)	
OR		
ACC111	Accounting Principles I (3) AND	
+ ACC112	Accounting Principles II (3) AND	
+ ACC212	Managerial Accounting (3)	
OR		
ACC211	Financial Accounting (3) AND	
+ ACC212	Managerial Accounting (3)	6-9
ACC105	Payroll, Sales and Property Taxes	3
+ ACC115	Computerized Accounting	2
<i>GCC will accept ACC107 in lieu of ACC105 and ACC115.</i>		
CIS114DE	Excel Spreadsheet	3
CIS105	Survey of Computer Information Systems	3
GBS151	Introduction to Business	3
GBS205	Legal, Ethical and Regulatory Issues in Business	3

Accounting Paraprofessional

Associate in Applied Science - AAS 3131
62-68 credits

For Information: Scott Stroher
Phone: 623.845.3453
www.gccaz.edu/business-information-technology

Program Description: The Associate in Applied Science (AAS) in Accounting Paraprofessional program is designed to provide a sound background in fundamental accounting skills for individuals planning to enter the field at the paraprofessional level. Some of the goals of this program are to develop students' abilities (1) to

critically and constructively analyze the function of accounting systems in relation to the organization, its management, and its goals (2) to understand accounting management and, in particular, how these roles affect various profiles of the company.

Program Notes:

Student must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None**Required Courses: (28-31 credits)**

Select one of the following three core sequences:

Sequence 1:

ACC111 Accounting Principles I (3) AND
+ ACC230 Uses of Accounting Information I (3) AND
+ ACC240 Uses of Accounting Information II (3)
OR

Sequence 2:

ACC111 Accounting Principles I (3) AND
+ ACC112 Accounting Principles II (3) AND
+ ACC212 Managerial Accounting (3)
OR

Sequence 3:

ACC211 Financial Accounting (3) AND
+ ACC212 Managerial Accounting (3) 6-9

In addition to the core sequences, complete the following required courses:

ACC107	Bookkeeping Theory and Practice	4
+ ACC219	Intermediate Accounting I	3
+ ACC221	Tax Accounting	3
CIS105	Survey of Computer Information Systems	3
CIS114DE	Excel Spreadsheet	3
GBS151	Introduction to Business	3
GBS205	Legal, Ethical, and Regulatory Issues in Business	3

Restricted Electives: (9 credits)**Credits**

Select any nine credits from the following list of options except courses used to satisfy the General Education Requirement area.

+ ACC216	Fraud Examination	3
+ ACC260	Certified Bookkeeper (CB) Preparation	3
CIS117DM	Microsoft Access: Database Management	3
CWE198++	Any Career/Work Experience course(s) in Accounting/Business	1-3
ECN211	Macroeconomic Principles	3
ECN212	Microeconomic Principles	3
+ GBS220	Quantitative Methods in Business	3
+ GBS221	Business Statistics	3
+ GBS233	Business Communications	3
+ GBS261	Investments I	3
MGT101	Techniques of Supervision	3
MGT175	Business Organization and Management	3
MGT251	Human Relations in Business	3
MKT271	Principles of Marketing	3

Free Electives: (0-3 credits)

Students should choose zero to three credits from Free

Electives. Any 100/200 level prefixed courses may be selected, except courses used to satisfy the Required Courses area.

General Education Requirements: (22-27 credits)**General Education Core: (12-17 credits)****Credits****First-Year Composition:****6**

+ 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)

Oral Communication:**3**

COM100 Introduction to Human Communication (3) OR
COM230 Small Group Communication (3)

Critical Reading:**0-3**

+ CRE101 College Critical Reading and Critical Thinking (3) OR
Equivalent by assessment

Mathematics:**3-5**

+ MAT120 Intermediate Algebra (5) OR
+ MAT121 Intermediate Algebra (4) OR
+ MAT122 Intermediate Algebra (3) OR
Satisfactory completion of a higher level mathematics courses

General Education Distribution: (10 credits)**Credits****Humanities, Arts and Design:****3**

Any approved general education course in the Humanities, Arts and Design area.

Students considering university transfer should select a course that also meets Global [G] and/or Historical [H] and/or Cultural [C] Awareness Area requirement.

Social-Behavioral Sciences:**3**

ECN211 Macroeconomic Principles (3) OR
ECN212 Microeconomic Principles (3)

Natural Sciences:**4**

Any approved general education course in the Natural Sciences area, see page 31.

Administration of Justice Studies**General Information**

For Information: Paul Brown

Phone: 623.845.3913

www.gccaz.edu/public-safety-science

Student Goals: Career-related, Personal

AJS courses provide information for personal interest and related careers, but are designed primarily for those interested in careers in law enforcement and related fields. Students take these courses to:

- Prepare for Employment. An Associate of Applied Science (AAS) degree and certificate programs are available. The certificate program is designed for reserve police officers in Maricopa County.
- Police officers and detectives are responsible for protecting life and property, enforcing laws, preventing and investigating

crimes, and apprehending criminals. Officers working in small communities have many duties, while officers employed by large police departments are usually assigned to specific types of duty such as traffic, narcotics, robbery, or homicide. Those assigned to patrol a regularly-assigned area work alone or in pairs. Related law enforcement careers are in security, probation, corrections, etc.

- Enhance Employment. The AJS290 seminar series provides specialized training for those in law enforcement desiring to enhance their skills. These seminars are available on a limited basis.
- To Prepare for Related Fields. Students in other fields may well find courses such as AJS101, or 225 of interest.
- For Personal Interest. Those seeking training in the safe and ethical use of firearms may enroll in AJS151, 153, and/or 154.

Administration of Justice Studies²

Associate in Applied Science - AAS 3181
62-68 credits

For Information: Paul Brown
Phone: 623.845.3913
www.gccaz.edu/public-safety-science

Program Description: The Associate in Applied Science (AAS) in Administration of Justice Studies is an interdisciplinary program designed to prepare students for various careers within the criminal justice system and/or transfer to a four-year institution. The program also provides criminal justice practitioners with the opportunity to complete the Certificate of Completion (CCL) in Administration of Justice Studies as well as one of four Certificates of Completion in Corrections, Law Enforcement, Legal Studies, and Victimology, and/or a transfer option.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

This program also is available at Chandler-Gilbert, Estrella Mountain, Mesa, Phoenix, Paradise Valley, Rio Salado, Scottsdale, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses: (30 credits)	Credits
AJS101 Introduction to Criminal Justice	3
AJS109 Substantive Criminal Law	3
AJS123 Ethics and the Administration of Justice	3
AJS212 Juvenile Justice Procedures	3
AJS225 Criminology	3
AJS230 The Police Function	3
AJS240 The Corrections Function	3
AJS/EMT/FSC/SWU258 Victimology and Crisis Management (3) OR	
AJS200 Current Issues in Criminal Justice (3)	3
AJS260 Procedural Criminal Law	3
CIS105 Survey of Computer Information Systems (3) OR	

BPC110	Computer Usage and Applications (3) OR	
AJS+++++	Students may choose course in the Administration of Justice Studies area not listed under Required Courses area (3)	3

Restricted Electives: (9-10 credits)	Credits
AJS113 Criminal Justice Crime Control Policies and Practices (Fulfills ASU transfer requirement)	3
AJS119 Computer Applications in Justice Studies (Fulfills NAU transfer requirement)	3
AJS162 Domestic Violence (Fulfills Victimology certificate requirement)	3
AJS201 Rules of Evidence (Fulfills Legal Studies certificate requirement)	3
AJS205 Criminal Justice Report Writing (Fulfills Corrections, Law Enforcement and Legal Studies certificate requirement)	3
AJS210 Constitutional Law (Fulfills Legal Studies certificate requirement and NAU transfer requirement)	3
AJS255 Crime, Law, and Mental Health (Fulfills Corrections and Victimology certificate requirement)	3
AJS270 Community Relations (Fulfills GCU transfer requirement)	3
AJS275 Criminal Investigation I (Fulfills Corrections and Law Enforcement certificate requirement and GCU transfer requirement)	3
AJS290BN Courtroom Testimony Seminar (Fulfills Legal Studies certificate requirement)	1
CIS114DE Excel Spreadsheet (Fulfills NAU transfer requirement)	3
PSY101 Introduction to Psychology (3) OR	
SOC101 Introduction to Sociology (3) (Fulfills ASU transfer requirement)	3
REC120 Leisure and the Quality of Life (Fulfills ASU transfer requirement)	3
SWU171 Introduction to Social Welfare (Fulfills ASU transfer requirement)	3

Free Electives: (7 credits)	Credits
Recommend the following for transfer:	
FOR105 Forensic Science: Physical Evidence (4) OR	
FOR106 Forensic Science: Biological Evidence (4) OR	
any course with the [SQ] general education designation (4)	4
Recommend the following for transfer:	
Any course with an [HU] and [G] general education designation OR an [HU] and [H] general education designation	

General Education Requirements: (26-21 credits)	Credits
General Education Core: (12-17 credits)	
First-Year Composition:	6
+ 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)	
Oral Communication:	3
COM100 Introduction to Human Communication (3) OR	
COM110 Interpersonal Communication (3) OR	
+ COM225 Public Speaking (3) OR	
COM230 Small Group Communication (3)	
Recommend COM225 for students intending to transfer.	
Critical Reading:	0-3
+ CRE101 College Critical Reading and Critical Thinking (3) OR	

Equivalent as indicated by assessment

Mathematics:

- + MAT140 College Mathematics (5) OR
 + MAT141 College Mathematics (4) OR
 + MAT142 College Mathematics (3) OR
 Higher course in the Mathematical Applications [MA] area (3-5)

3-5**General Education Distribution: (4 credits)****Credits****Humanities, Arts and Design:****0**

Met by AJS123 in the Required Courses area.

Social-Behavioral Sciences:**0**

Met by AJS/EMT/FSC/SWU258 or AJS200 in Required Courses area.

Natural Sciences:**4**

Any approved general education course from the Natural Sciences area.
 Recommend FOR105 or FOR106 in Electives area.

Administration of Justice²**Certificate of Completion - CCL 5007N**

**This program is not eligible for Title IV Federal Financial Aid
 15 credits**

For Information: Paul Brown

Phone: 623.845.3913

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Administration of Justice program is designed to be interdisciplinary by nature and provides students with foundational knowledge of the criminal justice system and operational processes for addressing crime within society. This program also examines diverse populations and communities, and their effects on relationships with the criminal justice system. In addition, this program allows students to familiarize themselves with and evaluate various career opportunities in the criminal justice field and is one pathway to the Associate in Applied Science (AAS) in Administration of Justice.

This certificate also is offered at Chandler-Gilbert, Estrella Mountain, Mesa, Phoenix, Paradise Valley, Rio Salado, Scottsdale, and South Mountain Community Colleges

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None

Required Courses (15 credits)**Credits**

AJS101	Introduction to Criminal Justice	3
AJS109	Substantive Criminal Law (3) OR	
AJS260	Procedural Criminal Law (3)	3
AJS123	Ethics and the Administration of Justice	3
AJS230	The Police Function	3
AJS240	The Corrections Function	3

Adobe Foundations**Certificate of Completion - CCL 5807N**

**This program is not eligible for Title IV Federal Financial Aid
 9 credits**

For Information: Bill Stewart

Phone: 623.845.3250

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Adobe Foundations program helps develop proficiency with three of Adobe's foundational graphics programs: Photoshop, Illustrator, and Flash. The courses in this CCL are the common subset of those required for the other Adobe Creative Suite CCLs. Thus all the courses in the Adobe Foundations CCL may be applied towards the requirements of any of these more comprehensive certificates.

This certificate also is offered by Mesa, Paradise Valley, and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better required for all courses within the program.

Program Prerequisites: None

Required Courses: (9 credits)**Credits**

CIS120DF	Computer Graphics: Adobe Photoshop	3
CIS120DB	Computer Graphics: Adobe Illustrator	3
CIS120DC	Flash: Digital Animation	3

Advanced Behavioral Health Sciences**Certificate of Completion - CCL 5521**

38-41 credits

For Information: Dr. Thomas Rojo Aubrey

Phone: 623.845.3212

www.gccaz.edu/behavioral-sciences

Program Description: The Certificate of Completion (CCL) in Advanced Behavioral Health Sciences program is designed to provide students with a comprehensive study of human behavior and prepare them to assist, as part of a clinical team, in the care of individuals and families dealing with mental illness, addictions and substance use, developmental disabilities, co-morbid medical conditions, and challenging behaviors. The program includes courses designed to provide students with the skills necessary to deliver specialized and comprehensive behavioral health and social services. The core focus of the program is practical training and service learning experiences.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Students should select courses in one of the following areas of emphasis:

- Trauma and Crisis Stabilization
- Infant and Early Childhood Mental Health
- Addiction and Substance Use Disorders
- Developmental Disabilities
- Criminal Justice and Forensic Science

Mental Health

This certificate also is offered by South Mountain Community College.

Program Prerequisites: (0-3 credits)

Students choosing Developmental Disabilities or Criminal Justice and Forensic Science as their area of emphasis will need to complete PSY101 in addition to the courses listed below (It is a prerequisite to a required course in these areas). PSY101 can be counted towards General Education requirement in most Associate degrees.

PSY101 Introduction to Psychology (3) 0-3

Required Courses: (32 credits)

Certificate of Completion (CCL) in Basic Behavioral Health Sciences (5522) (16)

AND

BHS175 Introduction to Trauma-Informed Care and Trauma-Focused Caregiving 3
 BHS185 Cultural and Social Diversity in Behavioral Health and Social Services 3
 + BHS190 Professional Portfolio: Supervised Practice In Behavioral Health and Social Services 1
 BHS205 Therapeutic Models and Interventions 3
 BHS210 Addictions, Substance Use Disorders, and Relapse Prevention 3
 BHS215 Therapeutic Group Interventions 3

Restricted Electives: (6 credits)

Student must choose six credits from one of the following areas of emphasis:

Emphasis in Trauma and Crisis Stabilization

BHS230 Crisis and Trauma Stabilization (3) AND
 BHS235 Emergency Mental Health Crisis Response and Recovery (3) 6

Emphasis in Infant and Early Childhood Mental Health

BHS275 Infant and Early Childhood Mental Health (3)
 AND
 CFS177 Parent-Child Interaction (3) OR
 CFS235 Developing Child: Theory into Practice, Prenatal - Age Eight (3) OR
 + EED210 Creative and Cognitive Play (3) OR
 + EED280 Standards, Observation and Assessment of Typical/ Atypical Behaviors of Young Children Birth to Age Eight (3) 6

Emphasis in Addiction and Substance Use Disorders

ASD110 Pharmacology of Substances of Abuse and Dependency (3) AND
 ASD245 Co-Occurring Disorders (2)
 AND
 ASD120 Professional Ethics in Addictions and Substance Use Disorders (1) OR
 ASD145 AIDS and Addiction (1) 6

Emphasis in Developmental Disabilities

+ PSY241 Understanding and Changing Behavior (3)
 AND
 + PSY243 The Psychology of Developmental Disabilities (3) 6

Emphasis in Criminal Justice and Forensic Science

+ PSY267 Introduction to Forensic Psychology (3)
 AND
 AJS101 Introduction to Criminal Justice (3) OR
 AJS200 Current Issues In Criminal Justice (3) OR
 AJS225 Criminology (3) 6

Emphasis in Mental Health

BHS235 Emergency Mental Health Crisis Response and Recovery (3) AND/OR
 + BHS262 Counseling the Elderly (1) AND/OR
 BHS265 Violence and Abuse Matters (2) AND/OR
 BHS268 Grief and Bereavement Issues (2) AND/OR
 + BHS272 Managing Difficult Children (3) AND/OR
 BHS275 Infant and Early Childhood Mental Health (3)
 AND/OR
 + PSY266 Abnormal Psychology (3) 6

Aerospace Studies**General Information**

For Information: ASU Main Air Force ROTC
Phone: 480.965.3181

The Aerospace Studies (AES) curriculum consists of the General Military Course for freshmen and sophomores and the Professional Officer Course for juniors and seniors. Through an arrangement with Arizona State University at Tempe, students at Glendale Community College can take the General Military Course (GMC) at Arizona State University. Upon receiving a four-year bachelor's degree and completion of the Professional Officer Course (POC) at any university offering Air Force ROTC, the student will receive a commission as a Second Lieutenant in the Air Force.

A formal application is not required for students entering the GMC. Students register for Air Force ROTC at the same time and in the same manner as other courses. During the first two years, students enroll in the GMC normally taking one Aerospace Studies course each semester. Air Force ROTC students not on Air Force ROTC scholarship incur no military obligation.

Students must apply for the POC and be accepted before enrolling in POC classes. Those students accepted will attend a four-week field training encampment at an air force base between their sophomore and junior years. They must complete their Air Force ROTC requirements at a university offering the POC program.

Air Force ROTC offers scholarships to outstanding young men and women on a nationwide competitive basis. Scholarships cover full college tuition as well as books, fees, and a monthly tax-free allowance ranging from \$350-\$500.

Air Force ROTC graduates can go on to become pilots, navigators, space and missile officers, or serve in one of literally hundreds of technical and non-technical career fields. For more information contact Air Force ROTC at 480-965-3181.

Anthropology

General Information

For Information: Dean Wheeler
Phone: 623.845.3903
www.gccaz.edu/social-sciences

Student Goals: General Education, Career-related, Personal

Anthropology courses examine the origins, cultures, biology, and social behaviors of human beings in both the past and the present. Students take these courses:

- For Personal Interest. ASB102 emphasizes different cultures around the world, while ASM104 focuses on human origins and variation. ASB202 looks at the relationships of different groups in the U.S., past and present. ASB214 discusses religions from around the world. ASB222, ASB223 and ASB230 introduce students to the methods and discoveries of archaeology. ASB235 covers past Native American culture in the Southwest. All courses transfer to Arizona universities.
- To meet General Education Requirements: Anthropology courses may also be used to meet the following requirements for any associate degree and will also transfer:
 - Humanities: ASB211, ASB220, ASB222, ASB223
 - Social-Behavioral Sciences: ASB102, ASB211, ASB214, ASB222, ASB223, ASB230, ASB235, ASM104
 - Natural Sciences: ASB231, ASM104
 - Global Awareness: ASB102, ASB211, ASB214, ASB222, ASB223
 - Historical Awareness: ASB202, ASB222, ASB223, ASB235, ASM104
 - Cultural Diversity: ASB202, ASB235
- To Prepare for a Major at ASU-Main: Those intending to transfer as anthropology majors should complete ASM104, ASB102, and either ASB222 or ASB223. Consult with Dr. Dean Wheeler, Social Science department, in selecting additional anthropology courses for transfer to ASU-Main.

Art

General Information

For Information: Art and Humanities Department
Phone: 623.845.3757
www.gccaz.edu/art-humanities

Student Goals: Career-related

Transfer Pathways:

Associate in Arts, Fine Arts (AAFA) - Art, Dance, Music, Theatre
 Associate in General Studies (AGS)

Fine Arts occupations are concerned with creating fine arts works whose primary purpose is to be viewed for aesthetic content. The

major factor distinguishing occupations in this group from those in commercial art is the retention of responsibility for selection of theme, subject matter, medium, and manner of execution.

Opportunities for this occupation rest largely with a person's own talent, determination, and luck. This program prepares students to be practicing artists in a number of different media as well as providing the artistic preparation to become successful art instructors.

Program Description: This program is designed for students who wish to specialize in fine art. If the student intends to transfer to a four-year institution, he or she should consult the catalog of that institution for appropriate lower division courses which can then be taken at Glendale.

Required courses may not be available every semester, students, degree seeking or transfer, should consult with an advisor in planning their academic schedule in order to complete degree requirements in an expedient manner.

Recommended Courses:

The following courses would be acceptable at most four-year schools for lower division credit. If the student is seeking the AA degree, he or she should choose those needed for that degree, plus additional courses from the list that best suit his or her needs.

	Credits
ARH101 Prehistoric Through Gothic Art	3
ARH102 Renaissance Through Contemporary Art	3
ART100 Introduction to Computer Graphic Art	1
ART111 Drawing I	3
ART112 Two-Dimensional Design	3
ART113 Color	3
ART115 Three-dimensional Design	3
ART116 Life Drawing I	3
+ ART117 Life Drawing II	3
+ ART122 Drawing and Composition II	3
ART131 Photography I	3
+ ART132 Photography II	3
ART151 Sculpture I	3
+ ART152 Sculpture II	3
ART161 Ceramics I	3
+ ART162 Ceramics II	3
+ ART165 Watercolor Painting I	3
+ ART166 Watercolor Painting II	3
+ ART167 Painting I	3
+ ART168 Painting II	3
+ ART169 Two-Dimensional Computer Design	3
+ ART177 Computer-Photographic Imaging	3
+ ART181 Graphic Design I	3
+ ART182 Graphic Design II	3
+ ART184 Computer Animation	3
+ ART284 Intermedia Animation	3

General Education Requirements:

See approved list for AA or AGS degrees beginning on pages 16 and 31, respectively.

Audio Production Technologies**Associate in Applied Science - AAS 3024****61-68 credits****For Information:** Donald Smith**Phone:** 623.845.3070www.gccaz.edu/performing-arts

Program Description: The Associate in Applied Science (AAS) in Audio Production Technologies program offers students an opportunity to receive training on industry-standard equipment. Students learn the concepts and theory associated with recording arts technologies while applying them in lab settings appropriate to their skill levels. The program is designed to give students a foundation of knowledge, competency, and experience important in the commercial music marketplace. A Certificate of Completion (CCL) also is available.

This degree also is offered at Mesa, Paradise Valley, Phoenix, and Scottsdale Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None**Required Courses: (36-40 credits) Credits**

MTC101	Introduction to Music Theory or higher level Music Theory	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) OR	
MUC145	Recording Studio Business Operations (2)	2-3
+ MUC111	Digital Audio Workstation I (DAW I)	3
+ MUC112	Digital Audio Workstation II (DAW II)	3
MUC195	Studio Music Recording I (3) OR	
MUC195AA	Studio Music Recording I (3)	3
+ MUC196	Studio Music Recording II (3) OR	
+ MUC196AA	Studio Music Recording II (3)	3
+ MUC297AA	Music Internship	1

Select one of two tracks:

Track I: Audio Production: (9 credits)

MUC197	Live Sound Reinforcement I	3
+ MUC198	Live Sound Reinforcement II	3
+ MUC295	Studio Music Recording III	3

Track II: Sound Design Track: (12 credits)

+ MUC122	Sound Design I (3) OR	
+ MTC/TCM120	Introduction to Sound Design for Film and Video (3)	3
+ MUC222	Sound Design II (3) OR	
+ MTC/TCM220	Advanced Sound Design for Film and Video (3)	3
+ MUC194	Introduction to Audio Mixing Techniques	3
+ MUC292	Sound Design III	3

General Education Requirements: (25-28 credits)**General Education Core: (12-15 credits) Credits****First-Year Composition: 6**

Any approved general education courses from the First-Year Composition area, see page 31.

Oral Communication: 3

Any approved general education course from the Oral Communication area, see page 31.
COM110 recommended.

Critical Reading: 0-3

+ CRE101 College Critical Reading and Critical Thinking (3) OR
Equivalent as indicated by assessment.

Mathematics: 3

Any approved general education course from the Mathematics area, see page 31.

General Education Distribution: (13 credits) Credits**Humanities, Arts and Design: 6**

Any approved general education courses from the Humanities, Arts and Design area, see page 31.
MHL140 or MHL145 or MHL153 recommended

Social-Behavioral Sciences: 3

Any approved general education course from the Social-Behavioral Sciences area, see page 31.
PSY101 recommended.

Natural Sciences: 4

Any approved general education course from the Natural Sciences area, see page 31.

Audio Production Technologies**Certificate of Completion - CCL 5334****36-40 credits****For Information:** Donald Smith**Phone:** 623.845.3070www.gccaz.edu/performing-arts

Program Description: The Certificate of Completion (CCL) in Audio Production Technologies program offers students an opportunity to receive training on industry-standard equipment. 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 Audio Production program will gain the knowledge base, competency, and confidence they need to enter the commercial music marketplace. An Associate in Applied Science (AAS) also is available.

This certificate also is offered at Mesa, Paradise Valley, Phoenix, and Scottsdale Community Colleges.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None**Required Courses: (36-40 credits) Credits**

MTC101	Introduction to Music Theory or higher level Music Theory	3
MTC191	Electronic Music I	3

+ MTC192	Electronic Music II	3	insures fast and efficient work.
MUC109	Music Business: Merchandising and the Law	3	
MUC110	Music Business: Recording and Mass Media (3)		
OR			
MUC145	Recording Studio Business Operations (2)	2-3	
+ MUC111	Digital Audio Workstation I (DAW I)	3	
+ MUC112	Digital Audio Workstation II (DAW II)	3	
MUC195	Studio Music Recording I (3) OR		
MUC195AA	Studio Music Recording I (3)	3	
+ MUC196	Studio Music Recording II (3) OR		
+ MUC196AA	Studio Music Recording II (3)	3	
+ MUC297AA	Music Internship	1	

Select one of two tracks:

Track I: Audio Production (9 Credits)

MUC197	Live Sound Reinforcement I	3	
+ MUC198	Live Sound Reinforcement II	3	
+ MUC295	Studio Music Recording III	3	

Track II: Sound Design (12 Credits)

+ MUC122	Sound Design I (3) OR		
+ MTC/TCM120	Introduction to Sound Design for Film and Video (3)		
+ MUC222	Sound Design II (3) OR		
+ MTC/TCM220	Advanced Sound Design for Film and Video (3)	3	
+ MUC194	Introduction to Audio Mixing Techniques	3	
+ MUC292	Sound Design III	3	

Automotive Technology

General Information

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Constant increases in the number of vehicles on the road as well as their increasing complexity promises a steady stream of new career openings within the automotive service industry both locally and nationally.

Mobility within the automotive service industry is almost limitless. The experienced technician who demonstrates quality workmanship, willingness to learn, organizational skills, reliability and good communication skills will find opportunities to move into other jobs within the industry such as management, sales, field service, business ownership or teaching.

Automobile technicians diagnose, repair and perform maintenance operations on cars, trucks, buses and other motor vehicles. The most critical attributes of an automotive technician are the ability to accurately diagnose the causes of malfunctions and to demonstrate quality workmanship in making repairs. Thorough knowledge and understanding of the vehicle and component being serviced, combined with good testing and service skills,

Automotive Automatic Transmission and Transaxle²

Certificate of Completion - CCL 5930N

This program is not eligible for Title IV Federal Financial Aid 4 credits

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Automatic Transmission and Transaxle provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of automatic transmission and transaxle. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A2 Test.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at GateWay and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (4 credits)

	Credits
ASE121 Automatic Transmission and Transaxle (4) OR	
ASE121AU Automatic Transmission and Transaxle (4)	4

Automotive Brake Systems²

Certificate of Completion - CCL 5936N

This program is not eligible for Title IV Federal Financial Aid 4 credits

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Brake Systems provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of brake systems. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A5 Test.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at GateWay and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for

each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (4 credits)	Credits
ASE151 Introduction to Brake Systems (2) OR ASE151AU Introduction to Brake Systems (2)	2
+ ASE251 Advanced Brake Systems (2) OR + ASE251AU Advanced Brake Systems (2)	2

Automotive Chassis²

Certificate of Completion - CCL 5952

**This program currently is not eligible for Title IV Federal Financial Aid
16 credits**

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Chassis provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of suspension, steering, brakes and electrical systems. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A4, A5 and A6 Tests.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at GateWay and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None

Required Courses: (16 credits)	Credits
ASE141 Steering, Suspension and Pre-Alignment (2) OR ASE141AU Steering, Suspension and Pre-Alignment (2)	2
ASE151 Introduction to Brake Systems (2) OR ASE151AU Introduction to Brake Systems (2)	2
ASE161 Basic Automotive Electrical/Electronics (2) OR ASE161AU Basic Automotive Electrical/Electronics (2)	2
+ ASE162 Automotive Battery, Starting and Charging Systems (2) OR + ASE162AU Automotive Battery, Starting and Charging Systems (2)	2
+ ASE241 Advanced Steering, Suspension and Alignment (2) OR + ASE241AU Advanced Steering, Suspension and Alignment (2)	2
+ ASE251 Advanced Brake Systems (2) OR + ASE251AU Advanced Brake Systems (2)	2
+ ASE261 Automotive Electrical Diagnostics and Repair (2) OR + ASE261AU Automotive Electrical Diagnostics and Repair (2)	2

+ ASE262 Automotive Electronic Control Systems (2) OR	
+ ASE262AU Automotive Electronic Control Systems (2)	2

Automotive Drive Train²

Certificate of Completion - CCL 5950

**This program currently is not eligible for Title IV Federal Financial Aid
16 credits**

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Drive Train provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of automatic and manual transmissions and drive-trains and electrical systems. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A2, A3 and A6 Tests.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at GateWay and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (16 credits)	Credits
ASE121 Automatic Transmission and Transaxle (4) OR ASE121AU Automatic Transmission and Transaxle (4)	4
ASE131 Manual Drive Trains and Axles (4) OR ASE131AU Manual Drive Trains and Axles (4)	4
ASE161 Basic Automotive Electrical/Electronics (2) OR ASE161AU Basic Automotive Electrical/Electronics (2)	2
+ ASE162 Automotive Battery, Starting and Charging Systems (2) OR + ASE162AU Automotive Battery, Starting and Charging Systems (2)	2
+ ASE261 Automotive Electrical Diagnostics and Repair (2) OR + ASE261AU Automotive Electrical Diagnostics and Repair (2)	2
+ ASE262 Automotive Electronic Control Systems (2) OR + ASE262AU Automotive Electronic Control Systems (2)	2

Automotive Electrical, Heating, Ventilation and Air Conditioning Systems²

Certificate of Completion - CCL 5948N

This program is not eligible for Title IV Federal Financial Aid 11 credits

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Electrical, Heating, Ventilation and Air Conditioning Systems provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of electrical systems and heating, ventilation and air conditioning. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A7 and A6 Tests.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at GateWay and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (11 credits)		Credits
ASE161	Basic Automotive Electrical/Electronics (2) OR	
ASE161AU	Basic Automotive Electrical/Electronics (2)	2
+ ASE162	Automotive Battery, Starting and Charging Systems (2) OR	
+ ASE162AU	Automotive Battery, Starting and Charging Systems (2)	2
ASE171	Automotive Heating, Ventilation and Air Conditioning Systems (3) OR	
ASE171AU	Automotive Heating, Ventilation and Air Conditioning Systems (3)	3
+ ASE261	Automotive Electrical Diagnostics and Repair (2) OR	
+ ASE261AU	Automotive Electrical Diagnostics and Repair (2)	2
+ ASE262	Automotive Electronic Control Systems (2) OR	
+ ASE262AU	Automotive Electronic Control Systems (2)	2

Automotive Electronic/Electrical Systems²

Certificate of Completion - CCL 5938N

This program is not eligible for Title IV Federal Financial Aid 8 credits

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Electronic/Electrical Systems provides individuals

with the technical knowledge and skills needed by automotive technicians specializing in the area of electronic/electrical systems. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A6 Test.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at GateWay and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (8 credits)		Credits
ASE161	Basic Automotive Electrical/Electronics (2) OR	
ASE161AU	Basic Automotive Electrical/Electronics (2)	2
+ ASE162	Automotive Battery, Starting and Charging Systems (2) OR	
+ ASE162AU	Automotive Battery, Starting and Charging Systems (2)	2
+ ASE261	Automotive Electrical Diagnostics and Repair (2) OR	
+ ASE261AU	Automotive Electrical Diagnostics and Repair (2)	2
+ ASE262	Automotive Electronic Control Systems (2) OR	
+ ASE262AU	Automotive Electronic Control Systems (2)	2

Automotive Engine Performance²

Certificate of Completion - CCL 5942N

This program is not eligible for Title IV Federal Financial Aid 8 credits

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Engine Performance provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of engine performance. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A8 Test.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at Gateway and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (8 credits)		Credits
ASE181	Introduction to Engine Performance (2) OR	
ASE181AU	Introduction to Engine Performance (2)	2

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

+ ASE182	Theory and Fundamentals of Automotive Fuel/Air and Ignition Systems (2) OR	
+ ASE182AU	Theory and Fundamentals of Automotive Fuel/Air and Ignition Systems (2)	2
+ ASE281	Computerized Automotive Engine Control Systems (2) OR	
+ ASE281AU	Computerized Automotive Engine Control Systems (2)	2
+ ASE282	Advanced Engine Performance Diagnosis (2) OR	
+ ASE282AU	Advanced Engine Performance Diagnosis (2)	2

Automotive Engine Repair²

Certificate of Completion - CCL 5928N

This program is not eligible for Title IV Federal Financial Aid 4 credits

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Engine Repair provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of engine repair. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A1 Test.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at Gateway and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (4 credits)

Students are required to take (ASE102++ AND ASE111++) OR ASE113++ for a total of four credits.

ASE102	Automotive Express Service (2) OR	
ASE102AU	Automotive Express Service (2)	
AND		
ASE111	Engine Diagnosis and Inspection (2) OR	
ASE111AU	Engine Diagnosis and Inspection (2)	4
OR		
ASE113	Engine Repair (4) OR	
ASE113AU	Engine Repair (4)	4

Automotive Engine Repair and Performance²

Certificate of Completion - CCL 5954N

This program currently is not eligible for Title IV Federal Financial Aid 20 credits

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Engine Repair and Performance provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of engine repair and performance and electrical systems. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A1, A6 and A8 Tests.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at Gateway and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (20 credits)

Students are required to take (ASE102++ AND ASE111++) OR ASE113++ for a total of four credits.

		Credits
ASE102	Automotive Express Service (2) OR	
ASE102AU	Automotive Express Service (2)	
AND		
ASE111	Engine Diagnosis and Inspection (2) OR	
ASE111AU	Engine Diagnosis and Inspection (2)	4
OR		
ASE113	Engine Repair (4) OR	
ASE113AU	Engine Repair (4)	4
ASE161	Basic Automotive Electrical/Electronics (2) OR	
ASE161AU	Basic Automotive Electrical/Electronics (2)	2
+ ASE162	Automotive Battery, Starting and Charging Systems (2) OR	
+ ASE162AU	Automotive Battery, Starting and Charging Systems (2)	2
+ ASE261	Automotive Electrical Diagnostics and Repair (2) OR	
+ ASE261AU	Automotive Electrical Diagnostics and Repair (2)	2
+ ASE262	Automotive Electronic Control Systems (2) OR	
+ ASE262AU	Automotive Electronic Control Systems (2)	2
ASE181	Introduction to Engine Performance (2) OR	
ASE181AU	Introduction to Engine Performance (2)	2
+ ASE182	Fundamentals of Automotive Fuel/Air and Ignition Systems (2) OR	
+ ASE182AU	Fundamentals of Automotive Fuel/Air and Ignition	

	Systems (2)	2	mechanical maintenance and repair. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification Tests.
+ ASE281	Computerized Automotive Engine Control Systems (2) OR		
+ ASE281AU	Computerized Automotive Engine Control Systems (2)	2	See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.
+ ASE282	Advanced Engine Performance Diagnosis (2) OR		
+ ASE282AU	Advanced Engine Performance Diagnosis (2) OR		
+ ASE263	Hybrid Vehicle Overview (2)	2	This certificate also is offered at GateWay and Mesa Community Colleges.

Automotive Heating, Ventilation and Air Conditioning²

Certificate of Completion - CCL 5940N

This program is not eligible for Title IV Federal Financial Aid 3 credits

For Information: Veronica Moreno
Phone: 623.845.3183
www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Heating, Ventilation and Air Conditioning (HVAC) Systems provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of HVAC systems. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A7 Test.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at GateWay and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (3 credits)		Credits
ASE171	Automotive Heating, Ventilation and Air Conditioning Systems (3) OR	
ASE171AU	Automotive Heating, Ventilation and Air Conditioning Systems (3)	3

Automotive Maintenance and Light Repair²

Certificate of Completion - CCL 5946
16 credits

For Information: Veronica Moreno
Phone: 623.845.3183
www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Maintenance and Light Repair provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of basic electrical and

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (16 credits)		Credits
ASE101	Introduction to Automotive	2
ASE141	Steering, Suspension and Pre-Alignment (2) OR	
ASE141AU	Steering, Suspension and Pre-Alignment (2)	2
ASE151	Introduction to Brake Systems (2) OR	
ASE151AU	Introduction to Brake Systems (2)	2
ASE161	Basic Automotive Electrical/Electronics (2) OR	
ASE161AU	Basic Automotive Electrical/Electronics (2)	2
+ ASE162	Automotive Battery, Starting and Charging Systems (2) OR	
+ ASE162AU	Automotive Battery, Starting and Charging Systems (2)	2
ASE171	Automotive Heating, Ventilation and Air Conditioning Systems (3) OR	
ASE171AU	Automotive Heating, Ventilation and Air Conditioning Systems (3)	3
ASE181	Introduction to Engine Performance (2) OR	
ASE181AU	Introduction to Engine Performance (2)	2
+ ASE290AA	Automotive Service Internship (1) OR	
+ ASE298AA	Special Projects (1)	1

Automotive Manual Drive Train and Axles²

Certificate of Completion - CCL 5932N

This program is not eligible for Title IV Federal Financial Aid 4 credits

For Information: Veronica Moreno
Phone: 623.845.3183
www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Manual Drive Train and Axles provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of manual drive train and axles. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A3 Test.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

This certificate also is offered at GateWay and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (4 credits)

	Credits
ASE131 Manual Drive Trains and Axles (4) OR	
ASE131AU Manual Drive Trains and Axles (4)	4

Automotive Service²

Associate in Applied Science - AAS 3180
62-67 credits

For General Program Information: Veronica Moreno
Phone: 623.845.3183

For MCAP Program Information: Greg Dragiewicz
Phone: 623.845.3167

For ASSET Program Information: Don Davis
Phone: 623.845.3972

For ASEP Program Information: Lyle Clark
Phone: 623.845.3659

www.gccaz.edu/automotive-technology

The Automotive Technology Department at GCC offers four automotive programs:

- General
- ASSET (Ford)
- ASEP (General Motors)
- MCAP (Fiat Chrysler)

The General Program is a non-factory sponsored program. This program is designed for students who may wish to work in an independent repair facility as well as those who simply want to broaden their automotive repair skills. This program allows

students to take courses at their own pace. Students may choose to follow a recommended schedule for completing the program or may choose classes at his/her convenience.

The Factory Sponsored Programs at Glendale are designed with the intention of placing the student in a dealership. The goal of these programs is to enable the student to achieve entry level as a technician. The programs are intensive and require full time status of each student. The student will require four semesters to complete this course of study. During those four semesters the student will also be employed by his or her dealership whenever classes are not in session. This allows the student to experience working conditions and grow into a professional technician. To register in one of the factory sponsored programs, students must be sponsored by a dealership as a technician apprentice (we will help potential students with the interview process and steer them to dealerships that have already agreed to sponsor apprentices.)

The Automotive Service Educational Program (ASEP) combines GCC's Automotive Service AAS degree program with General Motors dealership experience.

The Automotive Student Service Educational Training Program (ASSET) combines GCC's Automotive Service AAS degree program with Ford dealership experience.

The Fiat Chrysler Mopar Career Automotive Program (MCAP) combines GCC's Automotive Service AAS degree program with a Chrysler, Dodge Fiat or Jeep dealership service department experience.

Students sponsored through ASEP/ASSET/MCAP programs may be required to take additional classes.

Transferability: Coursework has been generally transferable to ASU's and NAU's Department of Industrial Education, but the transfer student may need 75-80 more hours to receive the B.S. degree. When a transfer is planned, the student should consult as early as possible with the school and program to which he or she plans to transfer.

Certification: Certified by the National Institute for Automotive Service Excellence (ASE) and evaluated by National Automotive Technicians Education Foundation (NATEF).

Due to limited course availability, students should consult with a department advisor and/or Automotive department instructor in planning their academic schedule in order to complete degree requirements in an expedient manner.

Special Skill Levels Needed: Students wishing to pursue an AAS degree are advised to follow the recommendations of the Basic Studies Advisors for English and Reading placements.

Program Description: The Associate in Applied Science (AAS) in Automotive Service prepares individuals to apply technical knowledge and skills to repair, service, and maintain automobiles. Instruction is in both the theoretical and practical aspects of automotive repair, service and maintenance, and includes brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drivetrains, and heating and air conditioning systems. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile Certification Tests (A1 - A8).

See program advisor for additional certificate offerings.

This degree also is offered at GateWay and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (43 credits)

	Credits
ASE101 Introduction to Automotive	2

Students are required to take (ASE102++ AND ASE111++) OR ASE113++ for a total of four credits.

ASE102 Automotive Express Service (2) OR	
ASE102 AU Automotive Express Service (2)	
AND	
ASE111 Engine Diagnosis and Inspection (2) OR	
ASE111AU Engine Diagnosis and Inspection (2)	4
OR	
ASE113 Engine Repair (4) OR	
ASE113AU Engine Repair (4)	4

automotive repair, service and maintenance, and includes brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drivetrains, and heating and air conditioning systems. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile Certification Tests (A1 - A8).

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at GateWay and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (41 credits)

Credits

ASE101 Introduction to Automotive 2

Students are required to take (ASE102++ AND ASE111++) OR ASE113++ for a total of four credits.

ASE102 Automotive Express Service (2) OR
ASE102AU Automotive Express Service (2)

AND

ASE111 Engine Diagnosis and Inspection (2) OR
ASE111AU Engine Diagnosis and Inspection (2) 4

OR

ASE113 Engine Repair (4) OR
ASE113AU Engine Repair (4) 4

ASE121 Automatic Transmission and Transaxle (4) OR
ASE121AU Automatic Transmission and Transaxle (4) 4

ASE131 Manual Drive Trains and Axles (4) OR
ASE131AU Manual Drive Trains and Axles (4) 4

ASE141 Steering, Suspension and Pre-Alignment (2) OR
ASE141AU Steering, Suspension and Pre-Alignment (2) 2

ASE151 Introduction to Brake Systems (2) OR
ASE151AU Introduction to Brake Systems (2) 2

ASE161 Basic Automotive Electrical/Electronics (2) OR
ASE161AU Basic Automotive Electrical/Electronics (2) 2

+ ASE162 Automotive Battery, Starting and Charging Systems (2) OR
+ ASE162AU Automotive Battery, Starting and Charging Systems (2) 2

ASE171 Automotive Heating, Ventilation and Air Conditioning
Systems (3) OR
ASE171AU Automotive Heating, Ventilation and Air Conditioning
Systems (3) 3

ASE181 Introduction to Engine Performance (2) OR
ASE181AU Introduction to Engine Performance (2) 2

+ ASE182 Theory and Fundamentals of Automotive Fuel/Air
and Ignition Systems (2) OR

+ ASE182AU Theory and Fundamentals of Automotive Fuel/Air
and Ignition Systems (2) 2

+ ASE241 Advanced Steering, Suspension and Alignment (2) OR
+ ASE241AU Advanced Steering, Suspension and Alignment (2) 2

+ ASE251 Advanced Brake Systems (2) OR
+ ASE251AU Advanced Brake Systems (2) 2

+ ASE261 Automotive Electrical Diagnostics and Repair (2) OR
+ ASE261AU Automotive Electrical Diagnostics and Repair (2) 2

+ ASE262 Automotive Electronic Control Systems (2) OR
+ ASE262AU Automotive Electronic Control Systems (2) 2

+ ASE281 Computerized Automotive Engine Control Systems (2) OR
+ ASE281AU Computerized Automotive Engine Control Systems (2) 2

+ ASE282 Advanced Engine Performance Diagnosis (2) OR
+ ASE282AU Advanced Engine Performance Diagnosis (2) OR
+ ASE263 Hybrid Vehicle Overview (2) 2

Restricted Courses: (3 credits)

Credits

+ ASE264 Advanced Automotive Electrical Systems 3

+ ASE265 Introduction to Electric Drive Vehicles 3

+ ASE266 Electric/Hybrid High Voltage Batteries 1

+ ASE267 Electric Vehicle Operation and Diagnosis 3

ASE290++ Automotive Service Internship (any suffixed courses) (1-3) 1-3

ASE296++ Cooperative Education (any suffixed courses) (1-3) 1-3

ASE298++ Special Projects (any suffixed courses) (1-3) 1-3

DIE104 Electrical for Diesel Engines I 3

DIE106 Mobile Hydraulics and Pneumatics 3

DIE108 Heavy Duty Diesel Power Trains 3

DIE112 General Diesel Engines 3

+ MET109 Machine Trades Print Reading 3

+ MET231 Manufacturing Processes and Materials 3

MFG102 Machine Processes, Theory and Application 3

OSH106 Industrial Safety 2

WLD101 Welding I 3

Automotive Steering and Suspension²

Certificate of Completion - CCL 5934N

**This program is not eligible for Title IV Federal Financial Aid
4 credits**

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Automotive Steering and Suspension provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of steering and suspension. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification A4 Test.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area/

Program Prerequisites: None

Required Courses: (4 credits)		Credits
ASE141	Steering, Suspension and Pre-Alignment (2) OR	2
ASE141AU	Steering, Suspension and Pre-Alignment (2)	
+ ASE241	Advanced Steering, Suspension and Alignment (2) OR	2
+ ASE241AU	Advanced Steering, Suspension and Alignment (2)	

Basic Automotive Maintenance²

Certificate of Completion - CCL 5944N

**This program is not eligible for Title IV Federal Financial Aid
12 credits**

For Information: Veronica Moreno

Phone: 623.845.3183

www.gccaz.edu/automotive-technology

Program Description: The Certificate of Completion (CCL) in Basic Automotive Maintenance provides individuals with the technical knowledge and skills needed by automotive technicians specializing in the area of basic electrical and mechanical maintenance and repair. The curriculum within this certificate aligns with the Automotive Service Excellence (ASE) Automobile and Light Truck Certification Tests.

See program advisor for additional certificate offerings. An Associate in Applied Science (AAS) in Automotive Service also is available.

This certificate also is offered at GateWay, Mesa, and Rio Salado Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

Program Prerequisites: None

Required Courses: (12 credits)		Credits
ASE101	Introduction to Automotive	2
ASE141	Steering, Suspension and Pre-Alignment (2) OR	2
ASE141AU	Steering, Suspension and Pre-Alignment (2)	
ASE151	Introduction to Brake Systems (2) OR	2
ASE151AU	Introduction to Brake Systems (2)	
ASE161	Basic Automotive Electrical/Electronics (2) OR	2
ASE161AU	Basic Automotive Electrical/Electronics (2)	
+ ASE162	Automotive Battery, Starting and Charging Systems (2) OR	2
+ ASE162AU	Automotive Battery, Starting and Charging Systems (2)	
ASE181	Introduction to Engine Performance (2) OR	2
ASE181AU	Introduction to Engine Performance (2)	

Basic Behavioral Health Sciences

Certificate of Completion - CCL 5522

16 credits

For Information: Dr. Thomas Rojo Aubrey

Phone: 623.845.3212

www.gccaz.edu/behavioral-sciences

Program Description: The Certificate of Completion (CCL) in Basic Behavioral Health Sciences program is designed to provide students with a comprehensive study of human behavior and prepare them to assist, as part of a clinical team, in the care of individuals and families dealing with mental illness, addictions and substance use, developmental disabilities, co-morbid medical conditions, and challenging behaviors. The program includes courses designed to provide students with the skills necessary to deliver specialized and comprehensive behavioral health and social services. The core focus of the program is practical training and service learning experiences.

Program Notes: Students must earn a grade of C or better in all courses within the program.

This certificate also is offered by South Mountain Community College.

Prerequisites: None

Required Courses: (16 credits)		Credits
BHS150	Introduction to Behavioral Health and Social Services	3
BHS155	Professional Resiliency and Compassion Fatigue Prevention	1
BHS160	Ethical, Legal and Professional Issues in Behavioral Health and Social Services	3
BHS165	Applied Therapeutic Interpersonal Skills in Behavioral Health and Social Services	3
BHS170	Case Management and Clinical Documentation	3
BHS180	Child, Family, and Adult Advocacy	3

Behavioral Sciences

Associate in Applied Science - AAS 3067

60-65 credits

For Information: Dr. Thomas Rojo Aubrey

Phone: 623.845.3212

www.gccaz.edu/behavioral-sciences

Program Description: The Associate in Applied Science (AAS) in Behavioral Sciences program is designed to provide students with a comprehensive study of human behavior and prepare them to assist, as part of a clinical team, in the care of individuals and families dealing with mental illness, addictions and substance use, developmental disabilities, co-morbid medical conditions, and challenging behaviors. The program includes courses designed to provide students with the skills necessary to deliver specialized and comprehensive behavioral health and social services. The core focus of the program is practical training and service learning experiences.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Students should select restricted electives in one of the following

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

areas of emphasis:

Trauma and Crisis Stabilization
 Infant and Early Childhood Mental Health
 Addiction and Substance Use Disorders
 Developmental Disabilities
 Criminal Justice and Forensic Science
 Mental Health

This degree also is offered by South Mountain Community College.

Program Prerequisites: None

Required Courses: (32 credits)

Credits

Certificate of Completion (CCL) Basic Behavioral Health Sciences (5522) (16)

AND

BHS175	Introduction to Trauma-Informed Care and Trauma-Focused Caregiving	3
BHS185	Cultural Competency in Behavioral Health Services	3
+ BHS190	Professional Portfolio: Supervised Practice In Behavioral Health and Social Services	1
BHS205	Therapeutic Models and Interventions	3
BHS210	Addictions, Substance Use Disorders, and Relapse Prevention	3
BHS215	Therapeutic Group Interventions	3

Restricted Electives: (6 credits)

Credits

Students must choose six credits from one of the following areas of emphasis:

Emphasis in Trauma and Crisis Stabilization

BHS230	Crisis and Trauma Stabilization (3) AND	
BHS235	Emergency Mental Health Crisis Response and Recovery (3)	6

Emphasis in Infant and Early Childhood Mental Health

BHS275	Infant and Early Childhood Mental Health (3)	
AND		
CFS177	Parent-Child Interaction (3)	
CFS235	Developing Child: Theory into Practice, Prenatal - Age Eight (3) OR	
+ EED210	Creative and Cognitive Play (3) OR	
+ EED280	Standards, Observation and Assessment of Typical/ Atypical Behaviors of Young Children Birth to Age Eight (3)	6

Emphasis in Addiction and Substance Use Disorders

ASD110	Pharmacology of Substances of Abuse and Dependency (3) AND	
ASD245	Co-Occurring Disorders (2)	
AND		
ASD120	Professional Ethics in Addictions and Substance Use Disorder (1) OR	
ASD145	AIDS and Addiction (1)	6

Emphasis in Developmental Disabilities

+ PSY241	Understanding and Changing Behavior (3) AND	
+ PSY243	The Psychology of Developmental Disabilities (3)	6

Emphasis in Criminal Justice and Forensic Science

+ PSY267	Introduction to Forensic Psychology (3)	
AND		
AJS101	Introduction to Criminal Justice (3) OR	
AJS200	Current Issues In Criminal Justice (3) OR	

AJS225	Criminology (3)	6
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Emphasis in Mental Health

BHS235	Emergency Mental Health Crisis Response and Recovery (3) AND/OR	
+ BHS262	Counseling the Elderly (1) AND/OR	
BHS265	Violence and Abuse Matters (2) AND/OR	
BHS268	Grief and Bereavement Issues (2) AND/OR	
+ BHS272	Managing Difficult Children (3) AND/OR	
BHS275	Infant and Early Childhood Mental Health (3) AND/OR	
+ PSY266	Abnormal Psychology (3)	6

General Education: (22-27 Credits)

General Education Core: (12-17 credits) Credits 6

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)	

Oral Communication: 3

COM110	Interpersonal Communication (3) OR	
+ COM225	Public Speaking (3) OR	
COM230	Small Group Communication (3)	

Critical Reading: 0-3

+ CRE101	College Critical Reading and Critical Thinking (3) OR Equivalent as indicated by assessment	
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Mathematics: 3-5

+ MAT112	Mathematical Concepts and Applications (3) or Satisfactory completion of a higher level mathematics course (3-5) MAT142 or MAT151 recommended for those planning to transfer.	
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General Education Distribution: (10 credits) Credits 3

Humanities, Arts and Design:

Any approved general education course from the Humanities, Arts and Design area		
+ HCR210	Clinical Health Care Ethics recommended.	

Social-Behavioral Sciences: 3

PSY101	Introduction to Psychology	
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Natural Sciences: 4

+ PSY275	Biopsychology (suggested) (4) OR	
+ BIO156	Introductory Biology for Allied Health (4) OR	
BIO160	Introduction to Human Anatomy and Physiology (4) OR	
FON241	Principles of Human Nutrition (3) AND	
+ FON241LL	Principles of Human Nutrition Laboratory (1)	

Biology

General Information

For Information: Karen Conzelman

Phone: 623.845.3612
www.gccaz.edu/biology

Student Goals: Career-related, General Education, Transfer

The primary focus of biology is the study of life. This includes all living organisms from the smallest bacterium to the largest and most complex plants and animals. The technological impact of the

biological sciences on society and the increasing responsibility of the scientist to our society require that a basic knowledge of biology should become a part of everyone's education. Students take biology courses to:

- Provide the needed background for careers in fields such as nursing, medicine, health, human services, nutrition, physical education, agriculture, or forestry. Pre-nursing students must complete several prerequisite biology courses before applying for admission to the nursing program.
- Prepare for a major in biology (or related field) at a four-year institution. Those individuals intending to transfer as biology majors should complete both BIO181 and 182 at GCC. Other recommended courses include at least two semesters of inorganic chemistry, two semesters of Physics, and at least one semester of Calculus. The particular courses selected will depend on the student's background and the degree requirements of the transfer institution. It is recommended that those students planning to transfer to a public university in Arizona complete a minimum of the AGEC to facilitate transfer. Students should consult with an advisor and/or the catalog of the transfer institution to determine which AGEC (and/or Associate's degree) best meets their needs.
- Prepare for careers in the biotechnology industry and transfer to bachelor's programs in the field of molecular biology.
- Meet the General Education requirement in Natural Sciences. Most BIO courses meet this requirement for the AGEC and for the college's associate degrees. BIO101, 102, 105, 145, and 160 are especially recommended for students not majoring in biology.

Transfer students should consult the catalog of the transfer institution for their general education requirements.

Students should consult with a department advisor in planning their academic schedule in order to complete degree requirements in an expedient manner. Required courses may not be available every semester or year. Due to limited course offerings, degree seeking students may find it necessary to extend completion time lines and attend both day and evening classes.

Biotechnology and Molecular Biosciences

Associate in Applied Science - AAS 3034

62-74 credits

For Information: James Tuohy

Phone: 623.845.3845

www.gccaz.edu/biology

Program Description: The Associate in Applied Science (AAS) in Biotechnology and Molecular Biosciences program is designed to give entry-level laboratory technicians skills for application in academic, industrial and commercial research institutions. The exposure to an academic environment that simulates the contemporary biotechnological workplace, inclusive of analytical, critical thinking and problem-solving skills, provides the opportunity to form a strong technical foundation typically sought by employers. The successful completion of the program may also provide the

educational background for those wishing to pursue a career in the pharmaceutical industry, clinical laboratory medicine, forensics or environmental testing laboratories and/or a foundation for a student wishing to continue their education at a university.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses and Restricted Electives area.

Prerequisites: None

Required Courses: (40-47 credits)

	Credits
ABS/BIO173 Basic Instrumentation and Lab Math (1) AND ABS/BIO175 Research Methods in Biology (1) OR Permission of Program Director based on student's background	0-2
+ BIO181 General Biology (Majors) I	4
+ BIO205 Microbiology	4
+ BIO208 Nucleic Acid Methods	3
+ BIO209 Biomolecular Separation	3
+ BIO210 Advanced Lab Instrumentation	3

Select three credit hours of Biology Seminar. BIO211AA and BIO211AB may each be repeated to apply toward Seminar credit total:

BIO211AA Biotechnology Seminar: Biomedical Applications (1) OR + BIO211AB Biotechnology Seminar: Laboratory Protocol (1) OR BIO211AE Biotechnology Seminar: Business and Regulatory Issues (1) 3	3
+ BIO215 Biotechnology Internship (3) Two semesters of internship are required.	6
+ CHM150 General Chemistry I (4) OR + CHM151 General Chemistry I (3) AND + CHM151LL General Chemistry I Laboratory (1) OR + CHM151AA General Chemistry I (4)	4-5
+ CHM230 Fundamental Organic Chemistry (3) AND + CHM230LL Fundamental Organic Chemistry Laboratory (1) OR + CHM235 General Organic Chemistry I (3) AND + CHM235LL General Organic Chemistry I Laboratory (1) AND + CHM236 General Organic Chemistry IIA (3) AND + CHM236LL General Organic Chemistry IIA Laboratory (1)	4-8
+ CHM260 Fundamental Biochemistry	3
+ BIO/CSC283 Bioinformatics and Scientific Computing	3

Restricted Electives: (4 credits)

Credits
Student should select any four credits from the following list. (CHM152 and CHM152LL) or CHM152AA recommended for those choosing two semester organic chemistry option.

+ BIO182 General Biology (Majors) II	4
+ CHM130 Fundamental Chemistry (3) AND + CHM130LL Fundamental Chemistry Laboratory (1) OR + CHM130AA Fundamental Chemistry with Lab (4)	4
+ CHM152 General Chemistry II (3) AND	

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

+ CHM152LL	General Chemistry II Laboratory (1)	
OR		
+ CHM152AA	General Chemistry II (4)	4
+ PHY+++	Any PHY Physics course	4

General Education Requirements: (18-23 Credits)
General Education Core: (12-17 credits) **Credits**

First Year Composition: **6**

ENG111 is not recommended for students considering university transfer.		
+ 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 and Professional Writing (3)	

Oral Communication: **3**

Any approved general education course from the Oral Communication area.		
COM230	Small Group Communication (3) recommended.	

Critical Reading: **0-3**

+ CRE101	College Critical Reading and Critical Thinking (3) OR	
Equivalent as indicated by assessment		

Mathematics: **3-5**

+ MAT150	College Algebra/Functions (5) OR	
+ MAT151	College Algebra/Functions (4) OR	
+ MAT152	College Algebra/Functions (3) OR	
Satisfactory completion of higher level Mathematics course		

General Education Distribution: (6 credits) **Credits**

Humanities, Arts and Design: **3**

PHI213	Medical and Bio-Ethics	
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Social-Behavioral Sciences: **3**

Any approved general education course from the Social-Behavioral Sciences area, see page 31.		
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Natural Sciences: **0**

Met by BIO181 OR [(CHM150 OR CHM151) and CHM151LL] OR CHM151AA in Required Courses area.		
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Business and Information Technology

General Information

For Information: Rachele Hall
Phone: 623.845.3231
www.gccaz.edu/business-information-technology

University Transfer Program

Associate in Business, General Requirements (ABUS-GR):

Purpose of the Degree

The Associate in Business General Requirements (ABUS-GR) degree is designed for students who plan to transfer to four-year colleges and universities. In general, the components of this degree meet requirements for the various business majors (except Computer Information Systems) at Arizona's public universities. Computer Information Systems majors should follow the Associate

in Business Special Requirements (ABUS-SR) pathway instead. Generally, the degree transfers as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements.

Generally, the degree transfers as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements. In most cases, courses used to satisfy the MCCC Associate in Business-General Requirements will apply to university graduation requirements of the university major for which the ABUS-GR was designed.

Associate in Business, Special Requirements (ABUS-SR):

Purpose of the Degree

The Associate in Business Special Requirements (ABUS-SR) degree is designed for students who plan to transfer to four-year colleges and universities. In general, the components of this degree meet requirements for Business' Computer Information Systems majors at Arizona's public universities. Other Business majors should follow the Associate in Business General Requirements (ABUS-GR) pathway instead. Generally, the degree transfers as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements.

Generally, the degree transfers as a block without loss of credit to Arizona's public universities and other institutions with district-wide articulation agreements. In most cases, courses used to satisfy the MCCC Associate in Business-Special Requirements may apply to university graduation requirements of the university major for which the ABUS-SR was designed.

Business and Personal Computers

General Information

For Information: Beth Berry
Phone: 623.845.3391
www.gccaz.edu/business-informatin-technology

Student Goals: Personal, Career-related

These eCourses and traditional structured courses develop skills in using IBM and/or Macintosh microcomputers and their related software. Students take these courses:

- For personal development of microcomputer skills. Beginning courses are available, such as BPC101 (introductory), 110 (computer applications), and 111 (keyboarding). Students may wish to continue in more advanced courses.
- To Prepare for or Enhance Employment. Both an Associate in Applied Science (AAS) degree program and a Certificate of Completion (CCL) program are available. With proper choices, a student who completes the Certificate may apply all those courses toward the Associate Degree program. For either program, students should consult with a department advisor to plan their academic schedules.

Required courses may not be available every semester, students, degree seeking or transfer, should consult with a department advisor in planning their academic schedule in order to complete

degree requirements in an expedient manner.

For more information and course availability on the Business and Personal Computers program, visit us on the web at: www.gccaz.edu/business-information-technology.

Business Office Assistant

Certificate of Completion - CCL 5238

18 credits

For Information: Beth Berry

Phone: 623.845.3391

www.gccaz.edu/business-information-technology

Who will hire me?

The office occupations outlook is very good in Arizona. Skilled office employees are needed by large and small companies, service industries, government agencies, and private businesses of all kinds.

What skills will I need on the Job?

- Computer application skills.
- General office organizational skills.
- Written, verbal, and nonverbal communication skills.
- Human relations and teamwork skills.

What will I do on the Job?

Today's office employee performs a variety of tasks. Data entry operators enter alphabetic and numeric data into a computer, proofread and make corrections to previously entered data, and keep records of completed work.

Receptionist greet visitors, answer phones and transfer calls, arrange appointments, collect and distribute mail and messages, give travel information, file documents, and type correspondence.

Office secretaries compose and type letters, schedule meetings and take notes, distribute mail, arrange for food service, file documents, keep inventory of office supplies, take dictation and transcribe information.

Office coordinators direct the office activities, prepare plans for the overall office maintenance, coordinate the office functions and projects, be a team leader.

Administrative office coordinators provide assistance for top management, facilitate meetings and conferences, prepare and/or coordinate the preparation of documentation for the company, act as a liaison for the company.

Program Description: The Certificate of Completion (CCL) in Business Office Assistant program is designed to prepare the student for employment as an office assistant in a business office environment. Skill development includes keyboarding, word processing, spreadsheet development, presentation software skills, basic database data entry and management skills, filing, electronic and traditional mailing methods, managing calendars, and fundamental aspects of using a payroll software. Program also is designed to develop proper techniques for internal and external office communication.

Program Notes: Students must earn a grade of C or better for all courses within the program.

Program Prerequisites: None

Required Courses: (18 credits)		Credits
BPC101AA	Introduction to Computers I	1
BPC106AH	MS Outlook Level I	0.5
+ BPC106BH	MS Outlook Level II	0.5
CIS113DE	Microsoft Word: Word Processing	3
GBS151	Introduction to Business	3
OAS101AA	Computer Typing I: Keyboard Mastery	1
BPC110	Computer Usage and Applications (3) OR	
CIS114AE	Excel Level 1 (1) AND	
CIS117AM	Access Level 1 (1) AND	
CIS118AB	PowerPoint Level 1 (1)	3
CIS133AA	Internet/Web Development Level I-A ¹	1
+ OAS101AB	Computer Typing I: Letters, Tables and Reports	1
ACC107	Bookkeeping Theory and Practice	4

Business Office Computer Applications

Associate in Applied Science - AAS 3546

62-67 credits

For Information: Beth Berry

Phone: 623.845.3391

www.gccaz.edu/business-information-technology

This degree can be applied to a Bachelor of Applied Science (BAS) degree at the ASU West campus.

Program Description: The Associate in Applied Science (AAS) in Business Office Computer Applications degree includes courses in the following areas: general office computer usage and applications, operating systems, word processing, database, and spreadsheets. Other business skills, including accounting, English, math (including statistics), and business systems analysis and design, are integrated in the program. The curriculum is designed to help prepare students to use common business computer application software in a professional office setting.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None

Required Courses: (29-31 credits)		Credits
CIS105	Survey of Computer Information Systems	3
CIS113DE	Microsoft Word: Word Processing	3
CIS114DE	Excel Spreadsheet	3
CIS117DM	Microsoft Access: Database Management	3
CIS118DB	Desktop Presentation: PowerPoint	3
CIS120++	Any Computer Graphics course	1-3
CIS133DA	Internet/Web Development Level I ¹	3
+ GBS233	Business Communication	3
OAS101AA	Computer Typing I: Keyboard Mastery	1
+ OAS101AB	Computer Typing I: Letters, Tables and Reports	1
ITS100	Information Security Awareness	1
BPC106AH	MS Outlook: Level I	0.5
+ BPC106BH	Microsoft Outlook Level II	0.5
+ CIS250	Management of Information Systems	3

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Restricted Electives: (9-11 credits)

Students must select any combination of 9-11 credits of additional courses from the following prefixes except courses used to satisfy the Required Courses area. Required Courses and Restricted Electives must total a minimum of 40 credits.

Any 100-200 level prefixed courses may be selected, except courses used to satisfy the Required Courses area.

- + ACC+++++ Any ACC Accounting Course
- + BPC+++++ Any BPC Business - Personal Computer Course
- + CIS+++++ Any CIS Computer Information Systems Course
- + GBS+++++ Any GBS General Business Course
- + MGT+++++ Any MGT Management Course

General Education Requirements: (22-27 credits)**General Education Core: (12-17 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 and Professional Writing (3)

Oral Communication:

- COM100 Introduction to Human Communication (3) OR
- COM110 Interpersonal Communication (3) OR
- + COM225 Public Speaking (3) OR
- COM230 Small Group Communication (3)

Critical Reading:

- + CRE101 College Critical Reading and Critical Thinking 3 OR
- Equivalent as indicated by assessment

Mathematics:

- + MAT120 Intermediate Algebra (5) OR
- Satisfactory completion of a higher level mathematics course (3-5)

General Education Distribution: (10 credits)**Humanities, Arts and Design:**

Any approved general education course in the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences:

- SBU200 Society and Business (3) OR
- ECN+++ Any ECN Economics course (3)

Natural Sciences:

Any approved general education course in the Natural Sciences area, see page 31.

Business Office Computer Applications

Certificate of Completion - CCL 5212
21 credits

For Information: Beth Berry

Phone: 623.845.3391

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Business Office Computer Applications program includes courses in the following areas: general office computer usage and applications, operating systems, word processing, database, and spread-

Credits

Credits
6

3

0-3

3-5

3

3

4

sheets. Other business skills, including accounting, business calculations and English, are integrated in the program. The curriculum is designed to help prepare students to use common business computer application software in a professional office setting.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None**Required Courses: (21 credits)**

		Credits
CIS105	Survey of Computer Information Systems	3
CIS133DA	Internet/Web Development Level I ¹	3
OAS101AA	Computer Typing I: Keyboard Mastery	1
+ OAS101AB	Computer Typing I: Letters, Tables and Reports	1
CIS118DB	Desktop Presentation - PowerPoint	3
CIS113DE	Microsoft Word: Word Processing	3
CIS114DE	Excel Spreadsheet	3
CIS117DM	Microsoft Access: Database Management	3
ITS100	Information Security Awareness	1

CAD Application

Certificate of Completion - CCL 5410N

This program is not eligible for Title IV Federal Financial Aid
12 credits

For Information: Glenda Chagolla

Phone: 623.845.3699

www.gccaz.edu/technology-consumer-sciences

Program Description: The Certificate of Completion (CCL) in CAD Application program is designed to train students with professional level software and develop competence in three-dimensional (3D) modeling and documentation specific to one of the three major design fields (architecture, civil, manufacturing). The goal of this program is to broaden design exposure and CAD technology skills.

Program Notes: Students must earn a grade of C or better for each course listed in the program.

Program Prerequisites: (0-23 credits)

Prerequisite courses may be waived with permission of Program Director based on relevant industry experience.

		Credits
CAD100	Fundamentals of 2D AutoCAD	3
+ CAD101	Elements of CAD Graphics (AutoCAD)	3
+ CAD145	Survey of CAD	3
+ CAD201	Three-Dimensional (3D) Modeling and Advanced CAD Techniques	3
+ CAD105	Fundamentals of Revit Architecture (3) OR	
+ CAD175	Manufacturing Modeling and Design (3) OR	
+ CAD186	Site Development I (3)	3
+ DFT106	Algebra and Graphs for Design Technology (3) OR	
+ MAT150	College Algebra/Functions (5) OR	
+ MAT151	College Algebra/Functions (4) OR	

+ MAT152	College Algebra/Functions (3) OR	3-5	+ CAD145	Survey of CAD	3
+ DFT107	Trigonometry and Analytic Geometry for Design Technology (3)		+ CAD201	Three-Dimension (3D) Modeling and Advanced CAD Techniques	3
OR					
+ MAT182	Plane Trigonometry (3)	3			
Required Courses: (9 credits)			Credits		
+ CAD295	Design Geometry	3	+ CAD105	Fundamentals of Revit Architecture (3) OR	
			+ CAD175	Manufacturing Modeling and Design (3 OR	
			+ CAD186	Site Development I (3)	3
+ CAD167	Architectural Drawings I (Revit): Residential CAD (3) OR		+ CAD292	Current Developments in CAD Technology	1
+ CAD245	Design and Modeling of Mechanisms (3) OR				
+ CAD286	Site Development II (3)	3			
+ CAD267	Architectural Drawings II (Revit): Commercial CAD (3) OR				
+ CAD270	SolidWorks Application and Analysis Modules (3) OR				
CAD+++++	Any approved CAD Computer-Aided Design course(s)	3			

Restricted Electives: (3 credits) **Credits**
Choose course(s) from the following list of options based on area(s) of interest and specialization.

Course(s) selected must be in addition to those counted in Required Area and must be approved by Department Advisor.

BLT263++	Any Building Codes course	3
+ CAD167	Architectural Drawings I (Revit): Residential CAD	3
+ CAD245	Design and Modeling of Mechanisms	3
+ CAD267	Architectural Drawings II (Revit): Commercial CAD	3
+ CAD270	SolidWorks Application and Analysis Modules	3
+ CAD281	Electro-Mechanical Product Documentation	3
+ CAD286	Site Development II	3
+ CAD287	Advanced Revit Techniques	3
+ CAD292	Current Developments in CAD Technology (1)	1-3
	(CAD292 may be repeated up to 3 times on different topics)	
CAD+++++	Any other CAD Computer-Aided Drafting course(s)	1-3
CON241	Surveying	3
CON263	Building Codes	3
+ DFT115	Geometric Dimensioning and Tolerancing	3
DFT126	Building Trades Blueprint Reading	3

CAD Fundamentals

Certificate of Completion - CCL 5409
16 credits

For Information: Glenda Chagolla
Phone: 623.845.3699
www.gccaz.edu/technology-consumer-sciences

Program Description: The Certificate of Completion (CCL) in CAD Fundamentals program is designed to provide students with the computer aided design (CAD) skills and competence in two-dimensional (2D) and three-dimensional (3D) documentation and modeling typical of entry level CAD operators.

Program Notes: Students must earn a grade of C or better for all courses within the program.

Program Prerequisites: None

Required Courses: (16 credits)		Credits
CAD100	Fundamentals of 2D AutoCAD	3
+ CAD101	Elements of CAD Graphics (AutoCAD)	3

+ CAD145	Survey of CAD	3
+ CAD201	Three-Dimension (3D) Modeling and Advanced CAD Techniques	3
+ CAD105	Fundamentals of Revit Architecture (3) OR	
+ CAD175	Manufacturing Modeling and Design (3 OR	
+ CAD186	Site Development I (3)	3
+ CAD292	Current Developments in CAD Technology	1

CAD Technology

Associate in Applied Science - AAS 3503
64-69 credits

For Information: Glenda Chagolla
Phone: 623.845.3699
www.gccaz.edu/technology-consumer-sciences

Program Description: The Associate in Applied Science (AAS) in CAD Technology degree provides students with experience in the manipulation of two-dimensional (2D) and three-dimensional (3D) objects using industry standard CAD software and includes training in presentation and animation methods as well as in documentation conventions. Elective options in architecture, manufacturing, and civil projects supply focus on specific professional application software. Additionally, students are required to enroll in a departmental elective from a second professional group, thus broadening their experience of the design sector and heightening their skills in and perceptions of the range of design possibilities.

Program Notes: Students must earn a grade of C or better for each course listed in the program.

Program Prerequisites: None.

Required Courses: (39-41 credits) **Credits**
Students must earn a grade of C or better for each course listed under Required Courses.

CAD100	Fundamentals of 2D AutoCAD	3
+ CAD101	Elements of CAD Graphics (AutoCAD)	3
+ CAD145	Survey of CAD	3
+ CAD201	Three-Dimensional (3D) Modeling and Advanced CAD Techniques	3
+ CAD295	Design Geometry	3
+ CET211	Strength of Materials	3
+ DFT106	Algebra and Graphs for Design Technology (3) OR	
+ MAT150	College Algebra/Functions (5) OR	
+ MAT151	College Algebra/Functions (4) OR	
+ MAT152	College Algebra/Functions (3)	3-5
+ DFT107	Trigonometry and Analytic Geometry for Design Technology (3) OR	
+ MAT182	Plane Trigonometry (3)	3
+ DFT115	Geometric Dimensioning and Tolerancing (3) OR	
DFT126	Building Trades Blueprint Reading (3)	3

Students must also complete the courses in one of the

following application specialty tracks:

Track I: Architecture Credits:

+ CAD105	Fundamentals of Revit Architecture	3
+ CAD167	Architectural Drawings I (Revit): Residential CAD	3
+ CAD267	Architectural Drawings II (Revit): Commercial CAD	3

CON263	Building Codes (3) OR	
BLT263++	Building Codes (any suffixed course) (3)	3

Track II: Manufacturing Credits:

+ CAD175	Manufacturing Modeling and Design	3
+ CAD245	Design and Modeling of Mechanisms	3
+ CAD281	Electro-Mechanical Product Documentation	3
+ CAD270	SolidWorks Application and Analysis Modules	3

Track III: Civil Credits:

+ CAD186	Site Development I	3
+ CAD286	Site Development II	3
CAD++++	Any CAD Computer-Aided Design course(s)	3
+ CON241	Surveying	3

Restricted Electives: (6 credits)**Credits**

Students must select an additional six (6) credit hours from the following course options. Selected courses will not apply in both Required Courses and Restricted Electives areas.

+ CAD167	Architectural Drawings I (Revit): Residential CAD	3
+ CAD175	Manufacturing Modeling and Design	3
+ CAD186	Site Development I	3
+ CAD235	Modeling, Rendering and Animation for Technical Presentations	3
+ CAD245	Design and Modeling of Mechanisms	3
+ CAD267	Architectural Drawings II (Revit): Commercial CAD	3
+ CAD270	SolidWorks Application and Analysis Modules	3
+ CAD281	Electro-Mechanical Product Documentation	3
+ CAD286	Site Development II	3
+ CAD287	Advanced Revit Techniques	3
DFT121	Introduction to Architectural Drafting	3
+ CAD292	Current Developments in CAD Technology (1) (May repeat up to three times on different topics)	1-3

Courses selected from the following Restricted Electives options require prior approval by Department Advisor or Program Director:

CAD+++	Any CAD Computer-Aided Drafting course(s) (1-3) OR	
CIS+++	Any CIS Computer Information Systems course(s) (1-3)	1-3

General Education Requirements: (19-22 credits)**General Education Core: (9-12 credits)****Credits****First-Year Composition:****6**

+ 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 and Professional Writing (3)	

Oral Communication:**3**

COM100	Introduction to Human Communication (3) OR	
COM110	Interpersonal Communication (3) OR	
+ COM225	Public Speaking (3) OR	
COM230	Small Group Communication (3)	

Critical Reading:**0-3**

+ CRE101 College Critical Reading and Critical Thinking (3) OR
Appropriate Reading placement test score

Mathematics:**0**

Met by (DFT106 or MAT150 or MAT151 or MAT152) and
(DFT107 or MAT182) in Required Courses area.

General Education Distribution: (10 credits)**Credits****Humanities, Arts and Design:****3**

Any approved general education course in the Humanities,
Arts and Design area, see page 31.

Social-Behavioral Sciences:**3**

ECN211 Macroeconomic Principles (3) OR
ECN212 Microeconomic Principles (3)

Natural Sciences:**4**

+ PHY101 Introduction to Physics (4) OR
+ PHY111 General Physics I (4)

Chemistry**General Information**

For Information: Debbie Leedy

Phone: 623.845.4770

www.gccaz.edu/chemistry

Student Goals: General Education, Career-related, Transfer

Chemists study the behavior of substances, and create new or improved materials for special purposes: faster semiconductor circuits, new drugs, and new personal care products to name a few. They use their knowledge to study the complex chemistry of living systems vital to research efforts in the field of medicine. They also analyze samples for trace elements in fields such as forensic science, medical labs and environmental chemistry. And sometimes, they engage in pure research that just might lead to an unexpected discovery!

Students studying chemistry often find employment in a variety of related fields: medicine, pharmacy, industrial safety, engineering, geology, environmental science and biology, as well as in education or the traditional chemistry lab. There is a continuing demand for BS, MS, and PhD chemists in business, government and industry. Although the Phoenix area has some positions in medical labs, government labs, and the semiconductor industry, opportunities for local employment are somewhat limited. The national picture is more encouraging.

Transfer Program: Students intending to major in chemistry should regard this program as a guide for preparing to transfer to a baccalaureate degree granting institution. The program is designed to generally parallel the first two years of course work required by most four-year institutions. For individual requirements at specific institutions, the student should refer to the Chemistry department website or consult with a Chemistry Department advisor.

Transferability: All 100-level and above courses transfer.

Students should consult with a department advisor in planning their academic schedule in order to complete degree requirements in an expedient manner. Required courses may not be available every semester. Due to limited course offerings, degree seeking students may find it necessary to attend both day and evening classes.

Special Skill Levels Needed: College level reading and writing skills. MAT120, Intermediate Algebra, or MAT122, Intermediate Algebra, or the equivalent of 4 years high school math.

Departmental Recommendations for Chemistry Majors: Credits

+ CHM151	General Chemistry I	3
+ CHM151LL	General Chemistry I Laboratory	1
+ CHM152	General Chemistry II	3
+ CHM152LL	General Chemistry II Laboratory	1
+ CHM235	General Organic Chemistry I	3
+ CHM235LL	General Organic Chemistry I Laboratory	1
+ CHM236	General Organic Chemistry II	3
+ CHM236LL	General Organic Chemistry II Laboratory	1

Other Recommendations:

+ MAT220	Calculus with Analytic Geometry I	5
+ MAT230	Calculus with Analytic Geometry II	5
+ MAT241	Calculus with Analytic Geometry III	4
+ MAT262	Differential Equations	3
+ PHY115*	University Physics I	5
+ PHY116*	University Physics II	5

*Student should take PHY111 **and** PHY112, General Physics, if transferring to the University of Arizona.

General Education Recommendations:

Individual universities may require foreign language. Others accept computer literacy to fulfill the language requirement. In any case, computer courses are strongly recommended.

Chicana and Chicano Studies

Academic Certificate - AC 6230N

This program is not eligible for Title IV Federal Financial Aid 12-13 credits

For information: Guiomar Borrás

Phone: 623.845.3636

www.gccaz.edu/communication-world-languages

Program Description: The Academic Certificate (AC) in Chicana and Chicano Studies explores the unique experiences of the Chicana and Chicano people living in the Southwest. The Certificate provides a study of Mexican-American life in the society of the United States, including Mexican background, social and cultural differences, and experiences of assimilation.

Program Notes: Students must earn a grade of C or better for all courses within the program.

Program Prerequisites: Credits: 3-6

+ ENG101	First-Year Composition (3) OR	3
+ ENG107	First-Year Composition for ESL (3)	
+ CRE101	College Critical Reading and Critical Thinking (3) OR Equivalent as indicated by assessment	0-3

Required Courses: Credits: 9

+ CCS101	Chicana and Chicano Studies	3
HIS109	Mexican-American History and Culture	3
SPH245	Hispanic Heritage in the Southwest	3

Restricted Electives: Credits: 3-4

ENH112	Chicano Literature	3
HIS145	History of Mexico	3
HUM213	Hispanic Film	3
SPA101	Elementary Spanish I	4
+ SPA102	Elementary Spanish II	4
+ SPA103	Elementary Spanish for Spanish Speakers I	4
+ SPA104	Elementary Spanish for Spanish Speakers II	4
+ SPA201	Intermediate Spanish I	4
+ SPA202	Intermediate Spanish II	4
+ SPA203	Spanish for Spanish-Speaking Students I	4
+ SPA204	Spanish for Spanish-Speaking Students II	4

Child and Family Organizations Management and Administration

Certificate of Completion - CCL 5401
19 credits

For Information: Gina Weatherly

Phone: 623.845.3194

www.gccaz.edu/technology-consumer-sciences

Program Description: The Certificate of Completion (CCL) in Child and Family Organizations Management and Administration is designed to prepare individuals to enter the family life education, human development, early childhood settings, or child and family organizations field at the paraprofessional level. Students at a paraprofessional level may seek employment opportunities within management and administration of programs such as: early childhood settings, 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 organization.

This certificate also is offered at Rio Salado Community College.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None

Required Courses: (19 credits)

BPC110	Computer Usage and Applications (3) OR	3
CIS105	Survey of Computer Information Systems (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

Communication

General Information

For Information: Pam Joraanstad

Phone: 623.845.3631

www.gccaz.edu/communication-world-languages

Student Goals: General Education, Career-related, B.S. in Speech Communication with an Emphasis in Organizational Communication

The objectives of the Communication and World Languages Department are: to provide individual courses as electives in other programs; to satisfy requirements prescribed by programs in other areas; and to provide low division requirements for the GCC/NAU Bachelors in Speech Communication program; to provide lower-division courses for students who will transfer to other Arizona university Communication programs; and to provide second language learners opportunity to achieve oral communication fluency. Our courses are organized to meet practical needs of students, especially those individuals planning careers in the Human Service area. We encourage our students to participate in a very active speech and debate program as well as various other student activities. GCC's Communication and World Languages Department is affiliated with the National Communication Association (NCA) and is headquarters for the Arizona Communication Association (ACA).

B.S. IN SPEECH COMMUNICATION WITH AN EMPHASIS IN ORGANIZATIONAL COMMUNICATION (GCC/NAU)

That's correct, students may now receive their bachelor's degree without ever leaving GCC's campus. The B.S. Degree in Speech Communication is a joint offering between Glendale Community College and Northern Arizona University. Upon completion of the program, students receive their B.S. degree from Northern Arizona University. The B.S. Degree in Speech Communication with an Emphasis in Organization Communication provides a better understanding of how organizations work and helps students develop effective leadership skills by optimizing their communication. The program explores how communication takes place in relationships, within national and international organizations, in public forums, and between cultures. It is grounded in both rhetorical and experimental approaches to the study of human communication. This innovative program gives students the opportunity to study a common core of communication courses, to design part of their program to achieve individual goals, and to take part in a communication apprenticeship experience. Faculty and students work together to integrate the classroom, research, and service with the goal of improving communicative interactions. A recent national survey of college graduates with the majors or minors in Communication revealed that graduates hold positions in education, law, the ministry, sales and marketing, information services, public relations, advertisement, government, social services, industrial and labor relations, human resources, and fund raising. Other careers in mass communications include radio, TV, and film.

Communication Core: (6 credits)		Credits
COM100	Introduction to Human Communication	3
COM110	Interpersonal Communication	3

Speech Communication: (18 credits)		Credits
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GCC Courses: (9 credits)

+ COM207	Introduction to Communication Inquiry	3
+ COM225	Introduction to Public Speaking	3
COM230	Small Group Communication	3

Upper Division NAU Courses taken at GCC: (9 credits)

SC 300W	Rhetorical Criticism	3
SC 311	Advanced Presentation Techniques	3
SC 498C	Senior Seminar in Speech Communication	3

Organizational Communication Emphasis: (24 credits)

Upper Division NAU Courses taken at GCC:(9 credits)

SC 312	Methods of Interviewing	3
SC 472	Organizational Communication	3
SC 477	Mediation and Conflict Management	3

Communication Electives taken at GCC: (15 credits)

+ COM222	Argumentation and Debate (GCC Course)	3
COM263	Intercultural Communication (GCC Course)	3
SC 321	Nonverbal Communication (NAU Course)	3
SC 351	Interpersonal Communication (NAU Course)	3
SC 361	Persuasion (NAU Course)	3
SC 365	Communication in Contemporary Affairs (NAU Course)	3
SC 408	Fieldwork Experience (NAU Course)	1-12
SC 424	Gender and Communication (NAU Course)	3
SC 460	Rhetorical Theory (NAU Course)	3
SC 465	American Political Communication (NAU Course)	3
SC 475	Health Communication (NAU Course)	3

Extended Major: (12 credits)

Students are required to take 12 hours of GCC courses in a concentrated area of study. Students should work in conjunction with the NAU advisor to determine these courses.

B.A./B.S COMMUNICATION STUDIES TRANSFER GUIDE

If you plan to complete your Communication degree at another Arizona institution, our department can help you. The Communication and World Languages Department's selection of Maricopa Community College course work meets the Arizona General Education Curriculum (AGEC-A) as modified by MCCC and lower-division program requirements for a bachelor's degree in Communication, Speech Communication, and Communication Studies at any of Arizona's universities. Depending on the university to which you plan to transfer, the following courses may be recommended:

COM100	Introduction to Human Communication
COM110	Interpersonal Communication
+ COM207	Introduction to Communication Inquiry
+ COM222	Argumentation
+ COM225	Public Speaking
COM230	Small Group Communication
+ COM241	Oral Interpretation of Literature
COM250	Introduction to Organizational Communication
+ COM259	Communication in Business and Professions*
COM263	Intercultural Communication
COM/THP271	Voice and Diction

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

Consult your community college advisor to ensure compliance. Students are responsible for checking all requirements and regulations at their transferring institution.

ENGLISH LANGUAGE LEARNER COURSE CONCENTRATION

The Communication and World Languages Department offers a series of courses for speakers of other languages. Through these offerings and an informal laboratory, international students can further their oral communication skills and achieve oral fluency. The aim of the program is that of achieving communication competence. Please consult the Communication and World Languages Department for more information concerning testing, course offerings, and available certificates.

Communication Competence in the Workplace

Academic Certificate - AC 6219N

This program is not eligible for Title IV Federal Financial Aid 30-33 credits

For Information: Jim Reed

Phone: 623.845.3631

www.gccaz.edu/communication-world-languages

Program Description: The Academic Certificate (AC) in Communication Competence in the Workplace is an interdisciplinary program of study that provides intensive study of written and oral communication skills in different contexts including interpersonal communication, small group interaction, team-building, problem solving, public speaking and presentation skills, conflict resolution, assertiveness, and leadership. Students develop skills to enhance their professional, social, and personal interactions, and become more competitive and effective in the workforce.

Program Notes: Students must earn a grade of C or better for all courses within the Required Courses area.

This certificate also is offered at Mesa Community College.

Program Prerequisites: None

Required Courses: (18-21 credits)		Credits
COM110	Interpersonal Communication	3
+ COM225	Public Speaking	3
COM230	Small Group Communication	3
+ COM282AC	Service-Learning Experience in Communication	3
+ CRE101	College Critical Reading and Critical Thinking (3) OR Equivalent as Indicated by Assessment	0-3
+ ENG101	First-Year Composition (3) OR	
+ ENG107	First-Year Composition for ESL (3)	3
+ ENG102	First-Year Composition (3) OR	
+ ENG108	First Year Composition for ESL (3)	3

Restricted Electives: (9 credits)		Credits
If choosing BPC110 or CIS105 only one can be applied		
BPC110	Computer Usage and Applications	3

CIS105	Survey of Computer Information Systems	3
+ COM207	Introduction to Communication Inquiry	3
+ COM222	Argumentation	3
+ COM/THP241	Oral Interpretation of Literature	3
COM250	Introduction to Organizational Communication	3
+ COM259	Communication in Business and Professions	3
COM263	Elements of Intercultural Communication	3
+ ENG111	Technical and Professional Writing	3
+ GBS233	Business Communication	3
IBS109	Cultural Dimension for International Trade	3
SWU295	Effective Helping in a Diverse World	3

Free Electives: (3 credits)

Any approved General Education course in the Cultural Awareness [C] value (3) OR

COM++++ Any COM Communication course (3) except courses used to satisfy Required Courses or Restricted Electives areas.

Credits

3

Communication Skills for Non-Native English Speakers

Academic Certificate - AC 6222N

This program is not eligible for Title IV Federal Financial Aid 30 credits

For Information: Jim Reed

Phone: 623.845.3631

www.gccaz.edu/communication-world-languages

Program Description: The Academic Certificate (AC) in Communication Skills for Non-Native English Speakers is an interdisciplinary program of study designed to extend traditional ESL coursework. It provides Non-Native English Speakers with oral and written communication skills including interpersonal communication, small group interaction, team-building, problem solving, public speaking and presentation skills, conflict resolution, assertiveness, and leadership. Students develop skills to enhance their professional, social, and personal interactions, and become more competitive and effective in the workforce.

This certificate also is offered at Mesa Community College.

Program Notes: Students must earn a grade of C or better for all courses within the Required Courses area.

Program Prerequisites: None

Required Courses: (21 credits)		Credits
COM120	Pronunciation of American Speech	3
+ COM221	Oral Fluency in American Speech	3
+ COM282AC	Service-Learning Experience in Communication	3
COM100	Introduction to Human Communication (3) OR	
COM110	Interpersonal Communication (3)	3
+ CRE101	College Critical Reading and Critical Thinking (3) OR Equivalent as Indicated by Assessment	3
+ ENG101	First Year Composition (3) OR	
+ ENG107	First-Year Composition for ESL (3)	3

+ ENG102	First Year Composition (3) OR	
+ ENG108	First Year Composition for ESL (3)	3

Restricted Electives: (9 credits)

		Credits
If choosing BPC110 or CIS105 only one can be applied		
BPC110	Computer Usage and Applications	3
CIS105	Survey of Computer Information Systems	3
COM230	Small Group Communication	3
+ COM259	Communication in Business and Professions	3
+ ENG111	Technical Writing	3
+ GBS233	Business Communication	3
IBS109	Cultural Dimension for International Trade	3
SWU295	Effective Helping in a Diverse World	3

Any approved General Education course in the cultural awareness [C] value (3) OR

COM+++++	Any COM Communication course (3)	3
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Computer and Networking Technology

Associate in Applied Science - AAS 3312
60-62 credits

For Information: David Jenkins

Phone: 623.845.3572

www.gccaz.edu/technology-consumer-sciences

Student's Goal: Career-related

NET students have various career related objectives:

- To acquire the knowledge and skills that match the needs of the local industry for an entry level position in Microcomputer Maintenance and Servicing or Network Servicing.
- To upgrade his or her skills to complete an associate degree on a full-time or part-time basis.

NET students acquire employability skills:

- Effective verbal and written communications skills that empowers him or her to work in a team environment.
- Networking and Microcomputer hardware and software skills necessary to maintain, troubleshoot, install and configure networks and microcomputers.

What skills will I need on the job?

- Effective verbal and written communications to enable you to work in a team environment.
- The ability to interpret specifications, schematic and technical manuals.
- Ability to pay attention to details.
- A working knowledge of applications software skills.
- Electronics and software skills needed to maintain and troubleshoot microcomputers.
- Network design, documentation, installation, management,

and troubleshooting skills.

What will I do on the job?

- Technicians in the microcomputer servicing and maintenance industry evaluate PC hardware and software related problems.
- Technicians in the Network industry take corrective action on, maintain, and troubleshoot servers and workstations and networks.
- Technicians in both areas provide end-use software support.
- Document both problem and solution for future reference.

Who will hire me?

- Computers sales and service companies and large, medium or small corporations that have an Information Technology (IT) or Information Systems (IS) department. With the expanding role of microprocessors, another field of employment is in consumer electronics servicing.
- The Technology department at GCC can assist you in achieving your goals. We can provide you the opportunity to gain the necessary skills to qualify for a position in Micro-computer Maintenance and Servicing or Network Maintenance and Management.

Students should consult with a department advisor in planning their academic schedule in order to complete degree requirements in an expedient manner. Students must complete a minimum of 18 credits in required NET and/or MIT courses at GCC.

Program Description: The Associate in Applied Science (AAS) in Computer and Networking Technology program offers the student a solid, hands-on skill set of computer, networking and internetworking systems technology principles. Students gain an understanding of the interaction between microcomputer software and hardware, network and internetworking operating systems software and hardware, the use of troubleshooting techniques, and troubleshooting hardware and software tools.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Required Courses: (38-40 credits)		Credits
CIS105	Survey of Computer Information Systems	3
CNT140AA	Introduction to Networks	4
+ CNT150AA	Cisco - Routing and Switching Essentials	4
+ CNT160AA	Scaling Networks	4
+ CNT170AA	Cisco - Connecting Networks	4
+ CNT171	CCNA Exam Prep	1
+ CNT205	Cisco Certified Network Associate Security	4
+ CNT206	Cisco Certified Network Associate Wireless	4
CWE198AA	Career/Work Experience	1
ELT101	Mathematics for Electronics I	3
Any Intermediate Algebra course is acceptable with permission of Department if ELT101 is not available.		
+ ELT102	Mathematics for Electronics II	3
NET183AA	Operating Systems (2) OR	

Permission of Program Director	0-2	Required Courses: (27-28 credits)	Credits
+ NET271 Microcomputer Maintenance I: A+ Essentials Prep	3	ACC111 Accounting Principles I	3
		CIS105 Survey of Computer Information Systems	3
		CIS133DA Internet/Web Development Level I	3
General Education Requirements: (19-22 credits)			
General Education Core: (9-12 credits)	Credits		
First Year Composition:	6	CIS126DA UNIX Operating System (3) OR	
+ ENG101 First-Year Composition (3) OR		CIS126DL Linux Operating System (3) OR	
+ ENG107 First-Year Composition for ESL (3)		MST150++ Any Microsoft Windows course (3)	3
AND			
+ ENG102 First-Year Composition (3) OR		+ CIS150 Programming Fundamentals (3) OR	
+ ENG108 First-Year Composition for ESL (3) OR		+ CIS150AB Object-Oriented Programming Fundamentals (3)	3
+ ENG111 Technical and Professional Writing (3)			
Oral Communication:	3	+ CIS159 Visual Basic Programming I (3) OR	
COM100 Introduction to Human Communication (3) OR		+ CIS162++ Any C Programming Level I course (3) OR	
COM110 Interpersonal Communication (3) OR		+ CIS163AA Java Programming: Level I (3)	3
+ COM225 Public Speaking (3) OR			
COM230 Small Group Communication (3)		+ CIS190 ² Introduction to Networking (3) OR	
		+ CIS190 ¹ Introduction to Local Area Networks (3) OR	
Critical Reading:	0-3	CNT140AA Introduction to Networks (4) OR	
+ CRE101 College Critical Reading and Critical Thinking (3) OR		MST140 Microsoft Networking Essentials (3)	3-4
Equivalent as indicated by assessment			
Mathematics:	0	GBS151 Introduction to Business	3
Met by ELT102 in Required Courses area		+ GBS233 Business Communication	3
General Education Distribution: (10 credits)	Credits	Restricted Electives: (12 credits)	Credits
Humanities, Arts and Design:	3	CIS++++ Any CIS Computer Information course(s) except	
Any approved general education course from the Humanities,		courses used to satisfy Required Courses area.	
Arts and Design area, see page 31.			
Social-Behavioral Sciences:	3	General Education Requirements: (22-27 credits)	
Any approved general education course from the		General Education Core: (12-17 credits)	Credits
Social-Behavioral Sciences area, see page 31.		First-Year Composition:	6
Natural Sciences:	4	+ ENG101 First-Year Composition (3) OR	
Any approved general education course from the Natural		+ ENG107 First-Year Composition for ESL (3) AND	
Science area, see page 31.		+ ENG102 First-Year Composition (3) OR	
		+ ENG108 First-Year Composition for ESL (3)	
		Oral Communication:	3
		Any approved general education course in the Oral	
		Communication area., see page 31.	
		Critical Reading:	0-3
		+ CRE101 College Critical Reading and Critical Thinking (3) OR	
		Equivalent by assessment	
		Mathematics:	3-5
		+ MAT120 Intermediate Algebra (5) OR	
		+ MAT121 Intermediate Algebra (4) OR	
		+ MAT122 Intermediate Algebra (3) OR	
		Satisfactory completion of a higher level mathematics course.	
		General Education Distribution: (10 credits)	Credits
		Humanities, Arts and Design:	3
		Any approved general education course in the Humanities,	
		Arts and Design area, see page 31.	
		Social-Behavioral Sciences:	3
		ECN211 Macroeconomic Principles (3) OR	
		ECN212 Macroeconomic Principles (3) OR	
		SBU200 Society and Business (3)	
		Natural Sciences:	4
		Any approved general education course in the Natural	
		Sciences area, see page 31.	

Computer Information Systems

Associate in Applied Science - AAS 3152
61-67 credits

For Information: Bill Stewart
Phone: 623.845.3250
www.gccaz.edu/business-informatin-technology

Program Description: The Associate in Applied Science (AAS) degree in Computer Information Systems program is designed to prepare students who are planning to find employment using current computer applications. Students will get experience with a variety of operating systems, database management, and popular programming languages. A Certificate of Completion (CCL) also is available.

This degree also is offered at GateWay, and Phoenix Community Colleges.

Program Notes: Students must earn a grade of C or better in all courses required within the program.

Consultation with an Academic Advisor is recommended for course selection.

Computer Information Systems

Certificate of Completion - CCL 5671

21 credits

For Information: Bill Stewart

Phone: 623.845.3250

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Computer Information Systems program is designed to meet the needs of students who are planning to find employment using current computer applications. It is intended for students who may later want to pursue an associate's degree in Computer Information Systems, but who do not expect to go beyond the community college program. Students will get experience with a variety of operating systems, database management, and popular programming languages. An Associate in Applied Science (AAS) also is available.

This certificate also is offered at GateWay and Phoenix Community Colleges.

Program Notes: Students must earn a grade of C or better in all courses required within the program.

Consultation with an Academic Advisor is recommended for course selection.

Required Courses: (12 credits)

	Credits
CIS105 Survey of Computer Information Systems	3
CIS133DA Internet/Web Development Level I	3
CIS126DA UNIX Operations System (3) OR	
CIS126DL Linux Operating System (3) OR	
+ MST150++ Any Microsoft Windows course (3)	3
+ CIS150 Programming Fundamentals (3) OR	
+ CIS150AB Object-Oriented Programming Fundamentals (3)	3

Restricted Electives: (9 credits)

	Credits
CIS+++++ Any CIS Computer Information Systems course(s) except courses used to satisfy Required Courses area.	

Computer Science

General Information

For Information: Dr. Chris Miller

Phone: 623.845.3841

www.gccaz.edu/mathematics-computer-science

Student Goals: Career-related, General Education, Transfer

Computer Science courses develop skills in designing, writing, and modifying computer programs to accomplish a wide variety of tasks in all areas of business and industry. Students take these courses:

- To Prepare for a Major at a four-year institution. A typical Bachelor of Science (B.S.) graduate in Computer Science (CS) has the programming skills to develop Operating Systems and programming languages, as well as write programs for almost all areas of industry. CS majors also understand the Software Engineering process and may use

this knowledge to eventually manage large projects. The college offers coursework which parallels the first two years of a B.S. degree in Computer Science or Computer Systems Engineering at ASU. Coursework should include:

- + CSC100AB Introduction to Computer Science (C++)
 - + CSC110AB Introduction to Computer Science (Java)
 - + CSC120 Digital Design Logic
 - + CSC205 Object Oriented Programming and Data Structures
 - + CSC220 Programming for Computer Engineering
 - + CSC230 Computer Organization and Assembly Language
 - + CSC240 Introduction to Different Programming Languages
 - + MAT227 Discrete Mathematical Structures
- As Background for other Careers. CSC100AB Introduction to Computer Science (C++) is recommended for those who are going into an Engineering discipline. CSC180 Computing for Scientists, Engineers and Medical/Health Specialists transfers to ASU as CSE180 and is recommended as an introductory computer class for scientific, engineering, and education majors. CSC283 Bioinformatics and Scientific Computing is designed for Biotech majors and those considering a career in Bioinformatics. Both CSC180 and CSC283 fulfill the general education CS requirement at ASU.
 - To update and improve professional programming skills. The CSC150, 181, 182, 185, 260, 261, 270, 281, 284, and 285 are courses in current or emerging technologies and are designed for industry professionals (and students) who wish to update and expand their professional skills in this fast-changing profession.

Please check the course listings on the GCC website, www.gccaz.edu, for an up-to-date description of course offerings.

Corrections²

Certificate of Completion - CCL 5776N

This program is not eligible for Title IV Federal Financial Aid
15 credits

For Information: Paul Brown

Phone: 623.845.3913

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Corrections program is designed for students intending to pursue careers in various correctional components of the justice system, including parole, probation, jail, and prisons. Focus is broader learning about the correction function in the context of overall administration of justice system.

This certificate also is offered at Chandler-Gilbert, Estrella Mountain, Mesa, Phoenix, Paradise Valley, Rio Salado, Scottsdale, and South Mountain Community Colleges

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None

Required Courses (15 credits)

Credits

AJS101	Introduction to Criminal Justice	3	in traditional creative writing programs. Completion of the certificate does not lead to a particular degree program, but may aid students in their pursuit of a career in the writing professions and in their continued enjoyment of writing for personal growth.
AJS123	Ethics and the Administration of Justice (3) OR	3	
AJS255	Crime, Law, and Mental Health (3)		
AJS212	Juvenile Justice Procedures	3	
AJS240	The Correction Function	3	
AJS205	Criminal Justice Report Writing (3) OR	3	This certificate also is offered at Chandler-Gilbert, Estrella Mountain, Mesa, Paradise Valley, Phoenix, Phoenix, Rio Salado, and Scottsdale Community Colleges.
AJS275	Criminal Investigation (3)		

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Admission Criteria: Students wishing to enroll in the Creative Writing program must complete a formal application; contact Program Director.

Program Prerequisites: None.

Required Courses: (21 credits) Credits

ENG210 may be substituted for CRW150 with permission of Program Director.		
CRW150	Introduction to Creative Writing	3
CRW200 must be repeated for a total of two credits.		
+ CRW200	Readings for Writers (1)	2
+ CRW201	Portfolio	1

Students must complete six credits from Series I and nine credits from Series II in consultation with a Program Director

Series I: Credits: 6

Students must complete two of the following courses for a total of six credits.

CRW120	Introduction to Writing Children's Literature	3
CRW160	Introduction to Writing Poetry	3
CRW170	Introduction to Writing Fiction	3
CRW172	Introduction to Comic Book Writing	3
CRW180	Introduction to Writing Nonfiction	3
CRW190	Introduction to Screenwriting	3
THE118	Playwriting	3

Series II: Credits: 9

Students must complete three of the following courses for a total of nine credits.

+ CRW202	The Writer as Witness	3
+ CRW203	Dialogue	3
+ CRW204	Journaling	3
+ CRW220	Intermediate Writing Children's Literature	3
CRW251	Topics in Creative Writing	3
+ CRW260	Intermediate Poetry Writing	3
+ CRW261	Topics in Writing: Poetry	3
+ CRW270	Intermediate Fiction Writing	3
+ CRW271	Topics in Writing: Fiction	3
+ CRW272	Planning and Structuring the Novel	3
+ CRW273	Writing the Novel	3
+ CRW274	Revising the Novel	3
+ CRW281	Topics in Writing: Non-Fiction	3
+ CRW290	Intermediate Screenwriting	3
+ CRW291	Topics in Writing: Plays	3

Restricted Electives: Credits: 3 Credits

CRW+++++	Any CRW Creative Writing prefixed course not	
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Counseling and Personal Development

General Information

For Information: Dr. Thomas Rojo Aubrey

Phone: 623.845.3212

www.gccaz.edu/counseling

The college's counseling courses focus on personal, educational, and career interests of students. These courses are NOT designed as pre-major courses for professional counselors. Most CPD courses transfer as elective credit to ASU and NAU.

Students who are new or returning to college are strongly encouraged to register for the following classes to increase their academic skills or explore career options:

CPD096	Personal Success in College
CPD102AB	Career Exploration
CPD104	Career and Personal Development
CPD150	Strategies for College Success
+CPD160	Introduction to Multiculturalism (transfers to ASU as Cultural Diversity [C] and Literacy [L])

Courses designed for personal development include:

CPD102AD	Eliminating Self-Defeating Behavior
CPD102AH	Stress Management

Creative Writing²

Academic Certificate - AC 6224N

This program is not eligible for Title IV Federal Financial Aid 24 credits

For Information: Jeff Baker

Phone: 623.845.3248

www.gccaz.edu/english

Program Description: The Academic Certificate (AC) in Creative Writing program is designed to provide students and professional writers with access to a community of writers and creative writing activities, instruction and guidance from established authors, and ongoing support in improving their writing skills and marketing their work. As students take courses in the program, they will build a portfolio of original work that may be submitted for publication. The program offers classes, workshops, and other activities such as readings and contests, which are accessible to writers of all levels regardless of academic or professional standing. The program aims to serve a diverse community who may be underrepresented

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

	listed under Required Courses area.	1-3
ENG235	Magazine Article Writing	3
ENG/THE 260	Film Analysis	3
ENH+++++	Any ENH English Humanities prefixed course	3
HUM/THF210	Contemporary Cinema	3

Crime Scene Investigation²

Certificate of Completion - CCL 5964

This program currently is not eligible for Title IV Federal

Financial Aid

16-18 credits

For Information: Paul Brown

Phone: 623.845.3913

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Crime Scene Investigation is designed to develop knowledge and skills required to investigate and reconstruct crime scenes using scientific evidence and logical analysis. The program provides instruction in criminal investigation procedures, collection and preservation of physical and biological evidence, death investigation techniques, crime scene reconstruction methodology and presentation of testimony in court.

This certificate also is offered at Chandler-Gilbert, Mesa, Paradise Valley, and South Mountain Community Colleges

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None

Required Courses (16-18 credits)		Credits
AJS213	Evidence Technology/Fingerprints (3) OR	
AJS243	Crime Scene Reconstruction (3)	3
AJS215	Criminalistics: Physical Evidence (3) OR	
AJS219	Crime Scene Technology: Physical Evidence (3) OR	
FOR105	Forensic Science: Physical Evidence (4)	3-4
AJS216	Criminalistics: Biological Evidence (3) OR	
FOR106	Forensic Science: Biological Evidence (4)	3-4
AJS214	Evidence Technology Photography	3
AJS275	Criminal Investigation I	3
AJS290BN	Courtroom Testimony Seminar	1

Dance

General Information

For Information: Performing Arts Department

Phone: 623.845.3796

www.gccaz.edu/performing-arts

The GCC Dance Program is designed to offer the first two years of a traditional dance major and allow the student to transfer with ease into a university program. Emphasis is on technique, performance and choreography in a pre-professional atmosphere.

Courses may be repeated each semester, depending upon the student's skill level.

The GCC resident dance company, Verve Dance Co., is intended for those students who wish an intense program of study and plan to major in dance. Auditions are held the Monday following the Fall and Spring dance concerts. Students are expected to perform at an intermediate or advanced level of skill.

Recommended Dance courses for Dance majors:

Fall Semester:

DAN131 or +DAN231	Ballet I or III (depending on skill)
DAN132 or +DAN232	Modern Dance I, III (depending on skill)
DAN133 or DAN233	Jazz Dance I, III (depending on skill)
DAN150	Dance Performance I (by audition)
DAN264	Choreography I
DAH100	Introduction to Dance (fulfills Humanities requirement for non-majors and majors)

Spring Semester:

+ DAN134 or +DAN234	Ballet II or IV (depending on skill)
+ DAN135 or +DAN235	Modern Dance II, IV (depending on skill)
+ DAN136 or +DAN236	Jazz Dance II, IV (depending on skill)
DAN150	Dance Performance I (by audition)
DAN221	Rhythmic Awareness I
DAN280	Dance Practicum
DAH190	Discovering Dance Careers

As Offered:

DAN210 or DAN211	Dance Production I,II
+ DAN237	Ballet Pointe I
DAH110	Dance in Film

See Associate in Arts, Fine Arts (AAFA) - Art, Dance, Music, Theatre in the Graduation Requirements section on page 22.

Developmental Disabilities Specialist

Certificate of Completion - CCL 5034

16 credits

For Information: Julie Morrison

Phone: 623.845.4761

www.gccaz.edu/psychology

Program Description: The Certificate of Completion (CCL) in Developmental Disabilities Specialist program is designed for students interested in working in various settings serving children or adults with developmental disabilities. The coursework combines theory and application. Academic preparation focuses on the physical and emotional correlates of developmental disability. The students also complete an internship, gaining experience working in a school or agency supporting persons with developmental disability.

Program Notes: Students must earn a grade of C or better for all courses within the program.

Program Prerequisites: None.

Required Courses: (13 credits) **Credits**
Students must earn a grade of C or better for all

Required Courses.

PSY101	Introduction to Psychology	3
+ PSY241	Understanding and Changing Behavior	3
+ PSY243	The Psychology of Developmental Disabilities	3
+ PSY244	Internship in Psychology	1
+ PSY240	Developmental Psychology (3) OR	
+ PSY242	Understanding and Changing Behavior Lab (3) OR	
+ PSY266	Abnormal Psychology (3)	3

(PSY242 is recommended for those students interested in Registered Behavioral Technician certification.)

Restricted Electives: (3 credits)**Credits**

Student may select any combination of courses from the list below that total at least three credits. Restricted electives must be different from those courses counted in the Required Area.

BHS170	Case Management and Clinical Documentation	3
BHS175	Introduction to Trauma-Informed Care and Trauma-Focused Caregiving	3
BHS180	Child, Family, and Adult Advocacy	3
BHS275	Infant and Early Childhood Mental Health	3
CFS/ECH176	Child Development	3
CFS112	Personal Growth and Family Relations	3
CFS205	Human Development	3
CFS235	Developing Child: Theory into Practice, Prenatal - Age Eight	3
CPD102AS	Conflict Resolution	2
COM110	Interpersonal Communication	3
EDU222	Introduction to the Exceptional Learner	3
FON100	Introductory Nutrition	3
HES154	First Aid/Cardiopulmonary Resuscitation	3
+ PSY240	Developmental Psychology	3
+ PSY266	Abnormal Psychology	3
SLG101	American Sign Language I	4
SPA115	Beginning Spanish Conversation I	3
SWU171	Introduction to Social Welfare	3

Digital Cinema Arts²

Associate in Applied Science - AAS 3570
64-73 credits

For Information: Stephanie Lucas

Email: stephanie.lucas@gccaz.edu

Phone: 623.845.3755

www.gccaz.edu/art-humanities

During recent years corporations and various industries have realized the importance of television as a marketing tool and staff training medium. Increasingly, plants/corporations are establishing their own video production departments to facilitate in-house production of training and marketing media. Demand for video production personnel is expected to continue.

Video Production technicians are involved in a wide range of business and industrial applications of media production. Individuals may work from scripting and camera operation to writing specifications for purchasing video equipment and other management applications of video production operation. Individuals working in industrial television assist in the design and

production of in-house television programs to meet the needs of the industry, cable, or broadcast television.

Program Description: The Associate in Applied Science (AAS) in Digital Cinema Arts program is designed to help students develop the creative and technical skills needed to work in the competitive film and video industries. Students receive comprehensive training in the craft, process and language of moving images. The program uses state of the art technology and provides opportunities for students to develop their skills and professionalism with "real world" projects both in the laboratory and on location.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None

Required Courses: (39-43 credits)**Credits**

Students must earn a grade of C or better for all courses within the Required Courses area. All courses in core do not need to be completed prior to starting courses from the selected track.

Core: (18-21 credits)

CIS120DK	Introduction to Digital Video Editing (3) OR	
	Permission of Instructor	0-3
HUM/THF205	Introduction to Cinema	3
+ MUC122	Sound Design I	3
TCM/VPT105	Studio Production	3
TCM/VPT108	Video Production	3
+ TCM/VPT114	Audio Production	3
+ TCM117	Introduction to Cinematography	3

Students must also complete all the courses required in one of the following two tracks:

Track I: Film Emphasis - (21-22 credits)

TCM121	Story Theory for Film, Television and Media	3
+ TCM123	Feature Screenwriting: First Draft (3) OR	
+ TCM217	Advanced Cinematography (3)	3
+ TCM134	Pre-Production for Motion Picture and Television	3
+ TCM135	Production for Motion Picture and Television	3
+ TCM136	Post-Production for Motion Picture and Television	3
TCM260	Film/Video Producing and Financing	3

AND

Choose one of the following courses as Capstone course for the track.

+ TCM250	Documentaries for Social Change (4) OR	
+ TCM275	Advanced Portfolio Production (4) OR	
+ VPT214AC	Video Production Internship (3)	3-4

Track II: Video Emphasis (21-22 Credits)

+ MUC111	Digital Audio Workstation I (DAW I)	3
TCM11AA	Scripting in the Media	3
+ TCM151	Broadcast Production	3
+ VPT106	Digital Video Effects	3
+ VPT204	Advanced Video Production	3
VPT208	Production Company Management	3

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Choose one of the following courses as Capstone course for the track.

- + TCM217 Advanced Cinematography (3) OR
- + TCM250 Documentaries for Social Change (4) OR
- + TCM294AC Special Topics in Motion Picture/Television Production (3) OR
- + VPT214AC Video Production Internship (3) 3-4

Restricted Electives: (6 credits)

Credits

Choose two of the following courses:

- ART142 Introduction to Digital Photography 3
- + ENH254 Literature and Film 3
- HUM/THF210 Contemporary Cinema 3
- HUM213 Hispanic Film 3

General Education Requirements: (19-24 credits)

General Education Core: (12-17 credits)

Credits

First-Year Composition:

6

- + ENG101 First-Year Composition (3) OR
- + ENG107 First-Year Composition for ESL (3)

- + ENG102 First-Year Composition (3) OR
- + ENG108 First-Year Composition for ESL (3) OR
- + ENG111 Technical and Professional Writing (3)

Oral Communication:

3

- COM100 Introduction to Human Communication (3) OR
- COM110 Interpersonal Communication (3) OR
- + COM225 Public Speaking (3) OR
- COM230 Small Group Communication (3)

Critical Reading:

0-3

- + CRE101 College Critical Reading and Critical Thinking (3) OR
- Equivalent as indicated by assessment.

Mathematics:

3-5

Any approved general education course from the Mathematics area, see page 31.

General Education Distribution: (7 credits)

Credits

Humanities, Arts and Design:

0

Met by HUM/THF205 in Required Courses area.

Social-Behavioral Sciences:

3

Any approved general education course from the Social-Behavioral Sciences area, see page 31.
PSY101 is recommended

Natural Sciences:

4

Any approved general education course from the Natural Sciences area, see page 31.

Digital Media Arts²

Associate in Applied Science - AAS 3567
65-79 Credits

For Information: Michelle Blomberg
Email: michelle.blomberg@gccaz.edu
Phone: 623.845.3667
www.gccaz.edu/art-humanities

Program Description: The Associate in Applied Science (AAS) in Digital Media Arts program offers two tracks of study: Design and Time-Based Media. Students in the program receive training in design, animation, interactivity, and multimedia production. The program emphasizes critical thinking, written communication, and teamwork by challenging students to develop their own design method, production workflow, and conceptual aesthetic. Upon completion of the program, students will have compiled an online multimedia portfolio. Knowledge and skills developed in this program have application to the fields of graphic design, animation, web design, and video production as well as transfer to a bachelor's degree program.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: (0-9 credits)

Credits

Depending on Restricted Elective courses selected, additional prerequisite courses may be necessary. These prerequisites would not be counted toward the 12 credits of Restricted Electives required for the program. These prerequisites may be waived at discretion of instructor based on background and experience.

Track I: Design (0 credits)

Track II: Time-Based (0-9 credits)

- MUC195 Studio Music Recording I (3) OR
- TCM/VPT105 Studio Production (3) 3
- + MUC111 Digital Audio Workstation I (DAW I) 3
- TCM100 Digital Multimedia (3) OR
- TCM/VPT105 Studio Production (3) 3

Required Courses: (31 credits)

Credits

- ART100 Introduction to Computer Graphic Art 1
 - ART111 Drawing I (3) OR
 - ART116 Life Drawing I (3) 3
 - ART112 Two-Dimensional Design 3
 - ART142 Introduction to Digital Photography 3
 - + ADA/ART169 Two-dimensional Computer Design 3
 - + ART181 Graphic Design I 3
 - + ADA/ART/MMT184 Computer Animation 3
 - + ART200 Animation and Interactivity 3
 - ADA/ART248 Design Self Promotion 3
 - + ART280 Graphic Design Studio (3) OR
 - + ART295KA Art Workshop/Seminar: Graphics/Animation (1) AND/OR
 - + ART297++ Any Computer Graphic Design Internship course(s)(1-3) 3
- Any combination of one or more suffixed ART297 courses may be completed to meet this requirement. May include repeats of the same course up to three credits.
- + JRN203 Writing for Online Media 3

Restricted Electives: (12 credits)

Credits

Students must complete courses from one of these two tracks.

Track I: Design

Students must choose any 12 credits from following list. Note that CIS133DA (or its modular equivalent) is prerequisite to CIS166AA¹.

+ ART182	Graphic Design II	3
+ ART/MMT190	Art of Web Site Design	3
+ ART192	Advanced Web Presentation Design	3
+ ART210	Design Tools for Imagery, Production, and Publishing	3
CIS133DA	Internet/Web Development Level I-3) OR	
CIS133AA	Internet/Web Development Level I-A (1) AND	
+ CIS133BA ¹	Internet/Web Development Level I-B (1) AND	3
+ CIS133CA ¹	Internet/Web Development Level I-C (1)	3
+ CIS166AA	Introduction to JavaScripting	3

Track II: Time-Based

Students must complete 12 credits from list below.

+ ART/MMT185	3-D Modeling for Animation (3) AND	6
+ ART240	Cinematography and Directing for 3D Animation (3) AND	

Chose two courses to complete six credits from the following list based on student interests. As noted in Program Prerequisites area, some options will require additional prerequisites that are not included in this program of study.

MTC191	Electronic Music I	3
+ MUC122	Sound Design I	3
TCM/VPT108	Video Production	3
+ VPT106	Digital Video Effects	3

General Education Requirements: (22-27 credits)**General Education Core: (12-17 credits)****First-Year Composition: Credits 6**

ENG101	First-Year Composition (3) OR	
+ ENG107	First-Year Composition for ESL (3)	
AND		
+ ENG111	Technical and Professional Writing (3) OR	
+ ENG102	First-Year Composition (3) OR	
+ ENG108	First-Year Composition for ESL (3)	

Oral Communication: 3

COM110	Interpersonal Communication (3) OR	
COM230	Small Group Communication (3)	

Critical Reading: 0-3

+ CRE101	College Critical Reading and Critical Thinking (3) OR Equivalent as indicated by assessment	
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Mathematics: 3-5

+ MAT112	Mathematical Concepts and Applications (3) or higher Mathematics course	
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General Education Distribution: (10 credits) Credits**Humanities, Arts and Design: 3**

ARH102	Renaissance through Contemporary Art	
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Social-Behavioral Sciences: 3

Any approved general education course from the Social-Behavioral Sciences area, see page 31.

Natural Sciences: 4

Any approved general education course from the Natural Sciences area, see page 31.

Driver Operator**Certificate of Completion - CCL 5418N**

This program is not eligible for Title IV Federal Financial Aid 8 credits

For Information: Raul Muniz

Phone: 623.845.4776

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Driver Operator program is designed for students who need (1) advanced training as professional firefighters, (2) preparation courses for career advancement opportunities in fire services, and/or (3) more comprehensive information about the role and function of an emergency vehicle driver/operator.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Admission Criteria: Acceptance into the program and permission of Program Director is required.

This certificate also is offered at Mesa, Paradise Valley, and Phoenix Community Colleges.

Program Prerequisites: None

Required Courses: (8 credits)

		Credits
FSC111	Emergency Vehicle Driver Operator	2
FSC117	Fire Apparatus	3
FSC118	Fire Hydraulics	3

Early Childhood Administration and Management**Associate in Applied Science - AAS 3109**

60-65 credits

For Information: Judy Basham

Phone: 623.845.4479

www.gccaz.edu/technology-consumer-sciences

Program Description: The Associate in Applied Sciences (AAS) in Early Childhood Administration and Management is an integrated program of study that provides an educational foundation in early childhood education plus administrative and management courses specifically related to the business needs and practices of early childhood directors, owners and other management-level staff.

This program also is offered at Rio Salado Community College.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None

Required Courses: (35 credits)

		Credits
CFS206	Child and Family Organizations: Management and Administration	3

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

CFS207	Organization and Community Leadership in Child and Family Organizations	3
CFS208	Child and Family Organizations: Fiscal Management and Grant Writing	3
EED200	Foundations of Early Childhood Education	3
EED212	Guidance, Management and the Environment	3
EED215	Early Learning: Health, Safety, Nutrition and Fitness	3
EED220	Child, Family, Community and Culture	3
EED222	Introduction to the Exceptional Young Child: Birth to Age Eight	3
+ EED260	Early Childhood Infant/Toddler Internship (1) OR	
+ EED261	Early Childhood Preschool Internship (1)	1
+ EED278	Early Learning: Curriculum and Instruction - Birth/Preschool	3
+ EED280	Standards, Observation and Assessment of Typical/Atypical Behaviors of Young Children Birth to Age Eight	3
+ FCS250	Portfolio Development and Professional Writing	3
+ FCS260	Family and Consumer Science Internship	1

Restricted Electives: (3 credits) Credits

Students must select courses from any combination of the following prefixes for a total of 3 credits.

Selected courses must be in addition to those in the Required Courses area.

CIS105	Survey of Computer Information Systems	3
CFS+++	Any CFS Child/Family Studies course	1-3
ECH+++	Any ECH Early Childhood Education course	1-3
EED+++	Any EED Early Education course	1-3
ITD+++	Any ITD Infant/Toddler Development course	1-3

General Education Requirements: (22-27 credits)**General Education Core: (12-17 credits) Credits****First-Year Composition: 6**

+ 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)	

Oral Communication: 3

COM100	Introduction to Human Communication (3) OR	
COM110	Interpersonal Communication (3) OR	
+ COM225	Public Speaking (3) OR	
COM230	Small Group Communication (3)	

Critical Reading: 0-3

+ CRE101	College Critical Reading and Critical Thinking (3) OR Equivalent as indicated by assessment.	
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Mathematics: 3-5

Any approved general education course from the Mathematics area, see page 31.

General Education Distribution: (10 credits) Credits**Humanities, Arts and Design: 3**

EDU/ENH291 Children's Literature

Social-Behavioral Sciences: 3

CFS205 Human Development

Natural Sciences: 4

Any approved general education course from the Natural Sciences area, see page 31.

Early Childhood Education**Associate in Applied Science - AAS 3007
63-68 credits**

For Information: Judy Basham

Phone: 623.845.4479

www.gccaz.edu/technology-consumer-sciences

Program Description: The Associate in Applied Science (AAS) in Early Childhood Education program is designed to prepare individuals to work within the field of early childhood education (ECE), focusing on programs serving children birth through 8 years of age. The courses are based on current ECE theory and practice, are offered in a variety of formats, and are scheduled to accommodate those who are already working in the ECE field.

This program also is offered at Estrella Mountain Community College.

Program Notes: Students must earn a grade of C or better for all courses within the program.

Program Prerequisites: None

Required Courses: (41 credits) Credits

Students must earn a grade of C or better for all courses listed within the program.

CFS/ECH176	Child Development (3) OR	
CFS235	Developing Child: Theory into Practice, Prenatal - Age Eight (3)	3
EED111	Multimedia and the Early Childhood Education Classroom	3
EED200	Foundations of Early Childhood Education	3
+ EED210	Creative and Cognitive Play	3
+ EED211	Language Acquisition in the Young Child	3
EED212	Guidance, Management and the Environment	3
EED215	Early Learning: Health, Safety, Nutrition and Fitness	3
EED220	Child, Family, Community and Culture	3
EED222	Introduction to the Exceptional Young Child: Birth to Age Eight	3
EED250	Early Literacy Development	3
+ EED255	Portfolio Development and Writing for the Profession	3
+ EED260	Early Childhood Infant/Toddler Internship (1) OR	
+ EED261	Early Childhood Preschool Internship (1) (two semesters of Internship are required)	2
+ EED278	Early Learning: Curriculum and Instruction - Birth/Preschool	3
+ EED280	Standards, Observation and Assessment of Typical/Atypical Behaviors of Young Children Birth Age Eight	3

General Education Requirements: (22-27 credits)**General Education Core: (12-17 credits) Credits****First-Year Composition: 6**

+ 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)	

Oral Communication: 3

Any approved general education course from the Oral Communication area., see page 31.

Critical Reading: 0-3

+ CRE101 College Critical Reading and Critical Thinking (3) OR
Equivalent as indicated by assessment

Mathematics:

+ MAT112 Mathematical Concepts and Applications (3) OR
Satisfactory completion of a higher level mathematics course
(MAT142 recommended for students considering university transfer)

3-5**General Education Distribution: (10 credits)****Credits****Humanities, Arts and Design:****3**

Any approved general education course from the Humanities,
Arts and Design area, see page 31.

Social-Behavioral Sciences:**3**

CFS157 Marriage and Family Life

Natural Sciences:**4**

Any approved general education course from the Natural Sciences area.

The following courses are recommended by the department:

FON241 Principles of Human Nutrition (3) AND
+ FON241LL Principles of Human Nutrition Laboratory (1) **4**

Early Childhood Education**Certificate of Completion - CCL 5374****41 credits**

For Information: Judy Basham

Phone: 623.845.4479

www.gccaz.edu/technology-consumer-sciences

Program Description: The Certificate of Completion (CCL) in Early Childhood Education program is designed for individuals interested in working in the field of early childhood education (ECE), particularly in programs serving children birth through 8 years of age. The courses are based on current ECE theory and practice, are offered in a variety of formats, and are scheduled to accommodate those who are already working in the ECE field.

This program also is offered at Estrella Mountain Community College.

Program Notes: Students must earn a grade of C or better for all courses within the program.

Program Prerequisites: None

Required Courses: (41 credits)**Credits**

CFS/ECH176 Child Development (3) OR	
CFS235 Developing Child: Theory into Practice, Prenatal - Age Eight (3)	3
EED111 Multimedia and the Early Childhood Education Classroom	3
EED200 Foundations of Early Childhood Education	3
+ EED210 Creative and Cognitive Play	3
+ EED211 Language Acquisition in the Young Child	3
EED212 Guidance, Management and the Environment	3
EED215 Early Learning: Health, Safety, Nutrition and Fitness	3
EED220 Child, Family, Community and Culture	3
EED222 Introduction to the Exceptional Young Child: Birth to Age Eight	3
EED250 Early Literacy Development	3
+ EED255 Portfolio Development and Writing for the Profession	3
+ EED260 Early Childhood Infant/Toddler Internship (1) OR	

+ EED261 Early Childhood Preschool Internship (1)
(Two semesters of Internship are required) **2**

+ EED278 Early Learning: Curriculum and Instruction - Birth/Preschool **3**

+ EED280 Standards, Observation and Assessment of Typical/
Atypical Behaviors of Young Children Birth Age Eight **3**

Economics**General Information**

For Information: Sasha Radisich

Phone: 623.845.4765

www.gccaz.edu/social-sciences

Student Goals: General Education, Career-related

Economics courses provide an understanding of economic institutions, consumer economic issues, and world economic systems. Students take these courses to:

- Meet general education Social-Behavioral Sciences Requirements. ECN211 or 212 are especially recommended.
- Provide Needed Background for other careers especially in Business and Engineering, Social Work and Journalism. ECN211 or 212 are typically recommended or required.
- Prepare for transfer as an Economics Major at a four-year institution. Degrees in economics may be offered in the Liberal Arts College, the Business College, or both, depending on the institution. Students should consult the catalog of the relevant transfer institution.

Economists research conditions affecting the production, distribution, and consumption of goods and services. They evaluate and forecast business trends, guide monetary policy, and evaluate results of financial, governmental, and business policies. Areas of specialization include labor, fiscal management, agriculture, industry, and social welfare. Related careers are in labor relations, public administration, consulting, foreign diplomacy, and investment counseling.

With the increased reliance on scientific methods of analyzing business trends, forecasting sales, and planning purchases and production operations, employment of economists can be expected to increase. In order to work in the field, a graduate degree is likely to be required.

Recommended courses for potential majors are:
ECN211 and 212, GBS221, MAT212 or MAT220, MAT225

A broad background in social sciences, history, and philosophy is strongly recommended.

Education

General Information

For Information: Nancy Oreshack

Phone: 623.845.3265

www.gccaz.edu/social-sciences

Student Goals: Explore teaching as possible career and/or transfer to a Professional Teacher Preparation Program.

Career Outlook: Arizona is experiencing a shortage of qualified teachers. Due to increasing population, teacher retirements, and demands for reduction in class size, job opportunities for certified teachers are excellent.

Transfer recommendations: Students are advised to consult with the institution to which they plan to transfer. Universities differ in their admission and course requirements.

Department Recommendations for Elementary and

Special Education Majors:

	Credits
EDU221 Introduction to Education	3
EDU222 Introduction to the Exceptional Learner	3
EDU230 Cultural Diversity in Education	3
+ EDU204 Fine Arts in Educational Settings (3) OR	
EDU236 Classroom Relationships (3) OR	
EDU291 Children's Literature (3) OR	
EDU292 The Art Of Storytelling (3)	3

Other Recommendations for Elementary and

Special Education Majors:

	Credits
+ COM225 Public Speaking (3) OR	
COM230 Small Group Communication (3)	3
ARH100 Introduction to Art (3) OR	
ARH101 Prehistoric through Gothic Art (3) OR	
ARH102 Renaissance Through Contemporary Art (3)	3
HIS103 United States History to 1865 (3) OR	
HIS104 United States History 1865 to Present (3) AND	
+ MAT156 College Algebra/Functions with Review (3)	3
POS221 Arizona Constitution (1) AND	
POS222 U.S. Constitution (2)	3

See Associate in Arts in Elementary Education (AAEE) in the Graduation Requirements section on page 20.

Electronic Music

Academic Certificate - AC 6231N

This program is not eligible for Title IV Federal Financial Aid 40 credits

For Information: Doug Nottingham

Phone: 623.845.3915

www.gccaz.edu/performing-arts

Program Description: The Academic Certificate (AC) in Electronic Music is intended for the student who would like to obtain

acknowledgment for completion of electronic music courses, and is not designed to prepare students for employment. While the completion of the certificate does not lead to a particular degree, it does provide and enhance the development of musicianship for enjoyment and personal growth. This program provides the student with fundamental musical skills covering a variety of topics, including theory, performance, composition, and history. In addition, students receive a high level of technical training in creating electronic music. As students complete courses in the program, they will build a portfolio of original compositions that may be used to seek admittance to a bachelor's-level music program.

This program also is offered at Mesa, Phoenix and Scottsdale Community Colleges.

Program Notes: Students must earn a grade of C or better in all courses required within the program.

Program Prerequisites: (2-3 credits)

	Credits
MTC100 Fundamentals of Music (2) OR	
MTC101 Introduction to Music Theory (3) OR	
Permission of instructor	2-3

Required Courses: (40 credits)

	Credits
Students are required to complete a total of six credits of MTC240.	
+ MTC105 Music Theory I	3
+ MTC106 Aural Perception I	1
+ MTC155 Music Theory II	3
+ MTC156 Aural Perception II	1
+ MTC205 Music Theory III	3
+ MTC206 Aural Perception III	1
+ MTC255 Music Theory IV	3
+ MTC256 Aural Perception IV	1
MTC191 Electronic Music I	3
+ MTC192 Electronic Music II	3
+ MTC193 Computer-Based Sound Synthesis	3
+ MTC240 Composition (3)	6
+ MTC291 Electronic Music III	3
MUC195 Studio Music Recording I	3
+ MUC196 Studio Music Recording II (3) OR	
MUC197 Live Sound Reinforcement I (3)	3

Emergency Medical Technology (EMT)

General Information

For Information: Chris Coughlin

Phone: 623.845.3205

www.gccaz.edu/public-safety-science

Prior to entry into the Paramedicine program, a student must have been actively practicing as a State Certified Basic Emergency Medical Technician for one calendar year and be selected by a written examination and oral interview.

Students planning to enter the EMT program must be advised and counseled by Chris Coughlin or Paula Davis of the Emergency Medical Technology Department prior to considering entering the program. Paramedic classes are scheduled to meet the needs of community agencies.

Students should consult with a department advisor in planning their academic schedule in order to complete degree requirements in an expedient manner. Required courses may not be available every semester or year. Due to limited course offerings, degree seeking students may find it necessary to extend completion time lines and attend both day and evening classes.

See Maricopa Community Colleges Allied Health or Nursing Program for more information regarding background checks.

Paramedic Continuing Education Classes: Paramedic and Intermediate continuing education classes are available for credit and non-credit. Continuing education classes are available and meet or exceed the National Registry/State of Arizona refresher training requirements for Paramedic's and IEMT's. For information on classes, contact the Public Safety Sciences Department.

Emergency Medical Technology²

Certificate of Completion - CCL 5643N

**This program is not eligible for Title IV Federal Financial Aid
9-10 credits**

For Information: Chris Coughlin

Phone: 623.845.3205

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Emergency Medical Technology program includes techniques of emergency care, stabilization, and immobilization of victims of illness and injury. Recognition and documentation of signs and symptoms of illness and injury, intervention, and evaluation of the intervention, techniques for assessment, administration of oxygen, use of specific immobilization devices, and preparation for transportation are other areas of the program. This program is a prerequisite to other emergency response programs.

Program Notes: Students must earn a grade of C or better in all courses within the program.

EMT104 requires students to complete additional hours in a competency-based clinical, vehicular, and/or scenario based experience. Depending on the college, this may be completed through EMT104AB or program director-approved rotation.

This program also is offered at Chandler-Gilbert, Mesa, Phoenix, and Paradise Valley Community Colleges.

Program Prerequisites: None.

Required Courses: (9-10 credits)

	Credits
EMT101 Basic Life Support/Cardiopulmonary Resuscitation (CPR) for Health Care Providers (0.50)	
OR	
Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer (0) OR	
Permission of Program Director (0)	0-0.50
+ EMT/FSC104 Emergency Medical Technology (9) AND	
+ EMT/FSC104AB Applied Practical Studies for Emergency Medical Technology (0.5)	
OR	
+ EMT/FSC104 Emergency Medical Technology (9)	9-9.5

Emergency Response and Operations

Associate in Applied Science - AAS 3112

60-83.5 credits

For Information: R Perez

Phone: 623.845.3172

www.gccaz.edu/public-safety-science

Program Description: The Associate in Applied Science (AAS) in Emergency Response and Operations program provides students with a curriculum specific to the student's individual needs in addition to the knowledge and skills needed in today's changing public safety workplace. The program develops education, skills, and techniques for planning, responding, and mitigating various emergency situations within the student's specific discipline with emphasis on effective response and operations. The curriculum combines coursework in public safety emergency services with a general education component. Additional Certificates of Completion (CCL) are available.

Program Notes: Students must earn a grade of C or better in all courses required within the program.

EMT104 requires students to complete additional hours in a competency-based clinical, vehicular, and/or scenario based experience. Depending on the college, this may be completed through EMT104AB or program director-approved rotation.

Admission Criteria: Students pursuing Track I Fire Operations OR

Track II Paramedicine may be required to complete a program entrance exam as appropriate

OR Permission of Program Director.

This program also is offered at Mesa, Phoenix, and Paradise Valley Community Colleges.

Program Prerequisites: None

Required Courses: (17-58.5 credits)

	Credits
EMT101 Basic Life Support/Cardiopulmonary Resuscitation (CPR) for Health Care Providers (0.50)	
OR	
Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer (0) OR	
Permission of Program Director (0)	0-0.50

Students must select one of the following four tracks:

Track I: FIRE OPERATIONS

17-27.5

+ EMT/FSC104 Emergency Medical Technology (9) AND	
+ EMT/FSC104AB Applied Practical Studies for Emergency Medical Technology (0.5)	
OR	
+ EMT/FSC104 Emergency Medical Technology (9)	
OR	
Arizona State EMT Certification (0) OR	
Arizona State Paramedic Certification (0) OR	
Permission of Program Director	0-9.5
+ FSC102 Fire Department Operations	11
FSC105 Hazardous Materials/First Responder	3
FSC130 Fitness for Firefighters/CPAT (1) OR	

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Verification of CPAT completion OR Permission of Program Director	0-1	FSC119	Introduction Fire Service Ethics	3
FSC134 Fitness and Conditioning for Firefighters	3	+ FSC208	Firefighter Safety and Building Construction	3
		FSC215	Customer Service in the Public Sector	3
Track II: PARAMEDICINE	43.5 - 58	Restricted Electives: (0-21 credits)		Credits
+ EMT/FSC104 Emergency Medical Technology (9) AND + EMT/FSC104AB Applied Practical Studies for Emergency Medical Technology (0.5)		Students must choose the appropriate number of credits to meet the program total for completion of their track. Selected courses will not apply in both Required Courses and Restricted electives areas.		
OR		AJS+++++	Any AJS Administration of Justice Studies courses	
+ EMT/FSC104 Emergency Medical Technology (9)		DPR+++++	Any DPR Disaster Preparedness and Emergency Response courses	
OR		EMT+++++	Any EMT Emergency Medical Technology courses	
Arizona State EMT Certification (0) OR		FSC+++++	Any FSC Fire Science Technology courses	
Arizona State Paramedic Certification (0) OR		LET+++++	Any LET Law Enforcement Technology courses	
Permission of Program Director	0-9.5	General Education Requirements: (22-25 credits)		
+ EMT235 Basic ECG Rhythm Analysis and Interpretation in the Emergency Setting	3	General Education Core: (12-15credits)		
+ EMT236 Pharmacology in an Emergency Setting	3	First-Year Composition:		
+ EMT240 Advanced Cardiac Life Support (ACLS)	2	Any approved general education courses from the First-Year Composition area, see page 31.		
+ EMT242 Pediatric Advanced Life Support (PALS) (1) OR		Oral Communication:		
+ EMT265 Pediatric Education for Prehospital Providers: Advanced (1)	1	Any approved general education course from the Oral Communication area, see page 31.		
+ EMT245 Trauma Management I (2) OR		COM230 Small Group Communication (3) recommended for Track II students.		
+ EMT246 Trauma Management II (4)	2-4	Critical Reading:		
+ EMT272AA Advanced Emergency Medical Technology (12.5)		+ CRE101 College Critical Reading and Critical Thinking (3) OR Equivalent as indicated by assessment.		
AND		Mathematics:		
+ EMT272AB Advanced Emergency Medical Technology (12.5)	25	Any approved general education course from the Mathematics area, see page 31.		
+ EMT272LL Advanced Emergency Medical Technology Practicum (7.5)		General Education Distribution: (10 credits)		
OR		Humanities, Arts and Design:		
+ EMT272LA Advanced Emergency Medical Technology Practicum Part I (3.75)		Any approved general education course from the Humanities, Arts and Design area, see page 31.		
AND		Social-Behavioral Sciences:		
+ EMT272LB Advanced Emergency Medical Technology Practicum Part II (3.75)	7.5	Any approved general education course from the Social-Behavioral Sciences area.		
+ EMT296WC Cooperative Education (3) OR		AJS/EMT/FSC/SWU258 Victimology and Crisis Management (3) recommended for Track II students		
HCC145 Medical Terminology for Health Care Professionals (3) OR		Natural Sciences:		
HCC145AA Medical Terminology for Health Care Professionals I (1) AND		Track II Paramedicine		
+ HCC145AB Medical Terminology for Health Care Professionals II (1) AND		BIO160 Introduction to Human Anatomy and Physiology		
+ HCC145AC Medical Terminology for Health Care Professionals III (1) OR		Tracks I, III, and IV		
Permission of Program Director	0-3	Any approved general education course from the Natural Sciences area, see page 31.		
Track III: EMERGENCY MANAGEMENT	18			
AJS/DPR/FSC139 Emergency Response to Terrorism	3			
AJS/DPR/FSC146 Disaster Recovery Operations	3			
AJS/DPR/FSC147 Emergency Preparedness	3			
AJS/DPR/FSC148 Fundamentals of Emergency Management	3			
AJS/DPR/FSC149 Hazard Mitigation	3			
FSC224 Incident Command Systems	3			
Track IV: FIRE SCIENCE	24			
AJS/DPR/FSC147 Emergency Preparedness (3) OR				
AJS/DPR/FSC148 Fundamentals of Emergency Management (3)	3			
FSC105 Hazardous Materials/First Responder	3			
FSC108 Fundamentals of Fire Prevention	3			
FSC113 Introduction to Fire Suppression	3			
FSC117 Fire Apparatus	3			

Engineering**General Information****For Information:** Tim Frank**Phone:** 623.845.3207

www.gccaz.edu/technology-consumer-sciences

Program Description: The Engineering program provides the first two years toward a baccalaureate degree in Engineering. This includes, but is not limited to, transfer to the following Engineering degree programs: Computer Systems, Electrical, Mechanical, Aerospace, Civil, Industrial, Chemical, Biomedical, Environmental, and Materials Science. Articulation (transfer) agreements exist with all three state universities in Arizona.

Acquired Skills

- Gain introductory engineering design experience. Complete projects to build robots, rockets, catapults, and mousetrap powered vehicles.
- Gain team skills required in an engineering work environment. Establish team goals; set ground rules; decide how to resolve team conflicts.
- Gain computer application skills. Use MatLab to solve Optimization and Area problems from Calculus. Use Excel to calculate odds and solve problems using iteration methods. Use AutoCAD to build models of engineering designs.
- Gain science and mathematics skills. Calculate the height of your rocket and the path of catapult projectiles; use levers and/or torsion to power catapults and vehicles. Design a vending machine or a miniature microprocessor.
- Gain effective verbal and written communications skills. Learn how to give effective PowerPoint presentations. Document project work in a design notebook.

Departmental Recommendations:

	Credits
+ ECE102 Engineering Analysis Tools and Techniques	2
+ ECE103 Engineering Problem Solving and Design	2
+ EEE202 Circuits and Devices	5
+ ECE214 Engineering Mechanics-Statics	4
+ ECE215 Mechanics of Materials	3
+ EEE120 Digital Design Fundamentals	4
+ CSC/EEE230 Computer Organization and Assembly Language	4

Other Recommendations:

	Credits
+ CHM152 General Chemistry II	3
+ CHM152LL General Chemistry II Laboratory	1
+ CSC100 Introduction to Computer Science (C++)	3
+ CSC110 Introduction to Computer Science (Java)	3
+ MAT220 Calculus with Analytic Geometry I	5
+ MAT225 Elementary Linear Algebra	3
+ MAT227 Discrete Mathematical Structures	3
+ MAT230 Calculus with Analytic Geometry II	5
+ MAT240 Calculus with Analytic Geometry III	5
+ MAT276 Modern Differential Equations	4
+ PHY115 University Physics I	5
+ PHY116 University Physics II	5
+ PHY241 University Physics III	4

General Education Requirements:

See approved list for AA degree on page 19.

Credits**Engineering Technology²****Associate in Applied Science - AAS 3228****63-93 credits****For Information:** Tim Frank**Phone:** 623.845.3207

www.gccaz.edu/technology-consumer-sciences

Program Description: The Associate in Applied Science (AAS) in Engineering Technology program is designed to provide skills required of entry-level engineering technicians. Students are provided with the fundamentals of physics, engineering, computer hardware, programming, engineering design fundamentals, and computer software program usage. A solid foundation in mathematics, science, communication skills, humanities, and social sciences provides a well-rounded curriculum.

This program also is offered at Chandler-Gilbert, Estrella Mountain and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses required within the program and must have a cumulative GPA of 3.0 in these courses to complete their degree.

Program Prerequisites: (0-17 credits)**Credits**

The credit hour range is subject to change depending on the student's educational experiences. PHY111 AND PHY112 are also strongly recommended for those who have not completed one year of high school physics with a grade of C or better.

+ CHM130	Fundamental Chemistry (3) AND	
+ CHM130LL	Fundamental Chemistry Lab (1)	
	OR	
+ CHM130AA	Fundamental Chemistry with Lab (4)	
	OR	
	one year of high school chemistry with a grade of C or better taken within the last five years	0-4
+ MAT120	Intermediate Algebra (5) OR	
+ MAT121	Intermediate Algebra (4) OR	
+ MAT122	Intermediate Algebra (3) OR	
	Equivalent by assessment	0-5
+ MAT187	Precalculus (5)	
	OR	
+ MAT150	College Algebra/Functions (5) OR	
+ MAT151	College Algebra/Functions (4) OR	
+ MAT152	College Algebra/Functions (3)	
	AND	
+ MAT182	Plane Trigonometry (3)	
	OR	
	Equivalent by assessment	0-8
Required Courses: (32-38 credits)		Credits
+ ECE102	Engineering Analysis Tools and Techniques (2) OR	
+ ECE102AA	Engineering Analysis Tools and Techniques (2)	2
+ ECE103	Engineering Problem Solving and Design (2) OR	
+ ECE103AB	Engineering Problem Solving and Design (2) OR	

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

+ ECE103EP	Engineering Problem Solving and Design (EPICS projects) (2)	2	+ CSC205	Object Oriented Programming and Data Structures (3) OR	
+ EEE202	Circuits and Devices	5	+ CSC205AB	Object Oriented Programming and Data Structures (4)	3-4
+ MAT220	Calculus with Analytic Geometry I (5) OR		+ CSC/EEE120	Digital Design Fundamentals (4) OR	
+ MAT221	Calculus with Analytic Geometry I (4)	4-5	+ ECE216	Computer-Aided Engineering (2) AND	
+ MAT230	Calculus with Analytic Geometry II (5) OR		+ ECE216LL	Computer-Aided Engineering Laboratory (1)	3-4
+ MAT231	Calculus with Analytic Geometry II (4)	4-5	+ ECE104	EPICS Gold I ²	2
+ MAT240	Calculus with Analytic Geometry III (5) OR		+ ECE105	MATLAB Programming	1
+ MAT241	Calculus with Analytic Geometry III (4)	4-5	ECE111	Bioengineering Systems	3
+ MAT276	Modern Differential Equations (4) OR		+ ECE211	Engineering Mechanics-Statics	3
+ MAT277	Modern Differential Equations (3)	3-4	+ ECE212	Engineering Mechanics-Dynamics	3
+ PHY115	University Physics I (5) OR		+ ECE214	Engineering Mechanics	4
+ PHY121	University Physics I: Mechanics (4)	4-5	+ ECE215	Mechanics of Materials	3
+ PHY116	University Physics II (5) OR		+ CSC/EEE220	Programming for Computer Engineering	3
+ PHY131	University Physics II: Electricity and Magnetism (4)	4-5	+ CSC/EEE230	Computer Organization and Assembly Language	4
			GLG101	Introduction to Geology I - Physical Lecture	3
			+ MAT225	Elementary Linear Algebra	3
			+ MAT227	Discrete Mathematical Structures	3
			+ PHY241	University Physics III: Thermodynamics, Optics, and Wave Phenomena	4
Restricted Electives: (16-20 credits)			Credits		
Students should select 16-20 credits from the following list of electives based on their area of Engineering and interests. Consultation with Program Director is recommended particularly for students considering transfer to the university so that they optimize their transferable course work.					
+ BIO181	General Biology (Majors) I	4	General Education Requirements: (15-18 credits)		
+ BIO182	General Biology (Majors) II	4	General Education Core: (9-12 credits)		
+ CHM150	General Chemistry I (4) OR		First-Year Composition:		
+ CHM151	General Chemistry I (3)		+ ENG101 First-Year Composition (3) OR		
	AND		+ ENG107 First-Year Composition for ESL (3)		
+ CHM151LL	General Chemistry I Laboratory (1)		AND		
	OR		+ ENG102 First-Year Composition (3) OR		
+ CHM150AA	General Chemistry I (5)		+ ENG108 First-Year Composition for ESL (3)		
	OR		Oral Communication:		
+ CHM151AA	General Chemistry I (4)	4-5	Any approved general education course from the Oral Communication area, see page 31.		
+ CHM152	General Chemistry II (3) AND		COM100 or COM110 or COM230 recommended.		
+ CHM152LL	General Chemistry II Laboratory (1)		Critical Reading:		
	OR		+ CRE101 College Critical Reading and Critical Thinking (3) OR		
+ CHM152AA	General Chemistry II (4)	4	+ CRE111 ¹ Critical Reading for Business and Industry (3) OR		
+ CHM230	Fundamental Organic Chemistry (3) AND		Equivalent as indicated by assessment		
+ CHM230LL	Fundamental Organic Chemistry Laboratory (1)		Mathematics:		
	OR		Met by any Mathematics course listed in the Required Courses area.		
+ CHM235	General Organic Chemistry I (3) AND		General Education Distribution: (6 credits)		
+ CHM235LL	General Organic Chemistry I Laboratory (1)	4	Humanities, Arts and Design:		
+ CHM236	General Organic Chemistry IIA (3) OR		Any approved general education course in the Humanities, Arts and Design area, see page 31.		
+ CHM238	General Organic Chemistry IIB (3)	3	Social-Behavioral Sciences:		
+ CSC100	Introduction to Computer Science (C++) (3) OR		Any approved general education course in the Social- Behavioral Sciences area, see page 31.		
+ CSC100AA	Introduction to Computer Science (C++) (3) OR		Natural Sciences:		
+ CSC100AB	Introduction to Computer Science (C++) (4) OR		Met by PHY115 or PHY121 in the Required Courses area.		
+ CSC110	Introduction to Computer Science (Java) (3) OR				
+ CSC110AB	Introduction to Computer Science (Java)(4)	3-4			

English**General Information**

For Information: David Miller

Phone: 623.845.3707

www.gccaz.edu/english

Student Goals: General Education, Transfer, Personal Interest

Courses in English are in the areas of composition, literature, and linguistics. Composition courses concentrate on the communication skills of writing, reading, and speaking. Courses in literature encourage students to comprehend and appreciate essays, prose fiction, poetry, and drama. Courses in linguistics examine the history, development, and structure of language.

Communication skills taught in the English Department are essential in any employment area. English majors are well prepared for careers in teaching, law, politics, journalism, writing, editing, public relations, advertising, marketing, and management.

English courses fulfill general education requirements in communications and humanities and provide background for advanced study programs. They develop communication skills for personal, employment, and academic use. English Humanities courses encourage personal enrichment through the study of literature. Courses in English as a second language assist speakers of other languages to learn to speak, write, and read English.

Students should consult with a department advisor in planning their academic schedule in order to complete degree requirements in an expedient manner. Required courses may not be available every semester or year. Due to limited course offerings, degree-seeking students may find it necessary to extend completion time lines and attend both day and evening classes.

Special Skill Levels Needed: The department recommends that students have keyboarding skills. Papers must be typed.

Departmental Recommendations: Credits

The following courses are generally required for a baccalaureate degree in English:

+ ENG101	First-Year Composition	3
+ ENG102	First-Year Composition	3
+ ENG200	Reading and Writing about Literature	3
+ ENG216	Persuasive Writing on Public Issues (3) OR	
+ ENG217	Personal and Exploratory Writing (3)	3
+ ENH221	Survey of English Literature Before 1800	3
+ ENH222	Survey of English Literature After 1800	3
+ ENH241	American Literature Before 1860	3
ENH242	American Literature After 1860	3
	Foreign Language	8-16

ENG107 AND ENG108, First-Year Composition for ESL, may be substituted for ENG101 AND ENG102.

Entrepreneurial Studies Level I²**Certificate of Completion - CCL 5819**

This program is not eligible for Title IV Federal Financial Aid 10-11 credits

For Information: Kendra Swensen

Phone: 623.845.3749

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Entrepreneurial Studies Level I program is designed to provide students with an introduction to the entrepreneurial process. Courses include a history of entrepreneurship, current research into its impacts on society, types of business start-up opportunities, and creating a preliminary business plan, as well as securing a healthy financial future. (A Certificate of Completion (CCL) in Entrepreneurial Studies Level II also is available. - effective fall 2019)

This certificate also is offered at Chandler-Gilbert¹, Estrella Mountain¹, GateWay, Mesa, Phoenix, Paradise Valley, Rio Salado, Scottsdale, and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses within the program.

Program Prerequisites: None

Required Courses: (10-11 credits)		Credits
EPS150	Introduction to Entrepreneurship	3
EPS160	New Venture Creation	2
EPS162	Introduction to Social Entrepreneurship (3) OR	
EPS195	Business Start-Up and Planning (2)	2-3
GBS/HEC132	Personal and Family Financial Security	3

Exercise Science: Health, Fitness and Sports Performance²**Associate in Applied Science - AAS 3059**

63-72.5 credits

For Information: Lisa Lewis

Phone: 623.845.3784

www.gccaz.edu/fitness-wellness

Program Description: The Associate in Applied Science (AAS) in Exercise Science: Health, Fitness and Sports Performance program prepares students for the American College of Sports Medicine (ACSM), National Strength and Conditioning Association (NSCA), National Academy of Sports Medicine (NASM) and the American Council on Exercise (ACE) personal trainer certifications. The curriculum is designed to prepare students for employment in entry-level positions such as personal training within health and fitness clubs, wellness centers, and public and private recreation facilities. This curriculum also provides good preparation for transfer to a four-year bachelor program.

This degree also is offered at Chandler-Gilbert, Mesa, Paradise Valley, Scottsdale, and South Mountain Community Colleges.

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Program Notes: Students must earn a grade of C or better required for all courses within the program.

Students can achieve the AGEC-A by completing the following:

An additional course with the Humanities, Arts and Design general studies designation	3
An additional course with the Natural Science general studies designation	4
Recommend BIO202 Human Anatomy and Physiology II	4
An additional course with the Computer/Statistics/Quantitative Applications general studies designation	3
Recommend MAT206 Elements of Statistics (3) OR PSY230 Introduction to Statistics	3

Prerequisites: None

Required Courses: (44-48.5 credits)

Credits

EXS101	Introduction to Exercise Science	3
EXS125	Introduction to Exercise Physiology	3
+ EXS210	Assessment and Program Design: Muscular Fitness	2
+ EXS211	Assessment and Program Design: Flexibility and Balance	2
+ EXS212	Assessment and Program Design: Cardiorespiratory Fitness	2
+ EXS213	Assessment and Program Design: Weight Management and Motivation	2
+ EXS214	Instructional Competency: Flexibility and Mind Body Exercises	2
+ EXS216	Instructional Competency: Muscular Strength and Conditioning	2
+ EXS218	Instructional Competency: Cardiorespiratory Exercises and Activities	2
+ EXS290	Introduction to Evidence Based Practice	3
+ EXS239	Practical Applications of Personal Training Skills and Techniques Internship (3) OR	
+ EXS239AA	Practical Applications of Personal Training Skills and Techniques Internship (1) AND	
+ EXS239AB	Practical Applications of Personal Training Skills and Techniques Internship (2)	3
HES100	Healthful Living	3
HES210	Cultural Aspects of Health and Illness	3
HES106	Cardiopulmonary Resuscitation (CPR)/Automated External Defibrillator (AED) (0.5) OR	
EMT101	Basic Life Support/Cardiopulmonary Resuscitation (CPR) for Health Care Providers (0.50) OR	
Current Basic Life Support (BLS) Health Care Provider/Professional Rescuer certification (0)		0-0.5
FON100	Introductory Nutrition (3) OR	
FON241	Principles of Human Nutrition (3)	3
PSY101	Introduction to Psychology	3
+ BIO181	General Biology (Majors) I (4) OR One year of high school biology AND	
RDG100	Successful College Reading (3) or higher level Reading course	
OR		
CRE101	College Critical Reading and Critical Thinking (3) OR Eligibility by reading test score (0)	0-4
+ BIO201	Human Anatomy and Physiology I	4

PED101ST	Strength Training	1
PED101GF	Group Fitness/Aerobics (1) OR	
PED101KB	Kickboxing (1) OR	
PED101PS	Pilates (1) OR	
PED101TC	Tai Chi (1) OR	
PED101YH	Hatha Yoga (1) OR	
PED101YO	Yoga (1) OR	
PED101YP	Power Yoga (1) OR	
PED101YR	Restorative Yoga (1) OR	
PED101BS	Body Sculpting (1) OR	
PED101PC	Physical Conditioning (1) OR	
PED101BC	Boot Camp (1) OR	
PED101ZU	Zumba® Fitness (1) OR	
PED101SR	Stretch and Relaxation (1) OR	
PED101CY	Cycling - Indoor (1) OR	
PED101YG	Gentle Yoga (1) OR	
PED101TX	Suspension Training (1)	1

Free Electives: (4 credits)

Credits

Students must choose four additional credits of general elective courses.

(CHM130 AND CHM130LL), OR (CHM151 and CHM151LL) OR BIO202 are recommended for students who intend to transfer

General Education Requirements: (15-20 credits)

General Education Core: (12-17 credits)

Credits

First-Year Composition:

6

+ 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)

Oral Communication:

3

COM100	Introduction to Human Communication (3) OR
COM110	Interpersonal Communication (3) OR
+ COM225	Public Speaking (3) OR
COM230	Small Group Communication (3)

Critical Reading:

0-3

+ CRE101	College Critical Reading and Critical Thinking (3) OR Equivalent as indicated by assessment
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Mathematics:

3-5

+ MAT150	College Algebra/Functions (5) OR
+ MAT151	College Algebra/Functions (4) OR
+ MAT152	College Algebra/Functions (3)

General Education Distribution: (10 credits)

Credits

Humanities, Arts and Design:

3

Any approved general education course from the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences:

0

Met by HES100 in Required Courses.

Natural Sciences:

4

Met by BIO201 in Required Courses.

Fingerprint Identification and Photography²

Certificate of Completion - CCL 5010N
30 credits

For Information: Paul Brown
Phone: 623.845.3913
www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Fingerprint Identification and Photography is designed to prepare students for entry level positions in the field of fingerprint classification and identification. It is one pathway to the Associate in Applied Science (AAS) in Forensic Science.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None

Required Courses (30 credits)	Credits
AJS101 Introduction to Criminal Justice	3
AJS101 Introduction to Criminal Justice	3
AJS213 Evidence Technology/Fingerprints	3
AJS214 Evidence Technology/Photography	3
AJS290BN Courtroom Testimony Seminar	1

Fire Officer Leadership

Certificate of Completion - CCL 5420N
This program is not eligible for Title IV Federal Financial Aid
15 credits

For Information: Raul Muniz
Phone: 623.845.4776
www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Fire Officer Leadership program can be used by professional firefighters for promotions and salary advancement within the Fire Services. The program will provide courses for experienced professional firefighters who desire to learn advanced fireground tactics and strategy, building construction, practical incident command, supervisory training of personnel, and human resource management.

Program Notes: Students must earn a grade of C or better for each course listed in the program.

Admission Criteria: Formal application and acceptance into the program or permission of Program Director.

This certificate also is offered at Mesa, Phoenix and Paradise Valley Community Colleges.

Program Prerequisites: None

Required Courses: (15 credits)	Credits
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 Resources Management in Fire Service

3

Fire Science

General Information

For Information: Raul Muniz
Phone: 623.845.4776
www.gccaz.edu/public-safety-science

Student Goals: Career-related

The Fire Science program at Glendale prepares the student primarily for a career in the fire service, although the program would enhance one's performance in safety education, arson investigation, and related careers.

Greater Phoenix is one of the fastest growing cities in the "Sun Belt," and the need for firefighters will increase in direct proportion to the total population. Although competition is heavy for available positions, the applicant with a Fire Science background has a significant advantage over those without training. A degree in Fire Science does not, however, guarantee employment. Persons already employed as firefighters can expect the attainment of the degree to be an asset when seeking promotion within a fire department or district.

FSC110 - Wildland Firefighter training classes which meet the National Wildland Coordinating Group S-130, S-190 and I-100 learning objectives, are offered weekends during the Spring and Fall semesters. Registration information is available by contacting the FSC Department.

Special Qualifications: To be considered for employment in local fire departments, a candidate must meet the following minimum standards:

1. United States citizenship
2. A high school diploma or GED equivalency certificate
3. No felony conviction in any state or federal jurisdiction
4. A medical examination by a licensed physician attesting that no physical conditions exist which would adversely affect the performance of duties as a firefighter
5. Successful completion of the agility and written (general knowledge) tests and oral interview as specified by the employing fire department
6. Proportional height and weight
7. Minimum age as required by law. Students should consult with a department advisor in planning their academic schedule in order to complete degree requirements in an expedient manner. Due to limited course offerings, degree seeking students may find it necessary to extend completion time lines and attend both day, evening, and weekend classes.

See also Emergency Response and Operations AAS page 76.

Fire Science

Certificate of Completion - CCL 5486

24 credits

For Information: Raul Muniz

Phone: 623.845.4776

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Fire Science program is designed for students who need (1) advanced training as professional firefighters, (2) basic preparation courses for a career in fire services and/or (3) more comprehensive information about fire hazards and prevention. A unique feature of the program is that the instructors are professional firefighters. There is a related Fire Science emphasis (Track IV) available in the Emergency Response and Operations Associate of Applied Science degree program.

Program Notes: Students must earn a grade of C or better for all courses within the program.

This certificate also is offered at Mesa, Phoenix and Paradise Valley Community Colleges.

Program Prerequisites: None

Required Courses: (24 credits)

	Credits
FSC105 Hazardous Materials/First Responder	3
FSC108 Fundamentals of Fire Prevention	3
FSC113 Introduction to Fire Suppression	3
FSC117 Fire Apparatus	3
FSC119 Introduction Fire Service Ethics	3
AJS/DPR/FSC147 Emergency Preparedness (3) OR	
AJS/DPR/FSC148 Fundamentals of Emergency Management (3)	3
+ FSC208 Firefighter Safety and Building Construction	3
FSC215 Customer Service in the Public Sector	3

Firefighter Operations

Certificate of Completion - CCL 5557

17-28 credits

For Information: Raul Muniz

Phone: 623.845.4776

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Firefighter Operations provides the opportunity for individuals seeking employment in various firefighting settings to acquire the minimum standard firefighting skills needed in the field.

Program Notes: EMT104 requires students to complete additional hours in a competency-based clinical, vehicular, and/or scenario based experience. Depending on the college, this may be completed through EMT104AB or program director-approved rotation.

Students must earn a grade of C or better for all courses required within the program.

Admission Criteria: Completion of Program Prerequisites.

Formal application and admission to the program is required.

This certificate also is offered at Mesa, Paradise Valley, and Phoenix Community Colleges.

Program Prerequisites: (3-14 credits)

	Credits
EMT101 Basic Life Support/Cardiopulmonary Resuscitation (CPR) for Health Care Providers (0.50) OR Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer (0) OR Permission of Program Director(0)	0-0.50
+ EMT/FSC104 Emergency Medical Technology (9) AND + EMT/FSC104AB Applied Practical Studies for Emergency Medical Technology (0.5)	
OR + EMT/FSC104 Emergency Medical Technology (9) OR Arizona State EMT Certification (0) OR Arizona State Paramedic Certification (0) OR Permission of Program Director	0-9.5
FSC105 Hazardous Materials/First Responder	3
FSC130 Fitness for Firefighters/CPAT (1) OR Verification of CPAT completion (0) OR Permission of Program Director	0-1

Required Courses: (14 credits)

	Credits
+ FSC102 Fire Department Operations	11
FSC134 Fitness and Conditioning for Firefighters	3

Fitness and Wellness

General Information

For Information: Lisa Lewis

Phone: 623.845.3784

www.gccaz.edu/fitness-wellness

Student Goals: Transfer, Career-related, Personal Interest

Through a diversified program of activities, the health/physical education instructor encourages maintenance of health and physical fitness, development of interest in sports and physical activity, and the art of socialization through play. Related careers are coaching, athletic training, sporting goods, parks and recreation, personal training, group fitness instructor, sportswriting, professional sports, health spa management, gymnasium programs, YMCA or YWCA. The commercial and recreational job market is expanding.

Exercise and Wellness: This program is designed as the first two years of course work for students intending to complete a baccalaureate in Exercise Science, Physical Education, Kinesiology, Wellness, or Health Promotion at a four-year institution. Students should see a department advisor each semester to plan for easy transition to the university.

Health: Health courses include Healthful Living and First Aid which provide a general knowledge of personal health concepts and practices, first aid techniques and safety. Prevention and Treatment of Athletic Injuries is offered for the prospective school teacher, coach, athletic trainer, or other persons desiring more advanced knowledge than is provided in the basic courses.

There are various emphasis “tracks” for Exercise Science majors at the university level, so students should consult with a department advisor or university catalog in planning their academic schedule in order to complete degree requirements in an expedient manner. Required courses may not be available every semester or year. Due to limited course offerings, degree seeking students may find it necessary to extend completion time lines and attend both day and evening classes.

GCC/ASU AT THE WEST CAMPUS RECREATION TRANSFER GUIDE

GCC and ASU's West Campus have agreed to provide a transfer guide to students who are pursuing a Bachelor of Science in Recreation. Those students may complete their first and second years of study at GCC leading to an Associate in Arts degree and continue their third and fourth years of study at ASU's West Campus and receive a BS degree from ASU's West Campus. It is recommended that Recreation majors seek departmental advice at registration time. Under the above agreement, the following course may be taken at GCC and transferred directly to ASU's West Campus:

REC120 Leisure and the Quality of Life

Degree Pathways: GCC's Fitness and Wellness Department offers various pathways to obtaining certificates and degrees in the field of Fitness, Personal Training, Strength Conditioning and Nutrition. Each Certificate is its own destination or can be used as a stepping stone to a higher level of knowledge, leading to an AA degree, AAS degree and eventually a four year institution.

Students continuing on to a four year institution will be well on their way to a career in Fitness, Physical Therapy, Coaching, Athletic Training, Exercise Science, Nutrition and other health related fields.

See our Certificates and Degrees:

- Personal Training Specialist Certificate (CCL)
- Exercise Science and Personal Training Associate in Applied Science Degree (AAS)
- AA degree with emphasis area

Forensic Science²

Associate in Applied Science - AAS 3183
60-65 credits

For Information: Paul Brown

Phone: 623.845.3913

www.gccaz.edu/public-safety-science

Program Description: The Associate in Applied Science (AAS) in Forensic Science 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. This degree pathway also provides students with the opportunity to complete two Certificates of Completion (CCL) in Crime Scene Investigation, and Fingerprint Identification and Photography.

Program Notes: Students must earn a grade of C or better in all courses within the program.

This program also is offered at Chandler-Gilbert, Mesa, Phoenix, Paradise Valley, Scottsdale, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses: (31-41 credits)		Credits
AJS101	Introduction to Criminal Justice	3
AJS123	Ethics and the Administration of Justice	3
AJS275	Criminal Investigation I	3
AJS290BN	Courtroom Testimony Seminar	1
AJS215	Criminalistics: Physical Evidence (3) OR	
AJS219	Crime Scene Technology: Physical Evidence (3) OR	
FOR105	Forensic Science: Physical Evidence (4)	3-4
AJS216	Criminalistics: Biological Evidence (3) OR	
FOR106	Forensic Science: Biological Evidence (4)	3-4

Students should select courses from one of the following emphases based on career goals.

Crime Scene (15 credits)

AJS109	Substantive Criminal Law	3
AJS210	Constitutional Law	3
AJS213	Evidence Technology/Fingerprints	3
AJS214	Evidence Technology/Photography	3
AJS260	Procedural Criminal Law	3

Lab Science (23 credits)

ASM/FOR275	Forensic Anthropology	4
+ CHM151	General Chemistry I	3
+ CHM151LL	General Chemistry I Laboratory	1
+ CHM152	General Chemistry II	3
+ CHM152LL	General Chemistry II Laboratory	1
+ PHY111	General Physics I	4
+ PHY112	General Physics II	4
Any course with the HU, C and G general education designations (3) OR		
Any course with the HU, C and H general education designations (3)		3

Restricted Electives: (3 credits)

Students must complete three credits of restricted electives.

Students interested in the **Crime Scene Emphasis**

CIS105	Survey of Computer Information Systems (3) OR	
BPC110	Computer Usage and Applications (3) OR	
AJS++++	Any AJS Administration of Justice Studies course not listed in the required courses area. (3)	3

Students interested in the **Lab Science Emphasis**

CIS105	Survey of Computer Information Systems (3) OR	
BPC110	Computer Usage and Applications (3)	3

Free Electives: (0-10 credits)

Students must choose zero to ten additional credits of general elective courses. Total number of general electives required will largely depend upon emphasis selected.

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

General Education Requirements: (12-24 credits)**General Education Core: (12-20 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)

Oral Communication:

- + COM225 Public Speaking

Critical Reading:

- + CRE101 College Critical Reading and Critical Thinking (3) OR
Equivalent by assessment

Mathematics:**For Crime Scene Emphasis**

- + MAT140 College Mathematics (5) OR
- + MAT141 College Mathematics (4) OR
- + MAT142 College Mathematics (3) OR
Higher course with an [MA] general education designation (3-5)

For Lab Science Emphasis

- + MAT150 College Algebra/Functions (5) OR
- + MAT151 College Algebra/Functions (4) OR
- + MAT152 College Algebra/Functions (3) AND
- + MAT182 Plane Trigonometry (3) OR
- + MAT187 Precalculus (5) OR
Higher course with an [MA] general education designation (3-8)

General Education Distribution: (0-4 credits)**Humanities, Arts and Design:**

Met by AJS123 in Required Courses area.

Social-Behavioral Sciences:

Met by AJS101 in Required Courses area.

Natural Sciences:

Recommended Course for **Crime Scene Emphasis:**

- + CHM130 Fundamental Chemistry (3) AND
- + CHM130LL Fundamental Chemistry Laboratory (1) OR
- + CHM151 General Chemistry I (3) AND
- + CHM151LL General Chemistry I Laboratory (1) OR
- FOR105 Forensic Science: Physical Evidence (4) OR
- FOR106 Forensic Science: Biological Evidence (4)

Lab Science Emphasis met by CHM151 and CHM151LL

Foundations of Early Childhood Education**Certificate of Completion - CCL 5710**

**This program is not eligible for Title IV Federal Financial Aid
16 credits**

For Information: Judy Basham

Phone: 623.845.4479

www.gccaz.edu/technology-consumer-sciences

Program Description: The Certificate of Completion (CCL) in Foundations of Early Childhood Education is designed to prepare students with foundational knowledge regarding the growth and

development of the young child. Topics include children's health, physical milestones, and cognitive development. Also covered are communication and language acquisition as well as adult/child relationship building.

Program Notes: A grade of C or better is required for all courses within the program.

Certificate coursework may be applicable to national credentials. Students must apply independently to the credentialing organization.

This certificate also is offered at Estrella Mountain, Mesa, Paradise Valley, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses: (16 credits)

	Credits
CFS/ECH176 Child Development (3) OR	
CFS235 Developing Child: Theory into Practice, Prenatal-Age Eight (3) OR	
EED205 The Developing Child: Prenatal to Age Eight (3)	3
EED200 Foundations of Early Childhood Education	3
EED212 Guidance, Management and the Environment (3) OR	
ECH282 Discipline/Guidance of Child Groups (1) AND	
CFS/ECH271 Arranging the Environment (1) AND	
CFS282 Mainstreaming The Young Child with A Disability (1)	3
EED215 Early Learning: Health, Safety, Nutrition and Fitness (3) OR	
CFS123 Health and Nutrition in Early Childhood (1) AND	
CFS125 Safety in Early Childhood Settings (1) AND	
ECH280 Food Experiences With Young Children (1)	3
EED220 Child, Family, Community and Culture (3) OR	
CFS157 Marriage and Family Life (3)	3
+ EED260 Early Childhood Infant/Toddler Internship (1) OR	
+ EED261 Early Childhood Preschool Internship (1)	1

Game Technology

**Certificate of Completion - CCL 5637
28 credits**

For Information: Bill Stewart

Phone: 623.845.3250

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Game Technology is a discipline that includes the development and management of dynamic environments for games and related visualization applications. The Certificate of Completion in Game Technology is designed to help prepare students for opportunities with studios, corporations, organizations, educational institutions, government agencies, advertising and entertainment industries that require visual and interactive content to support, enhance, entertain and/or market their product or service.

Program Notes: Students must earn a grade of C or better for all courses within the program.

This certificate also is offered at Mesa Community College.

Program Prerequisites: None

Required Courses: (25 credits) Credits

CIS105	Survey of Computer Information Systems	3
+ CIS107	The Electronic Game Industry	3
+ CIS151	Computer Game Development - Level I	3
+ ART170	Three-Dimensional Computer Design (3) OR	
CIS130DA	3D Studio Max: Modeling (3)	3
+ ADA/ART/MMT184	Computer Animation (3) OR	
CIS130DB	3D Studio Max: Animation (3)	3
CIS120DC	Adobe Animate: Digital Animation	3
CIS120DF	Adobe Photoshop Level I: Digital Imaging (3) OR	
CIS120DG	Computer Graphics: Macromedia Fireworks (3)	3
+ CIS220DC	Advanced Web Programming with Macromedia Flash	3
+ CIS108	Electronic Portfolio Development	1

Restricted Electives: (3 credits) Credits

+ CIS150AB	Object-Oriented Programming Fundamentals	3
+ MMT216	Multimedia Project Management	3
+ MTC/TCM120	Introduction to Sound Design for Film and Video	3
CIS120DB	Computer Graphics: Adobe Illustrator	3
CIS224	Project Management Microsoft Project for Windows	3

General Business

Associate in Applied Science - AAS 3148

61-66 credits

For Information: Scott Stroher

Phone: 623.845.3453

www.gccaz.edu/business-information-technology

General Business graduates may find employment in retail store management, public service, management of distribution warehouses, service management, etc. Employment involves assigned duties under supervision of experienced personnel to gain knowledge and experience required for promotion to management positions.

Program Description: The Associate in Applied Science (AAS) in General Business program is designed to meet the needs of students who wish a broad overview of business and desire not to enroll in a specialized curriculum in business. The program is designed to acquaint students with major subject areas of business, to improve the student's business vocabulary, and to provide students with an understanding of influencing factors in business decision making and activities. In addition, this program may aid a student in recognizing a specific business field to be pursued in future studies. Although many courses will transfer to a four-year institution, some courses do not. This curriculum is not designed to meet the needs of students who wish to transfer to a four-year institution. A Certificate of Completion (CCL) also is available.

Students who desire to transfer to a four-year university to major

in accounting, economics, marketing, supply chain management, or management should follow the Associate in Business-General Requirements (ABus-GR) and consult with a business department advisor to plan for transfer.

Program Notes: Students must earn a grade of C or better in all courses required within the program.

This degree also is offered at Chandler-Gilbert, GateWay, Mesa, Phoenix, Rio Salado, Scottsdale, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses: (21 credits) Credits

ACC111	Accounting Principles I	3
CIS105	Survey of Computer Information Systems	3
GBS110	Human Relations in Business and Industry (3) OR	
MGT175	Business Organization and Management (3) OR	
MGT251	Human Relations in Business (3)	3
GBS151	Introduction to Business	3
GBS205	Legal, Ethical and Regulatory Issues in Business	3
+ GBS233	Business Communication	3
MKT271	Principles of Marketing	3

Restricted Electives: (18 credits) Credits

Students should select eighteen (18) credits from the following courses.

Any 100/200 level prefixed courses may be selected, except courses used to satisfy the Required Courses area.

ACC+++++	Any ACC Accounting course(s)
GBS+++++	Any GBS General Business course(s)
MGT+++++	Any MGT Management course(s)
MKT+++++	Any MKT Marketing course(s)
EPS+++++	Any EPS Entrepreneurial Studies course(s)
IBS+++++	Any IBS International Business course(s)
REA+++++	Any REA Real Estate course(s)
SBS+++++	Any SBS Small Business Management course(s)

CIS114DE	Excel Spreadsheet	3
CIS117DM	Microsoft Access: Database Management	3
CIS133DA	Internet/Web Development Level I ¹	3

General Education Requirements: (22-27 credits)

General Education Core: (12-17 credits) Credits

First-Year Composition: 6

+ 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)

Oral Communication: 3

Any approved general education course in the Oral Communication area, see page 31.

Critical Reading: 0-3

+ CRE101	College Critical Reading and Critical Thinking (3) OR
	Equivalent by assessment

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Mathematics:	3-5	SBS+++	Any SBS Small Business Management course(s)	
+ MAT120	Intermediate Algebra (5) OR			
+ MAT121	Intermediate Algebra (4) OR	CIS114DE	Excel Spreadsheet	3
+ MAT122	Intermediate Algebra (3)	CIS117DM	Microsoft Access: Database Management	3
		CIS133DA	Internet/Web Development Level I ¹	3
		EPS+++	Any EPS Entrepreneurial Studies course(s)	1-3

General Education Distribution: (10 credits) Credits

Humanities, Arts and Design: 3

Any approved general education course in the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences: 3

ECN211 Macroeconomic Principles (3) OR
 ECN212 Macroeconomic Principles (3) OR
 SBU200 Society and Business (3)

Natural Sciences: 4

Any approved general education course in the Natural Sciences area, see page 31.

General Business

Certificate of Completion - CCL 5683
21 credits

For Information: Scott Stroher

Phone: 623.845.3453

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in General Business is designed to provide business training for various entry-level positions in business. The courses include an introduction to business concepts, accounting and computer principles, and legal issues related to business. An Associate in Applied Science (AAS) is also available.

This certificate also is offered at Chandler-Gilbert, GateWay, Mesa, Phoenix, Rio Salad, and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better in all courses required within the program.

Program Prerequisites: None

Required Courses: (12 credits) Credits

ACC111	Accounting Principles I	3
CIS105	Survey of Computer Information Systems	3
GBS151	Introduction to Business	3
GBS205	Legal, Ethical and Regulatory Issues in Business	3

Restricted Electives: (9 credits) Credits

Students should select nine (9) credits from the following courses.

Any 100/200 level prefixed courses may be selected, except courses used to satisfy the Required Courses area.

ACC+++	Any ACC Accounting course(s)
GBS+++	Any GBS General Business course(s)
MGT+++	Any MGT Management course(s)
MKT+++	Any MKT Marketing course(s)
IBS+++	Any IBS International Business course(s)
REA+++	Any REA Real Estate course(s)

Geology and Earth Science

General Information

For Information: Gary Calderone

Phone: 623.845.3654

www.gccaz.edu/physical-sciences

Student Goals: Transfer, General Education

Geology is the scientific study of the Earth - its composition, structure, history, processes, and its interaction with biological systems and life forms, including humans. Geologists provide the fundamental information required by society to solve problems in resource development, land-use planning, water resource management, geologic hazards, and environmental policy. Furthermore, geologists perform the basic research necessary to understand such processes as global climate change, biological extinctions, earthquakes, and volcanic hazards. Finally, geologists are called upon to find new sources of useful earth materials to balance society's growing demand for energy and materials and the need to conserve resources for future generations.

Employment opportunities for geologists include the areas of water resource management, environmental consulting for civil engineering and private development enterprises, oil and mineral exploration and production, geologic hazard assessment, federal/state research, management, and environmental agencies, and teaching.

The recommendations below are designed as the first two years for students intending to pursue the B.S. degree in geology, earth science, geophysics-geochemistry, or hydrology. Students should consult a department advisor for specific requirements of senior institutions.

Geology Major Recommendations: Credits

The following courses are required by each of the State's Universities.

GLG101	Introduction to Geology I - Physical Lecture	3
GLG103	Introduction to Geology I - Physical Lab	1
GLG102	Introduction to Geology II - Historical Lecture	3
GLG104	Intro to Geology II - Historical Lab	1

Other Recommendations for Geology Majors: Credits

+ CHM151	General Chemistry I	3
+ CHM151LL	General Chemistry I Laboratory	1
+ CHM152	General Chemistry II	3
+ CHM152LL	General Chemistry II Laboratory	1
+ MAT220	Calculus with Analytic Geometry I (5) OR	
+ MAT221	Calculus with Analytic Geometry I (4)	4-5
+ MAT230	Calculus with Analytic Geometry II (5) OR	
+ MAT231	Calculus with Analytic Geometry II (4)	4-5

+ PHY115	University Physics I	5
+ PHY116	University Physics II	5

Other Recommendations for non-majors:

Geology can also be used to satisfy both the Science and Global and Historical Awareness requirements of the AGECE-A and AGECE-B and the Optional Sciences requirement of AGECE-S. When taken in combination of lecture and lab together, Physical Geology (GLG101 and GLG103) satisfies the [SQ] lab science requirement. Likewise, when taken in combination of lecture and lab together, Historical Geology (GLG102 and GLG104) and Geologic Disasters and the Environment (GLG110 and GLG111) will satisfy [SG] lab science requirements. Either GLG101 or GLG110 will also satisfy the Global Awareness [G] credit. GLG102 qualifies for Historical Awareness [H] credit.

Credits

GLG101	Introduction to Geology I - Physical Lecture	3
GLG103	Introduction to Geology I - Physical Lab	1
GLG102	Introduction to Geology II - Historical Lecture	3
GLG104	Introduction to Geology II - Historical Lab	1
GLG110	Geologic Disasters and the Environment	3
GLG111	Geological Disasters and the Environment Lab	1

Healthcare Technology Systems²

Associate in Applied Science - AAS 3161
60-74 credits

For Information: John Gibson

Phone: 623.845.3419

www.gccaz.edu/business-information-technology

Program Description: The Associate in Applied Science (AAS) in Healthcare Technology Systems degree is designed to develop the knowledge, technical skills and problem solving strategies needed by IT departments of healthcare organizations. Includes in-depth training in web development, programming, database management, system development, and project management for healthcare IT endeavors.

This degree also is offered at Paradise Valley Community College.

Students will take HTM150 and HTM270 online at PVCC.

Program Notes: Students must earn a grade of C or better in all courses within the program. One or more of the prerequisite courses may be waived by Program Director depending on experience and prior skills.

Admission Criteria: Students must submit application for admission into the program prior to enrollment in HTM200. Admission is contingent upon verification that student has met program prerequisites.

Program Prerequisites: (0-9 credits)**Credits**

HCC130	Fundamentals of Healthcare Delivery	3
HCC145	Medical Terminology for Healthcare Professionals	3
CIS105	Survey of Computer Information Systems	3
or permission of Program Director.		0-9

Required Courses: (38 credits)**Credits**

+ HTM150	Introduction to Healthcare IT Systems	3
+ CIS129	Microsoft SharePoint	1
+ CIS150AB	Object-Oriented Programming Fundamentals	3
+ CIS276DA	MySQL Database (3) OR	
+ CIS276DB	SQL Server Database (3)	3
+ HTM200	Healthcare IT Software Infrastructure: Interoperability, Security and mHealth	3
CIS116	Microsoft Visio	1
+ HTM250	Healthcare IT Systems Development Life Cycle (SDLC)	3
+ HTM270	Healthcare IT Systems Capstone	3
CIS224	Project Management: Microsoft Project for Windows	3
CIS117DM	Microsoft Access: Database Management	3
CIS133DA	Internet/Web Development Level I (3) ¹	
OR ¹		
CIS133AA	Internet/Web Development Level I-A (1) AND	
+ CIS133BA ¹	Internet/Web Development Level I-B (1) AND	
+ CIS133CA ¹	Internet/Web Development Level I-C (1)	3
MGT157	Introduction to Statistical Analysis of Clinical and Bioscience Data for Managers	3
+ CIS162AD	C#: Level I (3) OR	
+ CIS163AA	Java Programming: Level I (3) OR	
+ CIS162AC	Visual C++: Level I (3) OR	
+ CIS159	Visual Basic Programming I (3)	3
CWE198AC	Career/Work Experience (3) OR	
+ CIS290AC	Computer Information Systems Internship (3)	3

General Education Requirements: (22-27 credits)**General Education Core: (12-17 credits)****Credits****First-Year Composition:****6**

+ 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)

Oral Communication:**3**

Any approved general education course in the Oral Communication area, see page 31.

Critical Reading:**0-3**

CRE101 College Critical Reading and Critical Thinking (3) OR
Equivalent by assessment

Mathematics:**3-5**

+ Any approved general education course in the Mathematics area, see page 31.

General Education Distribution: (10 credits)**Credits****Humanities, Arts and Design:****3**

Any approved general education course in the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences:**3**

Any approved general education course from the Social and Behavioral Sciences area, see page 31.

Natural Sciences:**4**

Any approved general education course from the Natural Sciences area, see page 31.

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Healthcare Technology Systems

Certificate of Completion - CCL 5836

32-38 credits

For Information: John Gibson

Phone: 623.845.3419

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Healthcare Technology Systems is designed to address current and future needs of IT departments of healthcare organizations. Intended for students who already have IT and/or healthcare experience with an interest in technology applications in the healthcare sector. Includes web development, programming, database management, systems development, and project management for healthcare IT endeavors.

This program also is offered at Paradise Valley Community College.

Students will take HTM150 and HTM270 online at PVCC.

Program Notes: Students must earn a grade of C or better in all courses within the program.

One or more of the prerequisite courses (CIS105, HCC130 or HCC145) may also be waived by Program Director depending on experience and prior skills.

Admission Criteria: Formal application and acceptance into the program required.

Students must submit application for admission into the program prior to enrollment in HTM200. Admission is contingent upon verification that student has met program prerequisites.

Program Prerequisites: (0-6 credits)	Credits
HCC130 Fundamentals in Health Care Delivery	3
HCC145 Medical Terminology for Health Care Professionals and bachelor's degree and/or 3-5 years experience in IT industry	3
OR	
CIS105 Survey of Computer Information Systems and bachelor's degree and/or 3-5 years experience in health services.	3
OR	
Permission of Program Director.	0-6

Required Courses: (32 credits)	Credits
CIS116 Computer Graphics: Introduction to Microsoft Visio	1
CIS117DM Microsoft Access: Database Management	3
+ CIS129 Introduction to Microsoft Sharepoint	1
CIS224 Project Management: Microsoft Project for Windows	3
+ HTM150 Introduction to Healthcare IT and Systems	3
+ CIS276DA MySQL Database (3) OR	
+ CIS276DB SQL Server Database (3)	3
MGT157 Introduction to Statistical Analysis of Clinical and Bioscience Data for Managers	3
+ HTM200 Healthcare IT Software Infrastructure: Interoperability, Security and mHealth	3
+ CIS150AB Object-Oriented Programming Fundamentals	3
CIS133DA Internet/Web Development Level I	3
+ HTM250 Healthcare IT Systems Development Life Cycle (SDLC)	3
+ HTM270 Healthcare IT Systems Capstone	3

History

General Information

For Information: Donna Allen

Phone: 623.845.4760

www.gccaz.edu/social-sciences

Student Goals: General Education, Career-related, Personal Interest

History concerns the political, economic, social, and cultural events and achievements of humanity. Historians analyze and evaluate this material in an attempt to understand the past and interpret the present.

History courses at Glendale Community College serve students who intend to major in history at a four-year institution, students who need these courses in preparation for other courses and to fulfill general education requirements at most universities, and students choosing them for personal interest. Students intending to pursue a baccalaureate degree in history should consult with a departmental advisor to plan their program.

Those with a baccalaureate in history will find the teaching field crowded. Careers with museums, historical societies, special libraries, archives, government agencies, and communication media (consulting and research) should be explored. Because of its breadth as a part of the liberal arts curriculum, a baccalaureate in history provides excellent preparation for any occupation emphasizing communications skills and personal relations, e.g., journalism, civil service, law, foreign service, publishing and public relations.

Homeland Security²

Certificate of Completion - CCL 5322N

This program is not eligible for Title IV Federal Financial Aid
12 credits

For Information: Paul Brown

Phone: 623.845.3913

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Homeland Security program is designed to provide students with the knowledge and skills needed to conduct a homeland security evaluation and to assess, investigate and respond to terrorism incidents. It also provides criminal justice practitioners with an opportunity for academic growth and the development of specialized skills in homeland security.

This certificate also is offered at Chandler-Gilbert, GateWay, Mesa, Phoenix, Paradise Valley, Rio Salado, and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better in all courses required within the program.

Program Prerequisites: None

Required Courses: (12 credits)

	Credits
AJS/DPR/FSC139 Emergency Response to Terrorism	3
AJS/DPR/FSC147 Emergency Preparedness	3
AJS/DPR/FSC148 Fundamentals of Emergency Management	3
AJS195 International and Domestic Terrorism	3

Honors Program**General Information**

For Information: Honors Office

Phone: 623.845.3650

Visit the Honors Office: O7 Faculty Office Building

The Honors Program at Glendale Community College offers talented and motivated students opportunities for extended academic and personal growth through many special courses that emphasize critical thinking, verbal expression, and creative problem solving.

Small classes, usually limited to 17 students, make it possible for excellent teachers to give more individual attention to students.

Honors courses are offered in many disciplines and satisfy the general education requirements for graduation from Glendale. Most courses will transfer to four-year colleges and universities. Honors courses are indicated as such on transcripts.

Students who complete a minimum of 15 Honors credits (Pass/Fail credits excluded) distributed among 3 different course prefixes and whose cumulative grade-point average is 3.500 or higher will be designated as Honors Program Graduates.

Honors Program Graduates are awarded special recognition at commencement and on their transcripts and diploma. They are encouraged to apply for honors programs and scholarships at state universities and other institutions.

Benefits of the Honors Program:

- Provisional membership in Phi Theta Kappa, a national honors fraternity
- Personal academic advisement
- Financial benefits
- Special recognition for honors achievements
- Cultural, social, and service activities
- Honors Forums
- Honors Awards Banquet
- Assistance with transfer to our state universities
- Eligibility to participate in regional, national, and international programs and conferences

There are three ways to enter the Honors Program:

1. Students who have completed at least 12 college-level graded credits (courses numbered 100 or above, Pass/Fail excluded) with a cumulative MCCCDC GPA of 3.25 or higher may apply to the Honors Program to participate in the program without specific scholarship benefits.
2. Recent graduates of Maricopa County high schools are eligible to apply for the Presidents' Scholarship provided, at the time of application, they have met the criteria for one of

the pathways listed below:

- At least ENG101-with a minimum WritePlacer score of 5 or higher-at least MAT120, and a Reading score of 74 or higher,
- Or the requisite course work to be prepared for placement in ENG101, MAT120, or CRE101,
- Or successful completion of ENG101, MAT120, or CRE101.

Qualified students must enroll during the academic year following high school graduation without having enrolled in any institution other than a Maricopa Community College.

Presidents' Scholars must meet the following requirements in order to retain their scholarships:

- Enroll in and complete a minimum of 12 credits each semester
- Enroll in and complete a minimum of 24 credits in courses numbered 100 or higher each academic year.
- Enroll in and complete with a grade of C or higher at least three credits of honors course work each semester
- Maintain a cumulative MCCCDC GPA of 3.25 or higher
- Maintain continuous enrollment—summer sessions excluded.
- Complete two co-curricular activities each semester.

Students who do not meet the requirements for retention face the loss of their scholarships, which cannot be reinstated, and they may be billed for tuition and fees for the semester in which they are enrolled.

3. Continuing and transfer students who have accumulated a minimum of 12 credits in courses numbered 100 and above (Pass/Fail credits excluded) and who have a cumulative MCCCDC GPA of 3.25 or higher may apply for the Honors Achievement Award. Students who are accepted will receive an award based on the number of credits for which they complete in a given semester.

Number of Credits	Amount of Fee Waiver
12 or more	\$500.00
9 - 11	325.00
6 - 8	244.00

Students accepting the Honors Achievement Award must meet the following requirements each semester:

- Enroll in and complete the number of credits for which they will be awarded (Pass/Fail credits excluded)
- Enroll in and complete with a grade of C or higher at least three credits of honors coursework
- Maintain a cumulative MCCCDC GPA of 3.25 or higher
- complete one co-curricular activity each semester

Students will receive the Honors Achievement Award at the end of the semester and the amount of the award is determined by the number of credits completed.

Please Note: State law now requires that a person who is not a citizen or legal resident of the United States or who is without lawful immigration status is not entitled to classification as an

in-state student pursuant to A.R.S. Section 15-1802 or entitled to classification as a county resident pursuant to A.R.S. Section 15-18021.

According to state law, a person who is not a citizen of the United States, who is without lawful immigration status, and who is enrolled at any community college under the jurisdiction of an Arizona community college district is not entitled to tuition waivers, fee waivers, grants, scholarship assistance, financial aid, tuition assistance or any other type of financial assistance that is subsidized or paid in whole or in part with state monies.

Only those with a lawful presence in the United States may qualify for MCCCDC scholarships or federal financial aid. Any information you provide about your legal status when you apply for financial aid or scholarships may be subject to mandatory reporting to federal immigration authorities under Arizona law.

For applications and further information please visit our web site, gccaz.edu/honors-program, or contact the Honors Office at 623.845.3650.

Honors Program students should not withdraw from courses or alter class schedules without approval of the Honors Office.

Information Security

Associate in Applied Science - AAS 3039
62-71 credits

For Information: Martin Bencic

Phone: 623.845.3237

www.gccaz.edu/business-information-technology

Program Description: The Associate in Applied Science (AAS) in Information Security degree is designed to provide students with the knowledge and tools to understand how networks, operating systems and programs function. Emphasis is placed on developing the theoretical and practical skills needed to maintain security on mission-critical data and systems. The program is designed to meet the training needs of government and industry employees. The program covers a variety of information security disciplines which include both vendor-neutral and vendor-specific information technology (IT) security training. The Information Security program prepares students for internationally recognized IT certifications and high demands in business, industry and government.

Program Notes: Students must earn a grade of a C or better for all courses required within the program.

Program Prerequisites: None

Required Courses: (28 credits) Credits

Certificate of Completion (CCL) in Information Security Technology (5347) 28

Restricted Electives: (12-16 credits) Credits

Students should select at least four (4) courses from the list below. A minimum of six (6) credits must be ITS prefixed course.

+ CIS1++++	Any CIS programming Level I course	3
+ CIS271DL	Linux Security	3
+ CNT150AA	Cisco - Routing and Switching Essentials	4
+ CNT160AA	Scaling Networks	4

+ CNT170AA	Cisco - Connecting Networks	4
+ CNT205	Cisco Certified Network Associate Security	4

ITS+++++	Any ITS Information Technology Security course except courses used to satisfy Required Courses area	6-16
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General Education Requirements: (22-27 credits)

General Education Core: (12-17 credits) Credits

First-Year Composition: 6

+ 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)	

Oral Communication: 3

Any approved general education course in the Oral Communications area, see page 31.

Critical Reading: 0-3

+ CRE101	College Critical Reading and Critical Thinking (3) OR Equivalent as indicated by assessment	
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Mathematics: 3-5

+ MAT150	College Algebra/Functions (5) OR Higher level mathematics course	
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General Education Distribution: (10 credits) Credits

Humanities, Arts and Design: 3

Any approved general education course from the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences: 3

Any approved general education course from the Social-Behavioral Sciences area, see page 31.

Natural Sciences: 4

Any approved general education course from the Natural Sciences area, see page 31.

Information Security Technology

Certificate of Completion - CCL 5347
28 credits

For Information: Martin Bencic

Phone: 623.845.3237

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Information Security Technology program is designed to provide students with the knowledge and tools to understand how networks, operating systems and programs function, as well as, how to protect them. Emphasis is placed on developing the knowledge and skills to maintain security on mission-critical data and computer systems. The program is designed to meet the training needs of employees in both public and private sectors. The program covers a variety of information security disciplines that include both vendor-neutral and vendor-specific security training. The Information Security Technology program is designed to help prepare students for internationally recognized industry certifications.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None

Required Courses: (28 credits)

	Credits
+ BPC170 A+ Exam Prep: Computer Hardware Configuration and Support	3
CIS105 Survey of Computer Information Systems	3
CIS126DL Linux Operating System	3
CIS238++ Any UNIX/Linux Administration course (3) OR	
+ CIS239DL Linux Shell Scripting (3)	3
CNT140AA Introduction to Networks	4
+ ITS110 Information Security Fundamentals	3
+ ITS120 Legal, Ethical and Regulatory Issues	3
+ ITS130 Operating System Security	3
MST150++ Any Microsoft Windows Operating System course	3

Insurance Studies

Associate in Applied Science - AAS 3172
61-64 credits

For information: Scott Stroher

Phone: 623.845.3543

www.gccaz.edu/business-information-technology

Program Description: The Associate in Applied Science (AAS) in Insurance Studies program is designed for students who are interested in gaining foundational skills in the insurance industry. Courses provide a framework of knowledge including an introduction to the insurance industry, principles of property and liability insurance, personal, and commercial insurance. The program also includes a Certificate of Completion (CCL) in Insurance Studies.

Program Notes: Students must earn a grade of C or better for all courses within the program.

This program also is available at Mesa and Rio Salado Community Colleges.

Program Prerequisites: None

Required Courses: (18 credits):

	Credits
Certificate of Completion in Insurance Studies (5842)	18

Restricted Electives: (21 credits)

Students must choose 21 industry/job related credits from the list of Restricted Electives below. Any 100/200 level prefixed courses may be selected except courses used to satisfy the Required Courses area.

	Credits
ACC+++++ Any ACC Accounting course(s)	0-21
CIS113DE Microsoft Word: Word Processing	0-3
CIS114DE Excel Spreadsheet	0-3
CIS117DM Microsoft Access: Database Management	0-3
CIS121AE Windows Operating System: Level I	0-1
EPS+++++ Any EPS Entrepreneurial Studies course(s)	0-21
FIN+++++ Any FIN Financial Planning course(s)	0-21
+ GBS233 Business Communication (3) AND/OR	

GBS+++++ Any additional GBS General Business course(s)	0-21
IBS+++++ Any IBS International Business course(s)	0-21
+ INS220 Claim Handling Principles and Practices (3) AND/OR	
+ INS225 Auto Claim Practices (3) AND/OR	
INS+++++ Any additional INS Insurance Studies course(s)	0-21
MGT+++++ Any MGT Management course(s)	0-21
MKT+++++ Any MKT Marketing course(s)	0-21
REA+++++ Any REA Real Estate course(s)	0-21
SBS+++++ Any SBS Small Business Management course(s)	0-21
TQM+++++ Any TQM Total Quality Management course(s)	0-21

General Education Requirements: (22-25 credits)

General Education Core: (12-15 credits) Credits

First-Year Composition: 6

+ 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)	

Oral Communication: 3

COM100 Introduction to Human Communication (3) OR	
COM230 Small Group Communication (3)	

Critical Reading: 0-3

+ CRE101 College Critical Reading and Critical Thinking (3) OR	
Equivalent as indicated by assessment.	

Mathematics: 3

+ MAT112 Mathematical Concepts and Applications (3) OR	
+ MAT122 Intermediate Algebra (3)	

General Education Distribution: (10 credits) Credits

Humanities, Arts and Design: 3

Any approved General Education course in the Humanities, Arts and Design area.

Social-Behavioral Sciences: 3

Any approved General Education course in the Social-Behavioral Sciences area.

Natural Sciences: 4

Any approved General Education course in the Natural Sciences area.

Insurance Studies

Certificate of Completion - CCL 5842
18 credits

For Information: Scott Stroher

Phone: 623.845.3453

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Insurance Studies program is designed to provide knowledge and skills training for various entry-level positions in the insurance industry. The courses include an introduction to the insurance industry, in addition to principles of property, liability, personal, and commercial insurance.

Program Notes: Students must earn a grade of C or better for all

courses within the program.

This certificate also is available at Mesa and Rio Salado Community Colleges.

Program Prerequisites: None

Required Courses: (12 credits)

	Credits
INS100 Insurance Industry Profession	3
INS200 Principles of Property and Liability Insurance	3
+ INS205 Personal Insurance	3
+ INS210 Commercial Insurance	3

Restricted Electives: (6 credits)

Students must choose six (6) industry/job related credits from the list of Restricted Electives below.

	Credits
COM+++++ Any COM Communication course(s) COM110 is recommended.	0-6
FIN+++++ Any FIN Financial Planning course(s)	0-6
GBS+++++ Any GBS General Business course(s) GBS151 or GBS205 is recommended.	0-6
INS+++++ Any INS Insurance Studies course(s) except courses used to satisfy Required Courses area	0-6
MGT+++++ Any MGT Management course(s) MGT175 is recommended.	0-6
MKT+++++ Any MKT Marketing course(s) MKT271 is recommended.	0-6
TQM+++++ Any TQM Total Quality Management course(s) TQM101 is recommended	0-6

iOS Application Development²

Certificate of Completion - CCL 5914N

This program is not eligible for Title IV Federal Financial Aid 9-12 credits

For Information: Gary Marrer

Phone: 623.845.3235

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in iOS Application Development prepares students for positions in app development for the Apple iPad, iPhone, and Apple Watch series. The program emphasizes knowledge and skills required to design, develop, test, and document structured and object-oriented programs utilizing Swift and Xcode.

This certificate also is offered at Chandler-Gilbert, Estrella Mountain, Mesa, Phoenix, Paradise Valley, Rio Salado, Scottsdale, and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None

Required Courses: (9-12 credits)

	Credits
CIS105 Survey of Computer Information Systems (3) OR Permission of Instructor	0-3
+ CIS150AB Object-Oriented Programming Fundamentals	3
+ CIS165 Introduction to IOS Application Development	3
+ CIS265 Advanced iOS Application Development	3

Journalism, Mass Communications and- New Media Studies

General Information

For Information: Jenna Duncan

Phone: 623.845.3914

www.gccaz.edu/english

Student Goals: Career-related, Transfer

Journalism training is based on a broad liberal arts program because the journalist must be well-rounded. In addition, the ability to put that knowledge into words is essential. Despite the tremendous technological growth now affecting news dissemination, no electronic shortcuts will replace the journalist of tomorrow. Reporters and editors will always be needed to witness events, gather facts, make news judgments, and deliver the news. Recent employment studies show that journalism and communication graduates found jobs in daily newspapers, weekly newspapers, public relations, advertising, wire services, magazines, and news broadcasting. A sizable number of graduates found non-media jobs including sales, management, and clerical positions.

It is important for students planning a journalism career to consult with a journalism advisor as soon as possible so that a sequence of journalism experiences can be planned for the maximum benefit of the student.

Transferability: Journalism and Mass Communications courses vary as to acceptance at four-year institutions. Students should consult with a departmental advisor at both GCC and the four-year school to which they plan to transfer. Due to limited course offerings, degree-seeking students may find it necessary to extend completion time lines and attend both day and evening classes.

Program Description: The following recommendations will satisfy the general education requirements of most four-year colleges and universities. Students should indicate to their advisor the college to which they intend to transfer, since specific requirements in science, foreign language, etc., differ with each institution. Most schools, however, desire a broad background in English and the social sciences.

Departmental Recommendations:

	Credits
JRN133 Development of Small Publications	3
+ JRN201 News Writing	3
+ JRN215 News Production	3
+ MCO120 Media and Society	3
+ MCO220 Cultural Diversity and the Media	3

Other Recommendations:

	Credits
ART131 Photography I	3

Electives:

According to individual interests, students are encouraged to choose from the following. It is strongly recommended that students consult with the journalism advisor when making choices. There is no limit on electives with the MCO or JRN prefixes.

		Credits
+ ART181	Graphic Design I	3
+ ENG111	Technical Writing	3
+ JRN234	Feature Writing	3
+ JRN235	Practicum: Public Relations	3
+ JRN240++	Journalism Internship (Modules AA, AB, AC)	1-3
+ JRN298++	Special Projects (Modules AA, AB, AC)	1-3
+ MCO120	Media and Society	3

General Education Requirements:

See approved list for AA degree, page 19. The following courses are recommended within the General Education Requirements:

Humanities, Arts and Design: (8-9 credits)

Any approved course. Students are encouraged to choose ENH (English Humanities) and PHI (Philosophy).

Social-Behavioral Sciences: (6 credits)

		Credits
ECN211	Macroeconomic Principles (3) OR	
ECN212	Microeconomic Principles (3)	3
HIS+++	Any (History) course	3
POS110	American National Government	3
PSY101	Introduction to Psychology	3

ASU Requirements for a B.A. in Journalism:

Students intending to transfer into ASU's Department of Journalism and Telecommunications may wish to take courses listed below to fulfill requirements for a BA degree in Journalism.

+ COM225	Public Speaking (3) OR	
+ COM/THP241	Oral Interpretation of Literature (3)	3
+ ENG210	Creative Writing (3) OR	
+ ENG215	Strategies of Academic Writing (3) OR	
+ ENG216	Persuasive Writing on Public Issues (3) OR	
+ ENG217	Personal and Exploratory Writing (3) OR	
+ ENG218	Writing About Literature (3)	3
+ MAT142	College Mathematics (3) OR	
+ MAT150	College Algebra / Functions (5) OR	
+ MAT151	College Algebra / Functions (4) OR	
+ MAT152	College Algebra / Functions (3) OR higher	
	Any Foreign Language course	16

Computer Science Requirement: (3 credits)

		Credits
CIS105 S	Survey of Computer Information Systems (Recommended)	3

Journalism and New Media Studies²

Associate in Applied Science - AAS 3120
62-67 credits

For Information: Jenna Duncan

Phone: 623.845.3914

www.gccaz.edu/english

Program Description: The Associate in Applied Science (AAS) in Journalism and New Media Studies program is designed to provide students with general, practical and marketable skills that will enable them to seek entry-level employment in various media outlets, including: newspapers, magazines, community journals, online websites, radio and television. The program includes development of a portfolio that will exhibit students' abilities to write both news and feature stories. News judgment also is integrated as 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 for all courses within the program.

Students can achieve the AGEC-A and satisfy additional requirements for the Bachelor of Arts in Journalism and Mass Communication at Arizona State University by completing the following courses not already completed as part of the degree:

PHI101	Introduction to Philosophy (3) OR	
PHI102	Introduction to Philosophy (3) OR	
PHI103	Introduction to Logic (3) OR	
PHI105	Introduction to Ethics (3)	3
HIS103	United States History to 1865 (3) OR	
HIS108	United States History 1945 to Present (3) OR	
HIS203	African-American History to 1865 (3)	3
ECN212	Microeconomic Principles (3) OR	
ECN211	Macroeconomic Principles (3)	3
POS110	American National Government (3)	
SOC101	Introduction to Sociology (3) OR	
PSY101	Introduction to Psychology	3

Any approved general education course in the Science Quantitative [SQ] area or the Science General [SG] area

4

This program also is available at Mesa and Scottsdale Community Colleges.

Prerequisites: None

Required Courses: (40 credits):

		Credits
CIS105	Survey of Computer Information Systems (3) OR	
BPC110	Computer Usage and Applications (3)	3
JRN125	Photo Editing	3
+ JRN201	News Writing	3
+ JRN203	Writing for Online Media	3
+ JRN205	Copyediting	3
+ JRN212	Broadcast Writing	3

JRN225	Photojournalism	3	<h3>Journalism and New Media Studies</h3> <p>Certificate of Completion - CCL 5466 21-25 credits</p> <p>For Information: Jenna Duncan Phone: 623.845.3914 www.gccaz.edu/english</p> <p>Program Description: The Certificate of Completion (CCL) in Journalism and New Media Studies program is designed both for students that are just starting their career path in journalism as well as those that have a bachelor's degree in another discipline and are shifting professional goals or areas of emphasis. The CCL includes courses that are often required in journalism program at universities throughout the state and country. An internship in journalism as well as submission of a portfolio of published articles are also required to complete the certificate.</p> <p>Program Notes: Students must earn a grade of C or better for all courses within the program.</p> <p>Program Prerequisites: None</p> <p>Required Courses: (21 credits)</p> <table border="0"> <thead> <tr> <th></th> <th></th> <th>Credits</th> </tr> </thead> <tbody> <tr> <td>+ ENG101</td> <td>First-Year Composition (3) OR</td> <td></td> </tr> <tr> <td>+ ENG107</td> <td>First-Year Composition for ESL (3) AND</td> <td></td> </tr> <tr> <td>+ ENG102</td> <td>First-Year Composition (3) OR</td> <td></td> </tr> <tr> <td>+ ENG108</td> <td>First-Year Composition for ESL (3)</td> <td>3</td> </tr> <tr> <td>ENG235</td> <td>Magazine Article Writing (3) OR</td> <td></td> </tr> <tr> <td>+ JRN234</td> <td>Feature Writing (3)</td> <td>3</td> </tr> <tr> <td>+ JRN201</td> <td>News Writing</td> <td>3</td> </tr> <tr> <td>+ JRN203</td> <td>Writing for Online Media</td> <td>3</td> </tr> <tr> <td>+ JRN215</td> <td>News Production</td> <td>3</td> </tr> <tr> <td>+ JRN240AB</td> <td>Journalism Internship</td> <td>2</td> </tr> <tr> <td>JRN290</td> <td>Publications Portfolio</td> <td>1</td> </tr> <tr> <td>+ MCO120</td> <td>Media and Society</td> <td>3</td> </tr> <tr> <td>+ MCO220</td> <td>Cultural Diversity and the Media</td> <td>3</td> </tr> </tbody> </table> <p>Restricted Electives: (3-4 credits)</p> <p>Students have the option of taking up to four (4) credits selected from the following list to develop an additional area of concentration. Restricted Elective credits are not required for the program.</p> <table border="0"> <thead> <tr> <th></th> <th></th> <th>Credits</th> </tr> </thead> <tbody> <tr> <td>JRN125</td> <td>Photo Editing</td> <td>3</td> </tr> <tr> <td>JRN133</td> <td>Development of Small Publications</td> <td>3</td> </tr> <tr> <td>+ JRN212</td> <td>Broadcast Writing</td> <td>3</td> </tr> <tr> <td>+ JRN298AA</td> <td>Special Projects</td> <td>1</td> </tr> </tbody> </table> <p>Language Studies Academic Certificate - AC This program is not eligible for Title IV Federal Financial Aid 12-18 credits</p> <p>For Information: Guiomar Borrás Phone: 623.845.3636 www.gccaz.edu/communication-world-languages</p> <p>Program Description: The Academic Certificate (AC) in Language Studies is designed to provide students with a foundation in the study of culture, language, and linguistic structures. Students will have the opportunity to develop oral and written communication</p>			Credits	+ 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)	3	ENG235	Magazine Article Writing (3) OR		+ JRN234	Feature Writing (3)	3	+ JRN201	News Writing	3	+ JRN203	Writing for Online Media	3	+ JRN215	News Production	3	+ JRN240AB	Journalism Internship	2	JRN290	Publications Portfolio	1	+ MCO120	Media and Society	3	+ MCO220	Cultural Diversity and the Media	3			Credits	JRN125	Photo Editing	3	JRN133	Development of Small Publications	3	+ JRN212	Broadcast Writing	3	+ JRN298AA	Special Projects	1
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Any combination of the following courses must be taken for a total of nine credits: JRN298AA and JRN298AB may be repeated for credit.																																																												
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+ JRN298AA	Special Projects (1)																																																											
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Mathematics: 3-5																																																												
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Natural Sciences: 4																																																												
Any approved general education course from the Natural Sciences area, see page 31.																																																												

skills in a language other than English.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

This certificate also is offered at Mesa and Rio Salado Community Colleges.

Program Prerequisites: (0-15 credits)

201-level proficiency in a language other than English as indicated by assessment or coursework.

Credits

0-15

Required Courses: (6-8 credits)

SLC201 Introduction to Linguistics

Credits

3

AND

Students must choose three to five credits in 202 or higher-level coursework in the language used to satisfy the program prerequisites.

Restricted Electives: (6-10 credits)

Credits

Students must choose two courses from the list below. Prerequisites may not be used to satisfy the Restricted Electives:

AFR/ASB/CCS202 Ethnic Relations in the United States (3) OR
SOC241 Race and Ethnic Relations (3)

3

+ COM163	Intercultural Communication in Everyday Life	3
COM263	Elements of Intercultural Communication	3
AHU+++	Any AHU Arabic Humanities course(s)	
ARB+++	Any ARB Arabic course(s)	
CHI+++	Any CHI Chinese course(s)	
FLA+++	Any FLA Foreign Language Acquisition course(s)	
FRE+++	Any FRE French course(s)	
GER+++	Any GER German course(s)	
GRK+++	Any GRK Greek course(s)	
HBR+++	Any HBR Hebrew course(s)	
HEB+++	Any HEB Hebrew course(s)	
IPP+++	Any IPP Interpreter Preparation Program course(s)	
ITA+++	Any ITA Italian course(s)	
ITH+++	Any ITA Italian Humanities course(s)	
JPN+++	Any JPN Japanese course(s)	
LAT+++	Any LAT Latin course(s)	
NAV+++	Any NAV Navajo course(s)	
NVH+++	Any NVH Navajo Humanities course(s)	
PIM+++	Any PIM Pima course(s)	
POR+++	Any POR Portuguese course(s)	
RUS+++	Any RUS Russian course(s)	
SLC+++	Any SLC Studies in Language and Culture course(s)	
SLG+++	Any SLG Sign Language course(s)	
SPA+++	Any SPA Spanish course(s)	
SPH+++	Any SPH Spanish Humanities course(s)	
TRS+++	Any TRS Translation and Interpretation course(s)	

Law Enforcement²

Certificate of Completion - CCL 5987N

This program is not eligible for Title IV Federal Financial Aid 15 credits

For Information: Paul Brown

Phone: 623.845.3913

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Law Enforcement 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 and is one pathway to the Associate in Applied Science (AAS) in Administration of Justice.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None.

Required Courses: (15 credits)

Credits

AJS101	Introduction to Criminal Justice	3
AJS123	Ethics and the Administration of Justice	3
AJS205	Effective Communication and Report Writing in Criminal Justice	3
AJS230	The Police Function	3
AJS275	Criminal Investigation I	3

Law Enforcement Investigator

Certificate of Completion - CCL 5899N

This program is not eligible for Title IV Federal Financial Aid 6 credits

For Information: Penny Babb

Phone: 623.845.3951

www.gccaz.edu/public-safety-science

Program Description: This certificate program is designed to prepare the law enforcement officer to become a specialist in the investigation of criminal activity and to successfully assist in prosecution. Courses address case management, legal aspects of interviewing, search and seizure, and courtroom presentations. Students will demonstrate skills related to these areas in a crime scene scenario.

Program Notes: Students must earn a grade of C or better for all courses within the program.

Admission Criteria: Student must be Law enforcement personnel or permission of instructor.

Required Courses: (6 credits)

Credits

+ LEO281AA	Criminal Investigations Certification I	1
+ LEO281AB	Criminal Investigations Certification II	1
+ LEO281AC	Criminal Investigations Certification III	1
+ LEO281AD	Criminal Investigations Certification IV	1
+ LEO281AE	Criminal Investigations Certification V	0.5
+ LEO281AF	Criminal Investigations Certification VI	0.5
+ LEO281AG	Criminal Investigations Certification VII	1

Law Enforcement Training Academy

Certificate of Completion - CCL 5485

30 credits

For Information: Penny Babb

Phone: 623.845.3951

www.gccaz.edu/public-safety-science

The Glendale Community College Law Enforcement Training Academy is fully certified by the Arizona Peace Officer Standards Training Board (AZPOST), which is the peace officer certification agency in the state. The academy spans two semesters with the first certifying the successful participants as Limited Authority Officers with full peace officer powers when in the presence of a fully certified officer. The second semester completes their basic training and they become fully certified. Because the training is conducted over two semesters, most participants are appointed to a reserve officer position with their agency.

Persons interested in attending the academy may be sent by a law enforcement agency or apply for college appointment. For agency sponsorship, they contact an agency they are interested in becoming a reserve officer with and participate in their testing process.

If they are successful, the agency authorizes the academy to accept them. The testing normally consists of a written exam, an oral board evaluation, a polygraph test, a psychological evaluation, a background investigation, a medical exam, and a fitness test. For college appointment details, please refer to GCCLETA.com.

The program is a challenging and very demanding curriculum, requiring physical and intellectual stamina. However, the certification attained allows successful participants to enter an exciting and rewarding career.

Arizona statutes allow academies to appoint cadets to complete peace officer training. Upon successful completion of the academy, these cadets will have nine months to seek employment with a law enforcement agency. If appointed to a position with an agency, they will be eligible for AZPOST peace officer certification.

Those interested in attending the academy while being affiliated with an agency will need to contact the human resource or personnel departments at a law enforcement agency and inquire about their application process.

College appointed cadets will be responsible for all costs pertaining to the qualification process and their training. For further information regarding the open enrollment program, refer to GCCLETA.com.

Program Description: The Certificate of Completion (CCL) in Law Enforcement Training Academy is designed for students wishing to pursue a law enforcement career as a law enforcement officer. The student will develop skills in eight functional areas: Introduction to Law Enforcement, Law and Legal Matters, Patrol Procedures, Traffic Control, Crime Scene Management, Community and Police Relations, Report Writing, and Police Proficiency Skills. At the conclusion of this program the student will have completed all requirements of the (AZPOST) Board standards established to certify police officers in the State of Arizona.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

This certificate also is offered at Chandler-Gilbert Community College.

Admission Criteria: Must meet AZPOST minimum requirements for a law enforcement officer and meet any physical requirements by the Academy Director.

Program Prerequisites: None

Required Courses: (30 credits)

	Credits
+ AJS/ LEO102 Peace Officer Certification I	17
+ AJS/ LEO202 Peace Officer Certification II	13

Legal Studies²

Certificate of Completion - CCL 5966

This program currently is not eligible for Title IV Federal Financial Aid

15 credits

For Information: Paul Brown

Phone: 623.845.3913

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Legal Studies is designed for students who are interested in pursuing a course of study specifically focused on legal studies. It is one pathway to the Associate of Applied Science (AAS) in Administration of Justice.

This certificate also is offered at Chandler-Gilbert, Estrella Mountain, Mesa, Phoenix, Paradise Valley, Rio Salado, Scottsdale, and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses within the program.

Program Prerequisites: None

Required Courses: (15 credits)

	Credits
AJS109 Substantive Criminal Law	3
AJS201 Rules of Evidence	3
AJS123 Ethics and the Administration of Justice (3) OR AJS205 Criminal Justice Report Writing (3)	3
AJS210 Constitutional Law	3
AJS260 Procedural Criminal Law	3

Linux Networking Administration

Associate in Applied Science - AAS 3013

60-64 credits

For Information: Martin Bencic

Phone: 623.845.3237

www.gccaz.edu/business-information-technology

Program Description: The Associate in Applied Science (AAS) in Linux Networking Administration program is designed to 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 help develop a student's knowledge and skill level in preparation for employment or to improve current professional skills.

This degree also is offered at Estrella Mountain and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None

Required Courses: (24-25credits) Credits

+ BPC170	A+ Exam Prep: Computer Hardware Configuration and Support	3
CIS126DL	Linux Operating System (3) OR	
CIS126RH	Red Hat System Administration I (3)	3
+ CIS238DL	Linux System Administration (3) OR	
+ CIS238RH	Red Hat System Administration II (3)	3
+ CIS239DL	Linux Shell Scripting	3
+ CIS240DL	Linux Network Administration	3
+ CIS271DL	Linux Security	3
+ CIS190 ²	Introduction to Networking (3) OR	
+ CIS190 ¹	Introduction to Local Area Networks (3) OR	
CNT140AA	Introduction to Networks (4) OR	
MST140	Microsoft Networking Essentials (3)	3-4
MST150++	Any Microsoft Windows course	3

Restricted Electives: (14 credits) Credits

Selected courses will not apply in both the Required Courses area and the Restricted Electives area.

BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
+ BPC270	A+ Exam Prep: Operating System Configuration and Support	3
CIS121AH	Microsoft PowerShell/Command Line Operations	3
+ CIS197	VMware ESXI Server Enterprise	3
+ CIS226AL	Internet/Intranet Server Administration-Linux	3
+ CIS250	Management of Information Systems	3
+ CIS270	Essentials of Network and Information Security	3
+ CIS275DL	Linux Capstone	3
+ CIS296WC	Cooperative Education	3
CIS290++	Any Computer Information Systems Internship course	1-3
+ CIS298AC	Special Projects	3
+ CIS190 ²	Introduction to Networking (3) OR	
+ CIS190 ¹	Introduction to Local Area Networks (3) OR	
CNT140AA	Introduction to Networks (4) OR	
MST140	Microsoft Networking Essentials (3)	3-4
+ CNT150AA	Cisco - Routing and Switching Essentials	4
+ CNT160AA	Scaling Networks	4
+ CNT170AA	Cisco - Connecting Networks	4
MST150++	Any Microsoft Windows course	3
MST155++	Any Microsoft Windows course	4
MST157++	Any Microsoft Windows course	4

MST158++ Any Microsoft Windows course 4

General Education Requirements: (22-25 credits)

General Education Core: (12-15 credits) Credits

First-Year Composition: 6

- + 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)

Oral Communication: 3

- + COM225 Public Speaking (3) OR
- Any approved general education course from the Oral Communication area, see page 31.

Critical Reading: 0-3

- + CRE101 College Critical Reading and Critical Thinking (3) OR
- Equivalent as indicated by assessment

Mathematics: 3

- Any approved general education course from the Mathematics area, see page 31.

General Education Distribution: (10 credits) Credits

Humanities, Arts and Design: 3

- Any approved general education course from the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences: 3

- Any approved general education course from the Social-Behavioral Sciences area, see page 31.

Natural Sciences: 4

- Any approved general education course from the Natural Sciences area, see page 31.

Linux Networking Administration

Certificate of Completion - CCL 5225
36-37 credits

For Information: Martin Bencic

Phone: 623.845.3237

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Linux Networking Administration program is designed to help prepare students for a variety of industry recognized Linux certification exams as well as provides 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 help develop a student's knowledge and skill level in preparation for employment or to improve current professional skills. Objectives for a variety of industry certifications are encompassed within course and program objectives.

This certificate also is offered at Estrella Mountain and Mesa Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None

Required Courses: (24-25 credits) Credits

+ BPC170	A+ Exam Prep: Computer Hardware Configuration and Support	3
CIS126DL	Linux Operating System (3) OR	
CIS126RH	Red Hat System Administration I (3)	3
+ CIS238DL	Linux System Administration (3) OR	
+ CIS238RH	Red Hat System Administration II (3)	3
+ CIS239DL	Linux Shell Scripting	3
+ CIS240DL	Linux Network Administration	3
+ CIS271DL	Linux Security	3
+ CIS190 ²	Introduction to Networking (3) OR	
+ CIS190 ¹	Introduction to Local Area Networks (3) OR	
CNT140AA	Introduction to Networks (4) OR	
MST140	Microsoft Networking Essentials (3)	3-4
MST150++	Any Microsoft Windows course	3

Restricted Electives: (12 credits) Credits

Selected courses will not apply in both Required Courses and Restricted Electives areas.

BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
+ BPC270 A+	Exam Prep: Operating System Configuration and Support	3
+ CIS197	VMware ESXI Server Enterprise	3
CIS121AH	Microsoft PowerShell/Command Line Operations	3
+ CIS226AL	Internet/Intranet Server Administration-Linux 3	
+ CIS250	Management of Information Systems	3
+ CIS270	Essentials of Network and Information Security	3
+ CIS275DL	Linux Capstone	3
CIS280	Current Topics in Computing	3
+ CIS296WC	Cooperative Education	3
CIS290++	Any Computer Information Systems Internship course	1-3
+ CIS298AC	Special Projects	3
+ CIS190 ²	Introduction to Networking (3) OR	
+ CIS190 ¹	Introduction to Local Area Networks (3) OR	
CNT140AA	Introduction to Networks (4) OR	
MST140	Microsoft Networking Essentials (3)	3-4
+ CNT150AA	Cisco - Routing and Switching Essentials	4
+ CNT160AA	Scaling Networks	4
+ CNT170AA	Cisco - Connecting Networks	4
MST150++	Any Microsoft Windows course	3
MST155++	Any Microsoft Windows course	4
MST157++	Any Microsoft Windows course	4
MST158++	Any Microsoft Windows course	4

Linux Professional**Certificate of Completion - CCL 5204N**

This program is not eligible for Title IV Federal Financial Aid 12 credits

For Information: Martin Bencic

Phone: 623.845.3237

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Linux Professional program is designed to help 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 help develop a student's knowledge and skill level in preparation for employment or to improve current professional skills. Objectives for a variety of industry certifications are encompassed within course and program objectives.

This certificate also is offered at Chandler-Gilbert, Estrella Mountain, GateWay, Mesa, Paradise Valley, Phoenix, Scottsdale and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Prerequisites: None

Required Courses: (6 credits)

CIS126DL	Linux Operating System (3) OR	
CIS126RH	Red Hat System Administration I (3)	3
+ CIS238DL	Linux System Administration (3) OR	
+ CIS238RH	Red Hat System Administration II (3)	3

Restricted Electives: (6 credits)

+ BPC170	A+ Exam Prep: Computer Hardware Configuration and Support	3
+ BPC270	A+ Exam Prep: Operating System Configuration and Support	3
CIS105	Survey of Computer Information Systems	3
+ CIS197	VMware ESXI Server Enterprise	3
CIS121AH	Microsoft PowerShell/Command Line Operations	3
+ CIS226AL	Internet/Intranet Server Administration-Linux	3
+ CIS239DL	Linux Shell Scripting	3
+ CIS240DL	Linux Network Administration	3
+ CIS270	Essentials of Network and Information Security	3
+ CIS271DL	Linux Security	3
+ CIS190 ²	Introduction to Networking (3) OR	
+ CIS190 ¹	Introduction to Local Area Networks (3) OR	
CNT140AA	Introduction to Networks (4) OR	
MST140	Microsoft Networking Essentials (3)	3-4
+ CNT150AA	Cisco - Routing and Switching Essentials	4
MST150++	Any Microsoft Windows course	3
CIS280	Current Topics in Computing	3
CIS290++	Any Computer Information Systems Internship course	1-3

Marketing**Certificate of Completion - CCL 5094**
18 credits

For Information: Kendra Swensen
Phone: 623.845.3749
www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Marketing program meets students' needs by providing skills necessary for marketing careers. The program is designed to develop competencies essential for success in marketing. By completing this program students will be better equipped to apply competencies needed for successful performance in a variety of marketing/management occupations including wholesaling, retailing, professional sales, and entrepreneurship. An Associate in Applied Science (AAS) in Marketing and Sales is also available.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

This certificate also is offered at Phoenix, Paradise Valley, Scottsdale, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses: (15 credits)		Credits
BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
GBS151	Introduction to Business	3
MKT263	Advertising Principles	3
MKT267	Principles of Sales	3
MKT271	Principles of Marketing	3

Restricted Electives: (3 credits)		Credits
Students should select from the following courses in consultation with Department Advisor.		
MGT251	Human Relations in Business	3
MKT101	Introduction to Public Relations	3
MKT110	Marketing and Social Networking	3
MKT268	Merchandising	3

Marketing and Sales**Associate in Applied Science - AAS 3094**
61-64 credits

For Information: Kendra Swensen
Phone: 623.845.3749
www.gccaz.edu/business-information-technology

Program Description: The Associate in Applied Science (AAS) in Marketing and Sales program is designed to develop competencies essential for success in marketing and personal selling. By completing this program, students will be better equipped to apply competencies needed for successful performance in a variety of marketing/management occupations, including wholesaling, retailing, professional sales, and entrepreneurship. A Certificate of Completion (CCL) in Marketing is also available.

Program Notes: Students must earn a grade of C or better for all

courses required in the program.

This program also is offered at Mesa, Phoenix, and Paradise Valley Community Colleges.

Program Prerequisites: None

Required Courses: (27 credits)		Credits
ACC111	Accounting Principles I	3
BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
GBS151	Introduction to Business	3
+ GBS233	Business Communication	3
MGT251	Human Relations in Business	3
MKT110	Marketing and Social Networking	3
MKT263	Advertising Principles	3
MKT267	Principles of Sales	3
MKT271	Principles of Marketing	3

Restricted Electives: (12 credits)		Credits
Students should select 12 credits from the following courses in consultation with a Department Advisor.		
GBS205	Legal, Ethical, and Regulatory Issues in Business	3
IBS101	Introduction to International Business	3
MKT+++	Any MKT Marketing courses except courses used to satisfy the Required Courses area.	6-12

General Education Requirements: (22-25 Credits)**General Education Core: (12-15 credits)** **Credits**

First Year Composition: **6**
Any approved general education courses from the First-Year Composition area, see page 31.

Oral Communication: **3**
Any approved general education course from the Oral Communication area, see page 31.

Critical Reading: **0-3**
+ CRE101 College Critical Reading and Critical Thinking (3) OR
Equivalent as indicated by assessment (0)

Mathematics: **3**
Any approved general education course from the Mathematics area, see page 31.

General Education Distribution: (10 credits) **Credits**
Humanities, Arts and Design: **3**

Any approved general education course from the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences: **3**
SBU200 Society and Business

Natural Sciences: **4**
Any approved general education course from the Natural Sciences area, see page 31.

Mathematics

For Information: Dr. Chris Miller

Phone: 623.845.3841

www.gccaz.edu/mathematics-computer-science

Student Goals: Career-related, General Education, Transfer.

Mathematics courses serve students who intend to major in mathematics at a four-year institution, students who need these courses in preparation for other careers, and students choosing them for personal interest. Students intending to pursue a baccalaureate degree in mathematics should consult with a departmental advisor to plan their program.

Mathematicians engage in a wide variety of activities ranging from the creating and relating of new theories to solving of simple or complex numerical problems. Some graduates engage in mathematics for money, some for humanitarian purposes, and some simply because they find it beautiful.

At a time when most job markets are tight, mathematicians can limit their career opportunities by failing to explore available options. Teaching and research are but two of a long list of possibilities. Related careers are applied mathematics, computer research and programming, biomedical engineering, accounting, pure mathematics, systems analysis, economics, physical and life science, statistics and actuarial professions.

Students should consult with a STEM advisor in planning their academic schedule in order to complete degree requirements in an expedient manner. Due to limited course offerings, degree seeking students may find it necessary to extend completion timelines and attend both day and evening classes.

Microsoft Certification Preparation

General Information

For Information: Rachelle Hall

Phone: 623.845.3231

www.gccaz.edu/business-information-technology

Glendale Community College, Microsoft Authorized Academic Training Program provider, prepares students for industry-recognized certification. The curriculum is taught by Microsoft Certified Professionals.

Microsoft Desktop Support Technology

Certificate of Completion - CCL 5473

16-20 credits

For Information: Rachelle Hall

Phone: 623.845.3231

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Microsoft Desktop Support Technology program is designed to provide training for entry-level computer maintenance and help-desk positions. Students will develop the skills to trouble-

shoot desktop environments running on the Microsoft Windows operating system. Courses in the program also help to prepare for the Microsoft Certified IT Professional (MCITP): Enterprise Desktop Support Technician 7 examinations, 70-680 and 70-685.

This certificate also is offered at Estrella Mountain and Paradise Valley Community Colleges.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: (0-3 credits)

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.

CIS121AB	Microsoft Command Line Operations (1) OR	
CIS121AH	Microsoft PowerShell/Command Line Operations (3) OR	
	Permission of Instructor or Program Director	0-3

Required Courses: (16-17 credits)

Credits

CIS102	Interpersonal and Customer Service Skills for IT Professionals	1
CIS105	Survey of Computer Information Systems	3
+ BPC170	A+ Exam Prep: Computer Hardware Configuration and Support	3
+ CIS190 ²	Introduction to Networking (3) OR	
+ CIS190 ¹	Introduction to Local Area Networks (3) OR	
CNT140AA	Introduction to Networks (4) OR	
MST140	Microsoft Networking Essentials (3)	3-4
+ MST141	Enterprise Desktop Support Technician	3
MST150++	Any Microsoft Windows Operating System course	3

Microsoft Networking Technology²

Associate in Applied Science - AAS 3778

60-67 credits

For Information: Rachelle Hall

Phone: 623.845.3231

www.gccaz.edu/business-information-technology

This degree can be applied to a Bachelor of Applied Science (BAS) degree at the ASU West campus.

Program Description: The Associate in Applied Science (AAS) in Microsoft Networking Technology program is designed to develop skills needed to implement a network infrastructure and install, configure, monitor, optimize, and troubleshoot Windows server and Windows client workstations. Courses in the program are also designed to help prepare for Microsoft Certified Product (MCP) Specialist, and Microsoft Certified IT Professional (MCITP) examinations.

Typical tasks of a Microsoft Networking Administrator include developing a local area network, installing and configuring software, creating and managing user and group accounts, analyzing and optimizing system performance, troubleshooting system and

printing problems, interoperating with various operating systems, and working as a system administrator.

Typical tasks of a Microsoft Certified IT Professional (MCITP) are developing a local area network, installing and configuring software, creating and managing user and group accounts, analyzing and optimizing system performance, troubleshooting system and printing problems, training end users, and working as a system administrator.

Program Notes: CIS105 is a prerequisite for many courses in the program. Students should plan to complete CIS105 early in their program of study (as one of their Restricted Electives) or obtain instructor permission for a waiver of this prerequisite.

Students must earn a grade of C or better in all courses within the program.

This degree also is offered at Estrella Mountain and GateWay Community Colleges.

Program Prerequisites: None. Review Program Notes for additional information.

Required Courses: (24-27 credits) **Credits**
Courses selected cannot apply in both Required Courses and Restricted Electives area.

CIS121AB	Microsoft Command Line Operations	1
+ BPC170	A+ Exam Prep: Computer Hardware Configuration and Support	3
CIS102	Interpersonal and Customer Service Skills for IT Professionals	1
CIS126DA	UNIX Operating System (3) OR	
CIS126AA	UNIX Operating System: Level I (1) AND	
+ CIS126BA	UNIX Operating System: Level II (1) AND	
+ CIS126CA	UNIX Operating System: Level III (1) OR	
CIS126DL	Linux Operating System (3)	3
+ CIS190 ²	Introduction to Networking (3) OR	
+ CIS190 ¹	Introduction to Local Area Networks (3) OR	
CNT140AA	Introduction to Networks (4) OR	
MST140	Microsoft Networking Essentials (3)	3-4
MST150++	Any Microsoft Windows Operating System course	3
MST155++	Any Windows Network Infrastructure course	3-4
MST157++	Any Active Directory Windows Server Configuration course	3-4
MST158++	Any Windows Server Administration course	4

Restricted Electives: (14-15 credits) **Credits**
Students should select 14-15 credits from the following courses in consultation with a Program Advisor. Selected courses will not apply in both Required Courses and Restricted Electives.

+ BPC171	Recycling Used Computer Technology (1) (BPC171 may be repeated)	1-3
+ BPC270	Computer Maintenance II: A+ Technician Prep	3
CIS238++	Any UNIX/Linux System Administration course	3
CIS239++	Any Linux course	3

+ CIS240	Local Area Network Planning and Design (3) OR	
CIS240++	Any Linux course (3)	3
+ CIS270	Essentials of Network and Information Security	3
CIS15+	Any Fundamental or Level I Programming course (3)	
AND/OR		
CIS15+++	Any Fundamental or Level I Programming course (3)	3
CIS16+	Any Fundamental or Level I Programming course (3)	
AND/OR		
CIS16+++	Any Fundamental or Level I Programming course (3)	3
CIS280	Current Topics in Computing (3) OR	
CIS280++	Any Current Topics in Computing course(s) (1-3)	1-3

Students may select no more than four credits of CIS282++, CIS290++, CIS296W+, and CWE198++ courses combined.

CIS282++	Volunteerism for Computer Information Systems: A Service Learning Experience (any suffixed course) (1-3) AND/OR	
CIS290++	Computer Information Systems Internship (any suffixed course) (1-3) AND/OR	
CIS296++	Cooperative Education (any suffixed course) (1-4) AND/OR	
CWE198++	Any Career Work Experience course(s) in Information Technology(1-3)	1-4
CNT+++++	Any CNT Cisco Network Technology course	4
ITS+++++	Any ITS Information Technology Security course	3-4
+ MST141	Enterprise Desktop Support Technician	3
MST150++	Any Microsoft Windows Operating System course not selected in the Required Courses area	3
+ MST152	Microsoft Windows Server (4) OR	
MST152++	Any Microsoft Windows Server course (4)	4
MST157++	Any Active Directory Windows Server Configuration course not selected in the Required Courses area (3-4)	3-4
+ MST259	Designing Windows Network Security ¹	3
+ MST298A+	Any Special Projects course	1-3

General Education Requirements: (22-25 Credits)

General Education Core: (12-15 credits)	Credits
First Year Composition:	6
+ 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)

Oral Communication: **3**
Any approved general education course in the Oral Communication area, see page 31.

Critical Reading: **0-3**
+ CRE101 College Critical Reading and Critical Thinking (3) OR
Equivalent as indicated by assessment

Mathematics: 3
 + Any approved general education course in the Mathematics area, see page 31.

General Education Distribution: (10 credits) Credits

Humanities, Arts and Design: 3
 Any approved general education course in the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences: 3
 Any approved general education course in the Social-Behavioral Sciences area, see page 31.

Natural Sciences: 4
 Any approved general education course from the Natural Science area, see page 31.

Microsoft Server Administration

Certificate of Completion - CCL 5852
20-23 credits

For Information: Rachele Hall
Phone: 623.845.3231
www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Microsoft Server Administration program is designed to provide training for professionals who implement, manage, and troubleshoot existing network and system environments based on current Microsoft Server operating systems. The courses in the program are also designed to help prepare for Microsoft Certified Product (MCP) Specialist, and Microsoft Certified IT Professional (MCITP) examinations.

Typical tasks of a Microsoft Certified Systems Administrator (MCSA) are implementing, managing, and troubleshooting networks containing messaging services, file and print servers, and firewalls. In addition a MCSA may be responsible for configuring Internet access, to enabling remote access for users, and to managing client computers.

This certificate also is offered at Estrella Mountain Community College.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: (0-3 credits) Credits
 CIS105 Survey of Computer Information Systems (3) OR
 Permission of Department or Division 0-3

Required Courses: (20-23 credits) Credits
 CIS121AB Microsoft Command Line Operations 1

+ BPC170 A+ Exam Prep: Computer Hardware Configuration and Support 3

+ CIS190² Introduction to Networking (3) OR
 + CIS190¹ Introduction to Local Area Networks (3) OR
 CNT140AA Introduction to Networks (4) OR
 MST140 Microsoft Networking Essentials (3) 3-4

MST150++ Any Microsoft Windows Operating System course 3
 MST155++ Any Windows Network Infrastructure course 3-4
 MST157++ Any Active Directory Windows Server Configuration course 3-4
 MST158++ Any Windows Server Administration course 4

Military Science

General Information

For Information: ASU Main ROTC Program
Phone: 480.965.3318

Reserve Officer Training Corps (ROTC) offers, degree seeking individuals, a unique opportunity to develop leadership and management skills by providing motivation, generating confidence, establishing guidelines, and practical application in those things that "make a leader." At GCC, these basic courses are unique for ROTC in that they:

1. Do not have any military obligation
2. Teach valuable skills regardless of the student's future plans
3. Can normally be used toward general education requirements at ASU
4. Have no uniform or haircut requirements. Equivalence for some or all of these courses may be granted to veterans, Junior Reserve Officer Training Corps (JROTC) graduates, national guard or reserve members, or students who attend ROTC summer programs

RESERVE OFFICER TRAINING CORPS

Arizona State University, Northern Arizona University, and the University of Arizona offer a two-year and four-year program leading to a commission in both the U.S. Air Force and the U.S. Army. The Departments of Military Science and Aerospace Studies will accept, with junior standing, a transfer student from the Maricopa County Community College District who has completed the 8 semester hour curriculum of either the Department of Military Science or Aerospace Studies for the four-year program. In addition, the Department of Aerospace Studies will accept applicants for the Professional Officer Course (two year program) providing students attend a six-week Field Training Course at an air force base, take the air force qualifying test, and are medically qualified.

Music**General Information****For Information:** Donald Smith**Phone:** 623.845.3070

www.gccaz.edu/performing-arts

Musicians pursue careers as performers, teachers, composers, arrangers, music theorists, music historians, music therapists, and in music-related business and professional work.

Program Description: This program provides the first two years of music required for a bachelor's degree in Music Education, Theory, Composition, Jazz, Music Therapy, and Performance.

Every music major is required to participate in a music performance group each semester. The performance offerings include choir, chamber singers, band, jazz band, opera workshop, guitar and percussion ensembles.

Most courses in the music department are open to all students. There are some courses which have prerequisites, and those may be found in the course descriptions. Students who have not had sufficient training in the fundamentals of music are advised to take MTC101 and MTC103 before taking MTC105—Music Theory I and MTC106—Aural Perception I.

The Performing Arts Department offers class instruction in piano, voice, and guitar. In addition, the department provides private instruction in the areas of piano, voice and various instruments. Students are charged a special fee for this service. There is no charge for the first half-hour private lesson for approved music majors. Students taking private lessons are expected to practice five hours a week for each half-hour lesson. The duration of the term for music lessons is 15 weeks during which 15 private lessons are given. The length of a private lesson is 30 minutes for one credit or 60 minutes for two credits. If a student is not ready for "first year level" in applied music on the major instrument, the private instruction sequence will be repeated as many times as necessary. That student will receive a grade of "P" (credit) or "Z" (no credit). Upon reaching freshman level, the student will receive traditional grades.

Students who major in music at GCC should follow the curricula as outlined. Various universities and colleges, however, demand specific subjects for degree requirements. Students planning to transfer or continue their work at other institutions should consult their catalog and select courses accordingly.

Availability: Complete day programs. Partial evening programs. Due to limited course offerings, students should consult with a department advisor in planning their academic schedule in order to complete degree requirements in an expedient manner.

Departmental Recommendations:

		Credits
+	MHL241 Music History and Literature to 1750	3
+	MHL242 Music History and Literature 1750 to Present	3
+	MTC105 Music Theory I	3
+	MTC106 Aural Perception I	1
+	MTC155 Music Theory II	3
+	MTC156 Aural Perception II	1
+	MTC180 Computer Literacy for Musicians	3
+	MTC205 Music Theory III	3
+	MTC206 Aural Perception III	1

+	MTC255 Music Theory IV	3
+	MTC256 Aural Perception IV	1
	MUE109 ² Brass Methods I	1
	MUE137 ¹ Class Brass I	2
+	MUE209 ² Brass Methods II (for all instrumental majors)	1
+	MUE138 ¹ Class Brass II (for all instrumental majors)	1
	MUE108 ² Percussion Methods I	1
	MUE235 ¹ Class Percussion I	2
	MUE208 ² Percussion Methods II	1
	MUE236 ¹ Class Percussion II	2
	MUE107 ² Woodwinds Methods I	1
	MUE237 ¹ Class Woodwinds I	2
	MUE207 ² Woodwinds Methods II (for all instrumental majors)	1
	MUE238 ¹ Class Woodwinds II (for all instrumental majors)	2
	MUP209 Elements of Conducting	2

Additional required courses for Music Majors at four year institutions:

All Music Majors except Piano Majors:

MUP102++, 152++, 202++, 252++ Private Instruction (2 credits each) AND	
MUP131-132-231-232 Class Piano I, II, III, IV (1 credit each ²)	4
MUP131-132-231-232 Class Piano I, II, III, IV (2 credits each ¹)	8

Vocal Majors:

MUP250++ Survey of Diction for Singers (1 credit each)	2
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And one of the following:

MUP153 ² Concert Choir	1
MUP153 ¹ Concert Choir	2
MUP162 Band	2
MUP181 Chamber Music Ensembles	1

Music Electives:

	Credits	
+	MTC122 Fretboard Harmony	3
+	MTC180 Computer Literacy for Musicians	3
	MTC191 Electronic Music I	3
+	MTC192 Electronic Music II	3
+	MTC240 Composition	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
	MUC120 Piano Tuning and Repair I	3
+	MUC121 Piano Tuning and Repair 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
	MUP127 ² Class Guitar I	1
	MUP225 ¹ Class Guitar I	2
	MUP133 ² Class Voice I	1
	MUP133 ¹ Class Voice I	2
	MUP163 Jazz Ensemble	1
	MUP164 Jazz Improvisation I	2
	MUP/THP270 Musical Theatre Workshop	2

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

MUP181	Chamber Music Ensembles	1
MUP182	Chamber Singers	1

Music Business

Associate in Applied Science - AAS 3017 60-63 credits

For Information: Donald Smith

Phone: 623.845.3070

www.gccaz.edu/performing-arts

Program Description: The Associate in Applied Science (AAS) in Music Business program is an innovative curriculum designed to prepare students for today's music industry. The certificate and degree with a music business emphasis are designed for both the performing musician and the business student with limited performing experience. This program combines a flexible curriculum with an emphasis in business and marketing, along with music industry related courses and experiences.

Business Emphasis - Track 1

Marketing Emphasis - Track 2

Performance Emphasis - Track 3

Production Emphasis - Track 4

Program Notes: Students must earn a grade of C or better for all courses required within the program.

This degree also is offered at Chandler-Gilbert, Mesa, Phoenix, Paradise Valley, Scottsdale, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses: (14 credits)

		Credits
MUC109	Music Business: Merchandising and the Law	3
MUC110	Music Business: Recording and Mass Media	3
MUC293	Self Promotion for Music	1
+ MUC209	Music Industry Entrepreneurship (3) OR	
MGT253	Owning and Operating a Small Business (3)	3
+ MUC290AA	Music Business Internship (1) OR	
+ MUC296WA	Cooperative Education (1)	1
MHL+++++	Any MHL Music: History/Literature course	3

Restricted Electives: (12 credits)

Students must select 12 credits from the approved list of Restricted Elective courses below to specialize in Music Production, Disc Jockey Techniques, Songwriting, Performance, Marketing, Business, or Communications.

Students must consult with the Music Business Program Director, Music Department Chair or designee to select the Restricted Elective courses recommended for each specialization.

Music Production

	Any MTC Music Theory course(s) (1-3)	
+ MUC240	Creative Music Production (4)	
+ MUC241	Business Principles of Music Production (3)	

MUC242	Music Genres and Styles (2)	
+ MUC294	Portfolio for Music (1)	
MUC145	Recording Studio Business Operations (2)	
+ MUC180	Computer Literacy for the Music Business (3)	
+ MUC210	Advanced Industry Topics: Concert Promotion and Touring (3)	
+ MUC211	Advanced Industry Topics: Artist Management and Development (3)	
MUC215	Music Industry Seminar: Innovation in Music Technology (1)	
MUC274	Music Industry Study Tour (2)	
+ MUC298AA, +AB or +AC	Special Projects (1-3)	
+ MUC194	Introduction to Audio Mixing Techniques (3)	
MUC195	Studio Recording I (3)	
MUC195AA	Studio Recording I (3)	
+ MUC196	Studio Music Recording II (3)	
+ MUC295	Studio Music Recording III (3)	
+ MUC111	Digital Audio Workstation I (DAW I) (3)	
+ MUC112	Digital Audio Workstation II (DAW II) (3)	
MUC197	Live Sound Reinforcement I (3)	
+ MUC198	Live Sound Reinforcement II (3)	
+ MUC237	Electronic Dance Music Production (3)	
TCM107	Career Pathways in the Media (3)	

Disc Jockey Techniques

MUC135	Introduction to Disc Jockey Techniques (3)	
MUC136	Turntablism: The Art of the Scratch DJ (3)	
MUC137	Digital DJ Performance Techniques (3)	
MUC138	Disc Jockey Laboratory (1)	
+ MUC237	Electronic Dance Music Production (3)	
+ MUC210	Advanced Industry Topics: Concert Promotion and Touring (3)	
+ MUC211	Advanced Industry Topics: Artist Management and Development (3)	
MUC274	Music Industry Study Tour (2)	
+ MUC298AA, +AB or +AC	Special Projects (1-3)	
+ MUC180	Computer Literacy for the Music Business (3)	
+ MUC294	Portfolio for Music (1)	
MUC197	Live Sound Reinforcement I (3)	
+ MUC198	Live Sound Reinforcement II (3)	
+ MTC191	Electronic Music I (3)	
+ MTC192	Electronic Music II (3)	
+ MUC291AA	Disc Jockey Internship (1)	
TCM107	Career Pathways in the Media (3)	

Songwriting

MUC114	Song Publishing and Marketing (1)	
MUC115	Song Copyrighting and Demos (2)	
MTC110	Music Notation for Songwriting (1)	
MTC111	Lyric Writing (1)	
MTC112	Song and Melody Forms (1)	
MTC113	Songwriting Techniques (1)	
	Any MTC Electronic Music course(s) (1-3)	
	Any MTC Composition or Arranging course(s) (1-3)	
+ MUC180	Computer Literacy for the Music Business (3)	
+ MUC210	Advanced Industry Topics: Concert Promotion and Touring (3)	
+ MUC211	Advanced Industry Topics: Artist Management and Development (3)	
+ MUC294	Portfolio for Music (1)	

Performance

- Any MTC Music course(s) (1-3)
 MUC274 Music Industry Study Tour (2)
 + MUC298AA, +AB or +AC Special Projects (1-3)
 MUC294 Portfolio for Music (1)
 Any MUP Music Performance course(s) (1-3)
 TCM107 Career Pathways in the Media (3)

Marketing

- CIS103 Introduction to Social Media (3)
 MKT101 Introduction to Public Relations (3)
 MKT110 Marketing and Social Networking (3)
 MKT111 Applied Marketing and Social Networking (3)
 MKT/TEC151 Display and Visual Merchandising (3)
 MKT210 Applied Marketing Strategies (3)
 MKT263 Advertising Principles (3)
 MKT267 Principles of Salesmanship (3)
 MKT268 Merchandising (3)
 MKT271 Principles of Marketing (3)
 MKT273 Marketing Research (3)
 MUC274 Music Industry Study Tour (2)
 + MUC298AA, +AB or +AC Special Projects (1-3)
 TCM107 Career Pathways in the Media (3)
 SBS221 Social Media Marketing for Small Business (3)

Business

- ACC111 Accounting Principles I (3)
 + ACC112 Accounting Principles II (3)
 + ACC115 Computerized Accounting (2)
 ACC211 Financial Accounting (3)
 + ACC212 Managerial Accounting (3)
 + ACC230 Uses of Accounting Information I (3)
 + ACC240 Uses of Accounting Information II (3)
 CIS105 Survey of Computer Information Systems (3)
 BPC110 Computer Usage and Applications (3)
 CIS114AE Excel Level I (1)
 CIS118AB PowerPoint Level I (1)
 CIS120DB Computer Graphics: Adobe Illustrator (3)
 CIS133DA Internet/Web Development Level I¹ (3)
 GBS131 Business Calculations (3)
 GBS151 Introduction to Business (3)
 GBS205 Legal, Ethical and Regulatory Issues in Business (3)
 + GBS221 Business Statistics (3)
 IBS101 Introduction to International Business (3)
 IBS109 Cultural Dimensions for International Trade (3)
 HRM145 Events Management (3)
 MUC274 Music Industry Study Tour (2)
 + MUC298AA, +AB or +AC Special Projects (1-3)
 TCM107 Career Pathways in the Media (3)

Communications

- COM150 Digital Storytelling (3)
 COM251 Interviewing (3)
 + COM225 Public Speaking (3)
 COM250 Introduction to Organizational Communication (3)
 + COM259 Communications in Business and Professions (3)
 COM263 Elements of Intercultural Communication (3)
 + GBS233 Business Communication (3)
 + JRN203 Writing for Online Media (3)
 MUC274 Music Industry Study Tour (2)
 + MUC298AA, +AB or +AC Special Projects (1-3)
 TCM107 Career Pathways in the Media (3)

Free Electives: (12 credits)

Students should choose 12 credits from the following list of Free Elective courses except courses used to satisfy the Restricted Electives area.

		Credits
ACC111	Accounting Principles I	3
BPC128	Introduction to Desktop Publishing	1
CIS131AA	Doing Business on the Internet	1
GBS151	Introduction to Business	3
+ GBS233	Business Communication	3
MKT110	Marketing and Social Networking	3
MKT271	Principles of Marketing	3
MTC101	Introduction to Music Theory (3) OR	
+ MTC105	Music Theory I (3) OR	
MTC103	Introduction to Aural Perception (1) OR	
+ MTC106	Aural Perception I (1)	1-3
MTC113	Songwriting Techniques	1
+ MUC111	Digital Audio Workstation I (DAWI)	3
MUC135	Introduction to Disc Jockey Techniques	3
MUC145	Recording Studio Business Operations	2
+ MUC180	Computer Literacy for the Music Business	3
MUC195	Studio Music Recording I (3) OR	
MUC195AA	Studio Music Recording I (3)	3
+ MUC210	Advanced Industry Topics: Concert Promotion and Touring	3
+ MUC211	Advanced Industry Topics: Artist Management and Development	3
MUC215	Music Industry Seminar: Innovation in Music Technology	1
+ MUC240	Creative Music Production	4
+ MUC241	Business Principles of Music Production	3
MUC274	Music Industry Study Tour	2
+ MUC294	Portfolio for Music	1
+ MUC298AA	Special Projects	1
+ MUC298AB	Special Projects	2
+ MUC298AC	Special Projects	3
SBS230	Financial and Tax Management for Small Business	2

General Education Requirements: (22-25 credits)**General Education Core: (12-15 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) OR
 + ENG111 Technical and Professional Writing (3)

Oral Communication:

Any approved general education course from the Oral Communication area, see page 31.

Critical Reading:

- + CRE101 College Critical Reading and Critical Thinking (3) OR
 Equivalent as indicated by assessment

Mathematics:

Any approved general education course from the Mathematics area, see page 31.

Credits**Credits****6****3****0-3****3**

General Education Distribution: (10 credits)**Humanities, Arts and Design:**

Any approved general education course from the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences:

Any approved general education course from the Social-Behavioral Sciences area, see page 31.

Natural Sciences:

Any approved general education course from the Natural Sciences area, see page 31.

Credits**3****3****4**

and Internet hardware and has seen tremendous growth of market share. Glendale Community College, a Cisco Networking Academy, **prepares students for industry-recognized certification.** The curriculum is taught by certified Cisco Academy instructors.

Network Maintenance**Certificate of Completion - CCL 5312****31-33 credits****For Information:** Fernando Garcia**Phone:** 623.845.3176www.gccaz.edu/technology-consumer-sciences

Program Description: The Certificate of Completion (CCL) in Network Maintenance program is designed to prepare students for entry-level employment in installing, maintaining, servicing and securing networks, desktop operating systems, network operating systems, and health information technology. Emphasis is placed on developing the knowledge and skills to ensure end-user to end-user connectivity.

Program Notes: Students must earn a grade of C or better for all courses within the program.

Program Prerequisites: (0-2 credits)

Program Prerequisites may be waived by Program Director depending on student's background.

NET183AA Operating Systems (2) OR

Permission of Program Director

Credits

0-2

Required Courses: (31 credits)

CIS121AB Microsoft Command Line Operations (1) AND

CIS126AA UNIX Operating System: Level I (1)

Credits

2

CNT140AA	Introduction to Networks	4
+ CNT150AA	Cisco - Routing and Switching Essentials	4
+ CNT160AA	Scaling Networks	4
+ CNT170AA	Cisco - Connecting Networks	4
+ CNT205	Cisco Certified Network Associate Security	4
+ CNT206	Cisco Certified Network Associate Wireless	4
+ NET220	Health Information Networking	2
+ NET271	MicroComputer Maintenance I: A+ Prep	3

Networking: Cisco Systems**General Information****For Information:** Fernando Garcia**Phone:** 623.845.3176www.gccaz.edu/technology-consumer-sciences

Cisco Systems is the world's largest manufacturer of networking

Networking Administration: Cisco**Certificate of Completion - CCL 5969****This program is not eligible for Title IV Federal Financial Aid 16 credits****For Information:** Fernando Garcia**Phone:** 623.845.3176www.gccaz.edu/technology-consumer-sciences

Program Description: The Certificate of Completion (CCL) in Networking Administration: Cisco provides training for a position working with Cisco Systems networking and Internet hardware. A Cisco Systems recognized Regional or Local Academy prepares students for industry-recognized certification. The curriculum is taught by Cisco Systems Certified Professionals. Knowledge and skills are developed to install, configure, maintain, and troubleshoot Cisco routers and components, advanced routing protocols, Local Area Networks (LANs), and Wide Area Networks (WANs). The courses in the program also prepare students for the Cisco Certified Networking Associate examination.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

This certificate also is offered at Estrella Mountain, Gateway, Mesa, and South Mountain Community Colleges.

Program Prerequisites: None**Required Courses: (16 credits)**

		Credits
CNT140AA	Introduction to Networks	4
+ CNT150AA	Cisco - Routing and Switching Essentials	4
+ CNT160AA	Scaling Networks	4
+ CNT170AA	Cisco - Connecting Networks	4

Networking Technology: Cisco**Associate in Applied Science - AAS 3816****60-63 credits****For Information:** Fernando Garcia**Phone:** 623.845.3176www.gccaz.edu/technology-consumer-sciences

Program Description: The Associate in Applied Science (AAS) in Networking Technology: Cisco provides training for a supervisory position working with Cisco Systems networking and Internet hardware. A Cisco Systems recognized Regional or Local Academy, prepares students for industry-recognized certification. The curriculum is taught by Cisco Systems Certified Professionals. Knowledge and skills are developed to install, configure, maintain, and troubleshoot Cisco routers and components, advanced routing protocols, Local Area Networks (LANs), and Wide Area Networks

(WANs); troubleshoot problems with various common hardware and software configurations; perform administrative tasks in a network; develop methods for customer service. Courses in the program also prepare students for the Cisco Certified Networking Associate examination.

Job Description: A Cisco networking Administrator will be required to perform various tasks such as designing, installing, maintaining and troubleshooting Cisco routers and components, Local Area Networks (LANs), and Wide Area Networks (WANs). Additional skills that are necessary include troubleshooting problems with various common hardware and software configurations, performing administrative tasks in a network, developing methods for customer service, and utilizing electronic systems.

Job Opportunities: Cisco systems is the world's largest manufacturer of networking and Internet hardware and has seen tremendous growth of market share. The employment opportunities for trained Networking Administrators are outstanding.

This degree also is offered at Chandler-Gilbert, Estrella Mountain and GateWay Community Colleges.

Program Notes: Students must earn a grade of C or better for each course listed in the Required Courses area.

A course cannot be used to satisfy both the Required Course and Restricted Electives Area.

Program Prerequisites: None

Required Courses: (22 credits)

		Credits
+ BPC170	A+ Exam Prep: Computer Hardware Configuration and Support	3
CIS126++	Any UNIX/Linux Operating System course (3) OR	
MST150++	Any Microsoft Windows course (3)	3
CNT140AA	Introduction to Networks	4
+ CNT150AA	Cisco - Routing and Switching Essentials	4
+ CNT160AA	Scaling Networks	4
+ CNT170AA	Cisco - Connecting Networks	4

Restricted Electives: (16 credits)

		Credits
Students must complete 16 credits from any of the following courses. Courses cannot be shared with Required Courses.		
BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
CIS126++	Any UNIX/Linux Operating System course (3) OR	
MST150++	Any Microsoft Windows course (3)	3
+ CIS190 ²	Introduction to Networking (3) OR	
+ CIS190 ¹	Introduction to Local Area Networks (3) OR	
MST140	Microsoft Networking Essentials (3)	3
+ CIS270	Essentials of Network and Information Security	3
+ CIS271DB	Information Security Essentials	3
+ CIS272DB	Information Security Principles	3
CPD104	Career and Personal Development	3
PPT120	Energy Industry Fundamentals	3
+ CIS274DA	Introduction to Power Systems Security	3
+ CIS275DA	Generation and Transmission Systems Security	3

+ CIS275DB	Smart Grid and Distribution System Security	3
+ CIS275DC	Embedded Systems Security	3
CIS296++	Any Cooperative Education course(s) OR	1-4
CIS298++	Special Projects course(s)	1-3
CIS121AB	Microsoft Command Line Operations	1
CIS121AH	Microsoft PowerShell/Command Line Operations	3
CIS102	Interpersonal and Customer Service Skills for IT Professionals	1
CIS102DA	Customer User Support	3
CIS111	Ethics in Information Technology	3
ELT100	Survey of Electronics	3
CIS224	Project Management Microsoft Project for Windows	3
+ CNT205	Cisco Certified Network Associate Security	4
+ CNT202	Cisco Secure Firewall Appliance Configuration	4
+ CNT206	Cisco Certified Network Associate Wireless	4
CNT2++++	Any 200 level CNT course(s)	1-4
+ BPC270	A+ Exam Prep: Operating System Configuration and Support	3
+ CIS238DL	Linux System Administration	3
+ CIS239DL	Linux Shell Scripting	3
+ CIS240DL	Linux Network Administration	3
+ CIS271DL	Linux Security	3
+ CIS275DL	Linux Capstone	3
MST155++	Any Windows Network Infrastructure course	3-4
MST157++	Any Active Directory Windows Server Configuration course	3-4
MST158++	Any Windows Server Administration course	4
+ CIS250	Management of Information Systems	3
CIS280	Current Topics in Computing	3
CIS290++	Any Computer Information Systems Internship course(s)	1-3
+ ITS240	Ethical Hacking and Network Defense	3
+ CIS197	VMware ESXI Server Enterprise	3

General Education Requirements: (22-25 credits)

		Credits
Core: (12-15 credits)		
First-Year Composition:		6
+ 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 and Professional Writing (3)	

Oral Communication:	3
Any approved general education course from the Communication area, see page 31.	

Critical Reading:	0-3
+ CRE101 College Critical Reading and Critical Thinking (3) OR Equivalent as indicated by assessment.	

Mathematics:	3
Any approved general education course from the Mathematics area, see page 31.	

Distribution: (10 credits)	Credits
Humanities, Arts and Design:	3
Any approved general education course from the Humanities, Arts and Design area, see page 31.	

Social-Behavioral Sciences:	3
Any approved general education course from the	

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Social-Behavioral Sciences area, see page 31.

Natural Sciences:

Any approved general education course from the Natural Sciences area, see page 31.

Networking Technology: Cisco

Certificate of Completion - CCL 5967

22 credits

For Information: Fernando Garcia

Phone: 623.845.3176

www.gccaz.edu/technology-consumer-sciences

Program Description: The Certificate of Completion (CCL) in Networking Technology: Cisco provides training for those interested in supervisory responsibilities working with Cisco Systems networking and Internet hardware. Knowledge and skills are developed to install, configure, maintain, and troubleshoot Cisco routers and switches; configure advanced routing protocols, Local Area Networks (LANs), and Wide Area Networks (WANs); troubleshoot problems with various hardware and software configurations and perform administrative tasks in a network. The courses in the program are also designed to help prepare students for the Cisco Certified Networking Associate (CCNA) examination and are taught by Cisco Certified Professionals using the Cisco Networking Academy program curriculum.

This certificate also is offered at Chandler-Gilbert, Estrella Mountain and GateWay Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None

Required Courses: (22 credits)

		Credits
+ BPC170	A+ Exam Prep: Computer Hardware Configuration and Support	3
CIS126++	Any UNIX/Linux Operating System course(s) (1-3) OR	
MST150++	Any Microsoft Windows course (3)	3
CNT140AA	Introduction to Networks	4
+ CNT150AA	Cisco - Routing and Switching Essentials	4
+ CNT160AA	Scaling Networks)	4
+ CNT170AA	Cisco - Connecting Networks	4

Nursing

General Information

For Information: Nursing Department

Phone: 623.845.3200

www.gccaz.edu/nursing

MARICOPA COMMUNITY COLLEGES ALLIED HEALTH OR NURSING PROGRAM

In collaboration and partnership with the health care community and its response to the dynamic changes occurring in the health care arena and health care professions' practice, the Maricopa Community Colleges integrated the curriculum of all allied health and nursing programs. All allied health or nursing 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 allied health or nursing 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, <https://www.maricopa.edu/academics/healthcare> is a comprehensive information source.

Allied Health or Nursing Assumption of Risk/Release of Liability

Most of the program pathways of the allied health or nursing include a program of study in a clinical training environment which may include 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 allied health or nursing program pathways 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).

Allied Health or Nursing College of Attendance

As the allied health or nursing programs are integrated across the Maricopa Community College District, college of attendance requirements for the completion of the health care program pathways can be met through the completion of coursework taken at all the Maricopa Community Colleges and Skill Centers.

MCCCD Required Background Checks

Students enrolled in an MCCCD allied health or nursing program are required to complete and pass clinical learning experiences and work with children, elderly persons, and other vulnerable populations. MCCCD's major clinical agency partners mandate that any college students assigned to them for clinical experiences submit to a comprehensive background clearance prior to entering such learning experiences. Because the clinical experience portion of the programs is critical to completing a program of study, MCCCD has instituted two specific background check requirements in order for a student to enroll in a program. First, the student must obtain,

at his or her own cost, a Level I Fingerprint Clearance Card from the Arizona Department of Public Safety. Precluding offenses for a Level I card can be found in Arizona Revised Statute § 41-1758.07 (<http://www.azleg.gov>). Additionally, students must also obtain a "pass" status on a MCCCDC supplemental background check from MCCCDC's authorized background check contractor. The student must also pay for this background check. The supplemental check will be based on the most stringent standards of MCCCDC's clinical experience partners.

Certain licensing boards including the Arizona Board of Nursing (<https://www.azbn.gov/>) may require a separate background check or clearance card upon application for licensure or certification.

The MCCCDC supplemental background check review may include searches of the following databases and information but MCCCDC reserves the right to change the search criteria and the program background check requirements at any time without notice:

1. National Federal Health Care and Abuse Databases
2. Social Security Number Verification
3. Residency History
4. Arizona Statewide Criminal Offense Databases
5. Nationwide Criminal Offense Databases
6. State of Arizona and National Sexual Offender Registries
7. Homeland Security Watch Lists

Examples of background information that will result in a "fail" status on the supplemental background check include:

1. Social Security number does not belong to the applicant
2. Any inclusion on any registered sex offender database
3. Any inclusion on any of the Federal exclusion lists or Homeland Security watch lists
4. Any conviction of a felony regardless of how long ago the conviction was
5. Any arrest warrant issued by any state
6. Any misdemeanor conviction for the following regardless of how long ago the conviction was:
 - A. Violent crimes
 - B. Sex crime of any kind including non consensual sexual crimes and sexual assault
 - C. Murder, attempted murder
 - D. Abduction
 - E. Assault
 - F. Robbery
 - G. Arson
 - H. Extortion
 - I. Burglary
 - J. Pandering
 - K. Any crime against minors, children, vulnerable adults including abuse, neglect, exploitation
 - L. Any abuse or neglect
 - M. Any fraud
 - N. Illegal drugs
 - O. Aggravated DUI
7. Any misdemeanor relating to a controlled substance conviction in last seven years

8. Any other misdemeanor conviction within last three years with the exception-any misdemeanor traffic misdemeanor [NOTE that a DUI is NOT considered a traffic misdemeanor.]

The information that MCCCDC uses for the "pass/fail" background check is subject to change at any time without notice. MCCCDC recommends that students carry proof of the background clearance at all times during any clinical agency learning experience.

Duty to Report Changes; Removal

Students have an obligation to immediately report to the director of their program any change in the information that they supplied on forms submitted to initiate background checks relating to the allied health or nursing program. That includes information provided to the Arizona Department of Public Safety and MCCCDC's supplemental background check vendor, as well as that related to the background check required by a clinical agency. Failure to do so will result in removal from the program. Additionally, any change in background check status that would affect the student's clearance under either MCCCDC's or a clinical agency's standards will result in removal from a program.

Additional Clinical Agency Background Check

Some clinical agencies require that students assigned to their sites submit to a criminal background check covering other offenses, as well as to a drug screening. Students are required to pay for the additional agency clinical background check. A clinical agency that requires this additional background check may refuse to place a student due to information the clinical agency obtains in its background check even though that student possess a valid Level I Fingerprint Clearance Card and has obtained a "pass" status on the MCCCDC supplemental background check.

Some conditions that have resulted in students being denied placement at clinical agencies include pending criminal charges, outstanding warrants, unfinished terms of a sentence (such as unpaid fines), pattern of repeated types of arrests/convictions, and failure to disclose all past arrests/convictions when asked to do so on any background check application.

Inability to Place

MCCCDC has no obligation to make repeated attempts to place a student when the reason for MCCCDC's inability to place the student is due to background check issues. Since clinical agency assignments are mandatory requirements for completion of a program, a student's inability to complete required clinical experience due to his or her background check issues will result in removal from the program.

No Guarantee of Receipt of Licensure/Certificate

Many of the nursing and allied health 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 nursing program does not guarantee the receipt of a license or certificate to practice in the field of study.

CONCURRENT ENROLLMENT PROGRAM (CEP)/ASSOCIATE/BACCALAUREATE DEGREE REGISTERED NURSE

MaricopaNursing at GCC offers concurrent enrollment program (CEP) associate/baccalaureate pathway options with partner

universities, including Northern Arizona University (NAU), Arizona State University (ASU), Upper Iowa University (UIU), Grand Canyon University (GCU), and Ottawa University (OU).

These CEP programs are designed for qualified associate degree nursing students interested in earning a Bachelor of Science in Nursing (BSN) or Master of Science in Nursing (MSN) degree while pursuing the Associate in Applied Science (AAS) in nursing degree. Students enrolled in the CEP follow a sequence of coursework that enables completion of the BSN degree concurrent with AAS graduation or within one semester following AAS graduation.

Students enrolled in the CEP follow the traditional course of study for all students pursuing the AAS degree in nursing, but at the same time they will be enrolled in partner university courses, which are almost exclusively online or offered as hybrid courses held in the Phoenix area. Upon completion of the MaricopaNursing AAS degree, graduates are eligible to take the National Council Licensure Examination (NCLEX-RN®).

For students who have a bachelors degree in another field, GCC offers the AAS-MSN Nursing Concurrent Program option with Grand Canyon University. This program enables eligible students to take six nursing core courses from the BSN program at GCU at a significantly reduced tuition concurrent with MaricopaNursing AAS courses. After completion of AAS and BSN courses and passing the NCLEX-RN, students move into the MSN portion of the AAS-MSN Nursing Concurrent Program. For more information about CEP options, visit the MaricopaNursing website at www.nursing.maricopa.edu.

Nurse Assisting²

Certificate of Completion - CCL 5963N

**This program is not eligible for Title IV Federal Financial Aid
2-6 credits**

For Information: Nursing Department

Phone: 623.845.3200

www.gccaz.edu/nursing

Program Description: The Certificate of Completion (CCL) in Nurse Assisting prepares students for entry-level employment in various health care settings as a nursing assistant. The program combines classroom instruction with clinical laboratory, skilled care and acute care experiences. Students who complete the program are eligible to take a written and practical certification examination and work as a Certified Nursing Assistant. Licensing requirements are the exclusive responsibility of the Arizona State Board of Nursing.

The MCCD Nurse Assisting Program is approved by the Arizona State Board of Nursing.

Program offerings:

This program is offered at the following sites:

Estrella Mountain Community College

Gateway Community College

Glendale Community College

Mesa Community College

Mesa Community College/Boswell

Paradise Valley Community College

Waiver of Licensure/Certification Guarantee

Admission or completion from the MCCD Nurse Assisting Program does not guarantee obtaining a license or certificate to practice nursing. Licensure and certification requirements and the subsequent procedures are the exclusive right and responsibility of the Arizona State Board of Nursing. Students must satisfy the requirements of the Nurse Practice Act: Statutes, Rules and Regulations, independently of any college or school requirements for graduation.

Pursuant to A.R.S. § 32-1606(B)(17), an applicant for professional or practical nurse license by examination is not eligible for licensure if the applicant has any felony convictions and has not received an absolute discharge from the sentences for all felony convictions. The absolute discharge must be received five or more years before submitting this application. If you cannot prove that the absolute discharge date is five or more years, the Board cannot process your application.

All nurse assistant applicants for certification will be fingerprinted to permit the Department of Public Safety to obtain state and federal criminal history information. All applicants with a positive history are investigated. If there is any question about eligibility for licensure or certification, contact the nursing education consultant at the Arizona State Board of Nursing (602-899-5150).

Health Declaration:

It is essential that Nursing students be able to perform a number of physical activities in the clinical portion of the program. At a minimum, students will be required to lift patients, stand for several hours at a time and perform bending activities. Students who have a chronic illness or condition must be maintained on current treatment and be able to implement direct patient care. The clinical nursing experience also places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting patients' lives. Students must be able to demonstrate rational and appropriate behavior under stressful conditions. Individuals should give careful consideration to the mental and physical demands of the program prior to making application.

Health and Safety Requirements for MCCD Nurse Assisting Program:

1. Students must submit a completed Health and Safety Documentation Checklist and maintain current status throughout the program.
2. Students must submit CPR card for Health Care Provider and maintain current status throughout the program.
3. Admission to an Allied Health program requires that students be in compliance with the Maricopa County Community College District Supplemental Background Check policy. Program applications will not be accepted without a copy of an Arizona Department of Public Safety Level One Fingerprint Clearance Card. Upon conditional program admission, the student must comply with all requirements of the current MCCCD background check policy.
4. Health Provider Signature Form signed by a licensed health care provider.
5. Negative urine drug screen.

Grade Requirements:

Student must obtain a C grade or better in all courses.

University Transfer Students:

For students planning a University Program

Students who are planning to earn the Bachelor of Science in Nursing (BSN) 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.

THE NURSE ASSISTING PATHWAY

The nurse assisting pathway is designed to prepare students to complete the Nurse Assistant Certification through the Arizona State Board of Nursing to practice in a health care agency as a certified nurse assistant. Completion of the nurse assistant program of study provides job ready skills as a nursing assistant. Students may apply to the Nursing Program after completing the prerequisite courses and admission requirements.

Admission Criteria:

Application and acceptance into the program, High School graduate or GED, 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 Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None

Required Courses: (2-6 credits)

	Credits
+ NUR158 Nurse Assisting (6) OR Advanced Placement courses:	
+ NCE150 Basic Certified Nursing Assistant (1) AND	
+ NCE151 Basic Certified Nursing Assistant Lab (1)	2-6

Nursing

Associate in Applied Science - AAS 3812
62-75 credits

For Information: Nursing Department

Phone: 623.845.3200

www.gccaz.edu/nursing

Program Description: The Associate in Applied Science (AAS) in Nursing Program is available at eight of the Maricopa Community Colleges. Clinical experiences are provided in a variety of healthcare settings. Nursing Program graduates are eligible to apply for the national exam for the registered nurse license. Licensing requirements are the exclusive responsibility of the State Board of Nursing.

The Associate in Applied Science (AAS) Nursing Program is approved by the Arizona State Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; (404.975.5000); email: info@acennursing.org.

Program offerings:

This program is offered at the following sites:

Chandler-Gilbert Community College
Estrella Mountain Community College
GateWay Community College
Glendale Community College
Mesa Community College
Paradise Valley Community College
Phoenix College
Scottsdale Community College

Waiver of Licensure/Certification Guarantee:

Admission or graduation from the Nursing Program does not guarantee obtaining a license to practice nursing. Licensure requirements and the subsequent procedures are the exclusive right and responsibility of the Arizona State Board of Nursing. Students must satisfy the requirements of the Nurse Practice Act: Statutes, Rules and Regulations, independently of any college or school requirements for graduation.

Pursuant to A.R.S. 32-1606(B)(17), an applicant for professional or practical nurse license by examination is not eligible for licensure if the applicant has any felony convictions and has not received an absolute discharge from the sentences for all felony convictions. The absolute discharge must be received five or more years before submitting this application. If you cannot prove that the absolute discharge date is five or more years, the Board cannot process your application.

Level One Fingerprint Clearance is required for admission into the program. Applicants must present a Level One Fingerprint Clearance Card to be copied by the advisor or designee. For a Department of Public Safety Fingerprint Clearance Card application, contact MCCCDC Healthcare/Nursing Advisor. If there is any question about eligibility for licensure or certification, contact the nursing education consultant at the Arizona State Board of Nursing (602.771.7800).

Health Declaration:

It is essential that nursing students be able to perform a number of physical activities in the clinical portion of the program. At a minimum, students will be required to lift patients, stand for several hours at a time and perform bending activities. Students who have a chronic illness or condition must be maintained on current treatment and be able to implement direct patient care. The clinical nursing experience also places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting patients' lives. Students must be able to demonstrate rational and appropriate behavior under stressful conditions. Individuals should give careful consideration to the mental and physical demands of the program prior to making application. All must provide documentation of compliance with all health and safety requirements required to protect patient safety. Only students in compliance are permitted to enroll in nursing courses. Students will meet these requirements by providing the required documentation for the Health/Safety Requirements Documentation Checklist and the signed Health Declaration Form.

Health and Safety Requirements for the Maricopa Nursing Program:

1. Students must submit a Health and Safety Documentation Checklist verifying completion of all requirements and

- maintain current status throughout the program.
- Students must submit the Health Declaration Form signed by a licensed health care provider.
 - Students must test negative on a timed urine drug screen.
 - Admission to an Allied Health program requires that students be in compliance with the Maricopa County Community College District Supplemental Background Check policy. Program applications will not be accepted without a copy of an Arizona Department of Public Safety Level One Fingerprint Clearance Card. Upon conditional program admission, the student must comply with all requirements of the current MCCC background check policy.

University Transfer Students:

Students who are planning to earn the Bachelor of Science in Nursing (BSN) may obtain their prerequisite courses at the Maricopa Community Colleges. For information on courses that meet requirements for admission into a baccalaureate program, please contact a program advisor.

REGISTERED NURSE PATHWAY

Associate in Applied Science Degree in Nursing Program

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, long term, and community-based healthcare settings. The AAS degree in Nursing provides the graduate with an educational foundation for articulation into the university setting.

Program Notes: Students must earn a grade of C or better in all courses required within the program.

Course Fee Information: Please see class schedule for information regarding course fees.

MaricopaNursing is aligned with Nurse of the Future Competencies: Patient-Centered Care, Professionalism, Leadership, Systems-Based Practice, Informatics and Technology, Communication, Teamwork and Collaboration, Safety, Quality Improvement, and Evidence-Based Practice. These competencies focus on key stakeholders of healthcare clients, colleagues and communities. Demonstration of the competencies will signify preparation for successful transition into nursing practice and further professional development.

Admission Criteria: High School diploma or GED is required for the Associate in Applied Science degree in Nursing. Applicants must signify that they meet this requirement by providing high school diploma/transcripts or GED completion OR by signing the nursing application page containing the 'Declaration of High School Graduation or GED completion'. In some instances, high school diploma/transcripts or proof of GED completion may be required.

Formal application and admission to the program is required; all program prerequisites must be completed prior to submission of application.

A passing score on a nursing program admission test is required to complete an application.

Applicants for Advanced Placement must receive a passing score on a practical nursing content exam for placement into Block 3.

The final decision rests with the Nursing Program Chair at the College to which the student is accepted.

The Nursing Program Chair reserves the right to deny acceptance of an admission application if the applicant was previously dismissed for issues relating to academic integrity, unsafe patient care, and/or two (2) or more failures from any nursing program.

All applicants holding or receiving a certificate as a Nursing Assisting and/or license as a Practical Nurse must remain in good standing with the Regulatory Board. Once enrolled, students receiving any disciplinary actions against their certificate or license must notify the Nursing Program Chair within five (5) school days. The Nursing Program Chair reserves the right to restrict the student's participation in clinical experiences and involvement in patient care until the certificate and/or license is valid and unrestricted.

Program Prerequisites: (10-20 credits) Credits

The credit-hour range is subject to change depending on the student's educational experience.

+ BIO156	Introductory Biology for Allied Health (4) OR	
+ BIO181	General Biology (Majors) I (4) OR One year of high school biology	0-4
+ BIO201	Human Anatomy and Physiology I	4
+ CHM130	Fundamental Chemistry (3) AND	
+ CHM130LL	Fundamental Chemistry Laboratory (1) OR One year of high school chemistry	0-4
+ ENG101	First-Year Composition (3) OR	
+ ENG107	First-Year Composition for ESL (3)	3
+ MAT140	College Mathematics (5) OR	
+ MAT141	College Mathematics (4) OR	
+ MAT142	College Mathematics (3) OR	
	Satisfactory completion of higher level math course	3-5

Students that are admitted into the MaricopaNursing Program for Fall 2015 and Spring 2016, AND completed MAT120/121/122 prior to Fall 2015 as an admission requirement, may complete the program without completing MAT140/141/142 as a graduation requirement, by waiver of the program director.

Required Courses: (36 credits) Credits

+ NUR152	Nursing Theory and Science I	9
+ NUR172	Nursing Theory and Science II	9
+ NUR252	Nursing Theory and Science III	9
+ NUR283	Nursing Theory and Science IV	9

General Education Requirements: (16-19 credits)

General Education Core: (3-6 credits) Credits

First-Year Composition 3

Three credits of First Year Composition are met by ENG101 or ENG107 in Program Prerequisites area.

+ ENG102	First-Year Composition (3) OR	
+ ENG108	First-Year Composition for ESL (3)	

Oral Communication

Waived.

0

Critical Reading+ CRE101 College Critical Reading and Critical Thinking (3) OR
Equivalent as indicated by assessment

0-3

MathematicsMet by MAT140 OR MAT141 OR MAT142 OR Satisfactory
completion of higher level mathematics course in Program
Prerequisites area.

0

General Education Distribution: (13 credits)**Humanities, Arts and Design**Any approved general education course in the Humanities,
Arts and Design area, see page 31.**Credits**

2

Social-Behavioral Sciences

PSY101 Introduction to Psychology

3

Natural Sciences+ BIO202 Human Anatomy and Physiology II (4) AND
+ BIO205 Microbiology (4)

8

**Oral Communication Fluency for Non-
Native English Speakers****Academic Certificate - AC 6223N****This program is not eligible for Title IV Federal Financial Aid
15 credits****For Information:** Jim Reed**Phone:** 623.845.3631

www.gccaz.edu/communication

Program Description: The Academic Certificate (AC) in Oral Communication Fluency for Non-Native English Speakers is a concentrated program of study in communication and oral fluency designed to extend traditional ESL coursework. It provides Non-Native English Speakers with intense practice in pronunciation and fluency of American speech as well as experience in all communication contexts including interpersonal communication, small group interaction, problem solving, and public speaking. Students develop skills to enhance their professional, academic, and social interactions to become more competitive and effective in the academic environment and in the workplace.

This certificate also is offered at Mesa Community College.

Program Notes: Students must earn a grade of C or better for all courses within the Required Courses area.**Program Prerequisites:** None**Required Courses: (12 credits)**

	Credits
COM110 Interpersonal Communication	3
COM120 Pronunciation of American Speech	3
+ COM221 Oral Fluency in American Speech	3
+ COM282AC Service-Learning Experience in Communication	3

Restricted Electives: (3 credits)Any approved General Education course in the cultural
awareness [C] value**Credits****Organizational Leadership²****Certificate of Completion - CCL 5731****18 credits****For Information:** Kendra Swensen**Phone:** 623.845.3749

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Organizational Leadership is designed to prepare students with knowledge and skills needed in today's changing workplace. The program provides leadership and communication skills and techniques for planning, organizing, leading and controlling business situations. This program also emphasizes procedures for effective resource allocation. The CCL in Organizational Leadership is fully embedded in an Associate in Applied Science (AAS) in Organizational Management.

Program Notes: Students must earn a grade of C or better in all courses within the program.

This certificate also is offered at Chandler-Gilbert, Estrella Mountain, GateWay, Mesa, Phoenix, Paradise Valley, and Rio Salado Community Colleges.

Program Prerequisites: None**Required Courses (18 credits)**

		Credits
BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
GBS110	Human Relations in Business and Industry (3) OR	
MGT251	Human Relations in Business (3)	3
GBS120	Workplace Communication Skills 3	
GBS151	Introduction to Business	3
MGT175	Business Organization and Management (3) OR	
TQM240	Project Management in Quality Organizations (3)	3
MGT101	Techniques of Supervision (3) OR	
MGT229	Management and Leadership I (3)	3

Organizational Management²**Associate in Applied Science - AAS 3727****60-65 credits****For Information:** Kendra Swensen**Phone:** 623.845.3749

www.gccaz.edu/business-information-technology

Program Description: The Associate in Applied Science (AAS) in Organizational Management program is designed with a customized curriculum specific to the student's individual needs in addition to the knowledge and skills needed in today's changing workplace. The program provides leadership and communication skills and techniques for planning, organizing, leading and controlling business situations. This program also emphasizes procedures for effective resource allocation. A Certificate of Completion (CCL) in Organizational Leadership is fully embedded

in this AAS.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

This degree also is offered at Chandler-Gilbert, Estrella Mountain, GateWay, Mesa, Paradise Valley, Phoenix, Rio Salado, Scottsdale, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses (18 credits)	Credits
Certificate of Completion in Organizational Leadership (5731) - Requirements listed below	18
BPC110 Computer Usage and Applications (3) OR CIS105 Survey of Computer Information Systems (3)	3
GBS110 Human Relations in Business and Industry (3) OR MGT251 Human Relations in Business (3)	3
GBS120 Workplace Communication Skills GBS151 Introduction to Business	3 3
MGT175 Business Organization and Management (3) OR TQM240 Project Management in Quality Organizations (3)	3
MGT101 Techniques of Supervision (3) OR MGT229 Management and Leadership I (3)	3

Restricted Electives (20 credits) **Credits**
 Students must choose 20 industry/job related course credits from any MCCCDC occupational program and/or Academic Certificate.

Industry/job related course credits must include a minimum of 9 credits with a common subject or theme. Program of study must be approved by the business department chair or designee.

General Education Requirements: (22-27 credits)
General Education Core: (12-17 credits) **Credits**
First-Year Composition **6**

- + 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)

Oral Communication **3**
 Any approved general education course from the Oral Communication area.

Critical Reading **0-3**
 + CRE101 College Critical Reading and Critical Thinking (3) OR
 Equivalent by assessment

Mathematics **3-5**
 Any approved general education course from the Mathematics area.

General Education Distribution: (10 credits) **Credits**
Humanities, Arts and Design **3**
 Any approved general education course from the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences **3**
 Any approved general education course from the Social-Behavioral Sciences area, see page 31.

Natural Sciences **4**
 Any approved general education course from the Natural Sciences area, see page 31.

Paramedicine

Certificate of Completion - CCL 5513
47.5-62.5 credits

For Information: Chris Coughlin
Phone: 623.845.3205
www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Paramedicine program is designed to provide advanced techniques of emergency care, stabilization, and immobilization of victims of illness and injury. The techniques of emergency care include but are not limited to assessment, detailed physical examination, recognition and documentation of signs and symptoms of illness and injury, critical thinking and diagnosis intervention, and the evaluation of the interventions. The techniques of assessment include but are not limited to electrocardiograph rhythm identification, administration of oxygen, defibrillation, synchronized cardioversion, transcutaneous pacing, and advanced airway techniques. The techniques for immobilization of the victim include but are not limited to the use of specific immobilization devices, peripheral intraosseous and central intravenous techniques, and preparation and care during transportation.

This certificate also is offered at Mesa, Phoenix and Paradise Valley Community Colleges.

Program Notes: Students must earn a grade of C or better in all courses required within the program.

EMT/FSC104 requires students to complete additional hours in a competency-based clinical, vehicular, and/or scenario based experience. Depending on the college, this may be completed through EMT/FSC104AB or program director-approved rotation.

Admission Criteria: Minimum tenth grade level reading proficiency as demonstrated by appropriate Reading placement exam.

Students may be required to complete a program entrance exam prior to starting Advanced level courses or have Permission of Program Director.

Program Prerequisites: None

Required Courses: (47.5-62.5 credits)	Credits
EMT101 Basic Life Support/Cardiopulmonary Resuscitation (CPR) for Health Care Providers (0.50) OR Current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer (0) OR Permission of Program Director	0-0.50

- + EMT/FSC104 Emergency Medical Technology (9) AND
- + EMT/FSC104AB Applied Practical Studies for Emergency Medical Technology (0.5)

OR

+ EMT/FSC104 Emergency Medical Technology (9) OR Arizona State EMT Certification (0) OR Arizona State Paramedic Certification (0) OR Permission of Program Director	0-9.5	Current Basic Life Support (BLS) Health Care Provider/Professional Rescuer certification	0-0.5
+ EMT235 Basic ECG Rhythm Analysis and Interpretation in the Emergency Setting	3	EXS101 Introduction to Exercise Science	3
+ EMT236 Pharmacology in an Emergency Setting	3	EXS112 Professional Applications of Fitness Principles	3
+ EMT240 Advanced Cardiac Life Support	2	EXS125 Introduction to Exercise Physiology	3
		EXS130 Strength Fitness-Physiological Principles and Training Techniques	3
+ EMT242 Pediatric Advanced Life Support (PALS) (1) OR		+ EXS239AA Practical Applications of Personal Training Skills and Techniques Internship	1
+ EMT265 Pediatric Education for Prehospital Providers: Advanced (1) 1		FON100 Introductory Nutrition (3) OR	
		FON105 Nutrition Principles for Fitness Professionals (3) OR	
+ EMT245 Trauma Management I (2) OR		FON241 Principles of Human Nutrition (3)	3
+ EMT246 Trauma Management II (4)	2-4		
+ EMT272AA Advanced Emergency Medical Technology (12.5) AND			
+ EMT272AB Advanced Emergency Medical Technology (12.5)	25		
+ EMT272LL Advanced Emergency Medical Technology Practicum (7.5) OR			
+ EMT272LA Advanced Emergency Medical Technology Practicum Part I (3.75) AND			
+ EMT272LB Advanced Emergency Medical Technology Practicum Part II (3.75)	7.5		
EMT296WC Cooperative Education (3) OR			
HCC145 Medical Terminology for Health Care Professionals (3) OR			
HCC145AA Medical Terminology for Health Care Professionals I (1) AND			
+ HCC145AB Medical Terminology for Health Care Professionals II (1) AND			
+ HCC145AC Medical Terminology for Health Care Professionals III (1) OR			
Permission of Program Director	0-3		
BIO160 Introduction to Human Anatomy and Physiology	4		

Personal Trainer

Certificate of Completion - CCL 5421
16-16.5 credits

For Information: Louise So
Phone: 623.845.3883
www.gccaz.edu/fitness-wellness

Program Description: The Certificate of Completion (CCL) in Personal Trainer program is designed to develop skills in Personal Training and related technical skills necessary to provide and implement individual fitness programs which are safe, motivational, and effective.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None

Required Courses: (16-16.5 credits)	Credits
EMT101 Basic Life Support/Cardiopulmonary Resuscitation (CPR) for Health Care Providers (0.5) OR	
HES106 Cardiopulmonary Resuscitation (CPR)/Automated External Defibrillator (AED) (0.5) OR	

Personal Training Specialist²

Certificate of Completion - CCL 5445
31-31.5 credits

For Information: Louise So
Phone: 623.845.3883
www.gccaz.edu/fitness-wellness

Program Description: The Certificate of Completion (CCL) in Personal Training Specialist program prepares students for the American College of Sports Medicine (ACSM), National Strength and Conditioning Association (NSCA), National Academy of Sports Medicine (NASM) and the American Council on Exercise (ACE) personal trainer certifications. The curriculum is designed to prepare students for employment in entry-level personal training positions within the fitness industry.

Program Notes: Students must earn a grade of C or better in all courses within the program.

This certificate also is offered at Chandler-Gilbert, Mesa, Paradise Valley, Scottsdale, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses: (31-31.5 credits)	Credits
EXS101 Introduction to Exercise Science	3
EXS125 Introduction to Exercise Physiology	3
+ EXS210 Assessment and Program Design: Muscular Fitness	2
+ EXS211 Assessment and Program Design: Flexibility and Balance	2
+ EXS212 Assessment and Program Design: Cardiorespiratory Fitness	2
+ EXS213 Assessment and Program Design: Weight Management and Motivation	2
+ EXS214 Instructional Competency: Flexibility and Mind-Body Exercises	2
+ EXS216 Instructional Competency: Muscular Strength and Conditioning	2
+ EXS218 Instructional Competency: Cardiorespiratory Exercises and Activities	2
+ EXS239 Practical Applications of Personal Training Skills and Techniques Internship (3) OR	
+ EXS239AA Practical Applications of Personal Training Skills and Techniques Internship (1) AND	
+ EXS239AB Practical Applications of Personal Training Skills and	

	Techniques Internship (2)	3
HES100	Healthful Living	3
HES106	Cardiopulmonary Resuscitation (CPR)/Automated External Defibrillator (AED) (0.5) OR	
EMT101	Basic Life Support/Cardiopulmonary Resuscitation (CPR) for Health Care Providers (0.50) OR	
	Current Basic Life Support (BLS) Health Care Provider/ Professional Rescuer certification (0)	0-0.5
FON100	Introductory Nutrition (3) OR	
FON241	Principles of Human Nutrition (3)	3
PED101ST	Strength Training	1
PED101GF	Group Fitness/Aerobics (1) OR	
PED101KB	Kickboxing (1) OR	
PED101PS	Pilates (1) OR	
PED101TC	Tai Chi (1) OR	
PED101YH	Hatha Yoga (1) OR	
PED101YO	Yoga (1) OR	
PED101YP	Power Yoga (1) OR	
PED101YR	Restorative Yoga (1) OR	
PED101BS	Body Sculpting (1) OR	
PED101PC	Physical Conditioning (1) OR	
PED101BC	Boot Camp (1) OR	
PED101ZU	Zumba® Fitness (1) OR	
PED101SR	Stretch and Relaxation (1) OR	
PED101CY	Cycling - Indoor (1) OR	
PED101YG	Gentle Yoga (1) OR	
PED101TX	Suspension Training (1)	1

Philosophy

General Information

For Information: Peter Lupu

Phone: 623.845.3747

www.gccaz.edu/philosophy-religious-studies

Student Goals: Personal, General Education, Career-related

Philosophy courses critically examine the nature of human beings and of the world, ways in which people seek to understand their world, and ethical and moral issues which arise. Students take these courses:

- For personal interest: PHI101 (Introduction to Philosophy) and PHI105 (Introduction to Ethics) examine fundamental philosophic issues and major attempts to resolve them. PHI103 (Introduction to Logic) helps the student develop effective reasoning skills.
- To meet the general education Humanities requirement: All PHI courses described below meet this requirement. PHI101 is recommended. All PHI courses transfer.
- To prepare for a major in philosophy at a four-year institution: PHI101 and 103 will generally transfer as major credit toward the baccalaureate degree in philosophy. PHI105 may also meet major requirements. Students should consult with a

member of the Philosophy Department to plan for transfer to a four-year institution.

- As background for other careers: Philosophy is strongly recommended as an undergraduate major or minor for those planning to enter law, computer science, journalism, government, public relations, and other areas requiring training and skill in critical thinking.

Photography

Certificate of Completion - CCL 5784
32 Credits

For Information: Dean Terasaki

Phone: 623.845.3759

www.gccaz.edu/art-humanities

Program Description: The Certificate of Completion (CCL) in Photography program includes the study of both the digital and film aspects of photography. The program is structured to help students develop an understanding of exposure principles, camera operations and functions, digital photographic materials, film-based strategies, studio lighting, and the basics of running a freelance photography business. This certificate is designed to provide knowledge and experience important to those hoping to work as freelance photographers, wedding photographers, commercial photographers, photography editors, photography assistants, or photo lab technicians.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Program Prerequisites: None

Required Courses: (26 credits)		Credits
ART100	Introduction to Computer Graphic Art	1
ART112	Two-Dimensional Design	3
ART131	Photography I	3
+ ART132	Photography II	3
+ ART138	Commercial Photography I	3
+ ART140	Portrait Photography (3) OR	
+ ART237	Fashion Photography (3)	3
ART142	Introduction to Digital Photography	3
+ ART143	Intermediate Digital Photography	3
SBS200	Small Business Operations	2
SBS204	Small Business Marketing and Advertising	2

Restricted Electives: (6 credits) **Credits**

In consultation with Departmental Advisor, choose two (2) courses from the following list to best fulfill goals:

ARH115	History of Photography	3
ART116	Life Drawing I	3
ART137	Alternative Photographic Processes	3
+ ART181	Graphic Design I	3
ART255	Art Marketing	3
TCM/VPT108	Video Production	3

Physics

General Information

For Information: Bruce Gordon
Phone: 623.845.3445
www.gccaz.edu/physical-sciences

Student Goals: General Education, Transfer, Career-related

The science of physics seeks to understand the behavior of matter and energy at the most general and fundamental level. Other sciences, e.g., chemistry and biology, build on the laws of physics and rely on many instruments originally devised by physicists.

Employment of physicists is greatest in areas that have heavy industrial concentrations and large college and university enrollments. Related careers are medical electronics, solid-state physics, production supervision, industrial sales, patent law, thermodynamics, acoustics, optics, and nuclear physics.

Transfer Recommendations: This program is designed as the first two years of course work for students intending to pursue the baccalaureate degree at a four-year institution.

Students planning a major in physics should consult with a department advisor to outline and plan their academic schedule in order to transfer to a senior institution and to complete degree requirements in an expedient manner. Required courses may not be available every semester or year. Due to limited course offerings, degree seeking students may find it necessary to extend completion time lines and attend both day and evening classes.

Departmental Recommendations:

	Credits
+ PHY115 University Physics I	5
+ PHY116 University Physics II	5
+ MAT220 Calculus with Analytic Geometry I	5
+ MAT230 Calculus with Analytic Geometry II	5
+ MAT241 Calculus with Analytic Geometry III	4
+ MAT262 Differential Equations	3

Other Recommendations:

	Credits
+ CHM151 General Chemistry I (3) AND	
+ CHM151LL General Chemistry I Laboratory (1)	4
+ CHM152 General Chemistry II (3) AND	
+ CHM152LL General Chemistry II Laboratory (1)	4

Practical Nursing

Certificate of Completion - CCL 5957 35-45 credits

For Information: Dr. Susan Mayer
Phone: 623.845.3849
www.gccaz.edu/nursing

NOTE: GCC awards the Practical Nursing Certificate of Completion only to students who have successfully completed NUR 151 Nursing Theory and Science I, NUR 171 Nursing Theory and Science II, and NUR191 Practical Nursing Transition. GCC does not offer a practical nursing program.

Program Description: The Certificate of Completion (CCL) in Practical Nursing Program is available at seven of the Maricopa Community Colleges. Clinical experiences are provided in a variety

of healthcare settings. Practical Nursing Program graduates are eligible to apply for the national exam for the practical nurse license. Licensing requirements are the exclusive responsibility of the State Board of Nursing.

The Certificate of Completion Practical Nursing Program is approved by the Arizona State Board of Nursing.

Program offerings:

This program is offered at the following sites:

Chandler Gilbert Community College
 Estrella Mountain Community College
 GateWay Community College
 Glendale Community College
 Mesa Community College
 Paradise Valley Community College
 Scottsdale Community College

Waiver of Licensure/Certification Guarantee:

Admission or graduation from the Nursing Program does not guarantee obtaining a license to practice nursing. Licensure requirements and the subsequent procedures are the exclusive right and responsibility of the Arizona State Board of Nursing. Students must satisfy the requirements of the Nurse Practice Act: Statutes, Rules and Regulations, independently of any college or school requirements for graduation.

Pursuant to A.R.S. 32-1606(B)(17), an applicant for professional or practical nurse license by examination is not eligible for licensure if the applicant has any felony convictions and has not received an absolute discharge from the sentences for all felony convictions. The absolute discharge must be received five or more years before submitting this application. If you cannot prove that the absolute discharge date is five or more years, the Board cannot process your application.

Level One Fingerprint Clearance is required for admission into the program. Applicants must present a Level One Fingerprint Clearance Card to be copied by the advisor or designee. For a Department of Public Safety Fingerprint Clearance Card application, contact MCCCCD Healthcare/Nursing Advisor. If there is any question about eligibility for licensure or certification, contact the nursing education consultant at the Arizona State Board of Nursing (602.771.7800).

Health Declaration:

It is essential that nursing students be able to perform a number of physical activities in the clinical portion of the program. At a minimum, students will be required to lift patients, stand for several hours at a time and perform bending activities. Students who have a chronic illness or condition must be maintained on current treatment and be able to implement direct patient care. The clinical nursing experience also places students under considerable mental and emotional stress as they undertake responsibilities and duties impacting patients' lives. Students must be able to demonstrate rational and appropriate behavior under stressful conditions. Individuals should give careful consideration to the mental and physical demands of the program prior to making application. All must provide documentation of compliance with all health and safety requirements required to protect patient safety. Only students in compliance are permitted to enroll in nursing courses. Students will meet these requirements by providing the required documentation for the Health/Safety Requirements Documentation Checklist and the signed Health Declaration Form.

Health and Safety Requirements for the Nursing Program:

1. Students must submit a Health and Safety Documentation Checklist verifying completion of all requirements and maintain current status throughout the program.
2. Students must submit the Health Declaration Form signed by a licensed health care provider.
3. Students must test negative on a timed urine drug screen.
4. Admission to an Allied Health program requires that students be in compliance with the Maricopa County Community College District Supplemental Background Check policy. Program applications will not be accepted without a copy of an Arizona Department of Public Safety Level One Fingerprint Clearance Card. Upon conditional program admission, the student must comply with all requirements of the current MCCCCD background check policy.

University Transfer Students: Students who are planning to earn the Bachelor of Science in Nursing may obtain their prerequisite courses at the Maricopa Community Colleges. For information on courses that meet requirements for admission into a baccalaureate program, please contact a program advisor.

PRACTICAL NURSE EXIT OPTION

Following completion of the practical nurse level program of study, the student is eligible to apply for licensure as a practical nurse. Licensed Practical Nurses (LPN) may be employed in acute, long-term, and community-based health care settings 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.

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 (LPN) may be employed in acute, long-term, and community-based health care settings under the direction of a registered nurse. Practical Nurses function within their legal scope of practice and use professional standards of care in illness care and health promotion activities for clients and families across the life span.

The Associate in Applied Science (AAS) Nursing Program is approved by the Arizona State Board of Nursing and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road NE, Suite 850, Atlanta, GA 30326; (404.975.5000); email: info@acennursing.org.

Program Notes: Students must earn a grade of C or better in all courses within the program.

Course Fee Information: Please see class schedule for information regarding course fees.

MaricopaNursing is aligned with Nurse of the Future Competencies: Patient-Centered Care, Professionalism, Leadership, Systems-Based Practice, Informatics and Technology, Communication, Teamwork and Collaboration, Safety, Quality Improvement, and Evidence-Based Practice. These competencies focus on key stakeholders of healthcare clients, colleagues and communities. Demonstration of the competencies will signify preparation for successful transition into nursing practice and further professional development.

Admission Criteria: High School diploma or GED is required for the Certificate of Completion in Practical Nursing. Applicants must

signify that they meet this requirement by providing high school diploma/transcripts or GED completion OR by signing the nursing application page containing the 'Declaration of High School Graduation or GED completion'. In some instances, high school diploma/transcripts or proof of GED completion may be required.

Formal application and admission to the program is required; all program prerequisites must be completed prior to submission.

A passing score on a nursing program admission test is required to complete an application.

The Nursing Program Chair reserves the right to deny acceptance of an admission application if the applicant was previously dismissed for issues relating to academic integrity, unsafe patient care, and/or two (2) or more failures from any nursing program.

All applicants holding or receiving a certificate as a Nursing Assistant and/or license as a Practical Nurse must remain in good standing with the Board of Nursing. Once enrolled, students receiving any disciplinary actions against their certificate or license must notify the Nursing Program Chair within five (5) school days. The Nursing Program Chair reserves the right to restrict the student's participation in clinical experiences and involvement in patient care until the certificate and/or license is valid and unrestricted.

Program Prerequisites: (10-20 credits) Credits

The credit-hour range is subject to change depending on the student's educational experience.

+ BIO156	Introductory Biology for Allied Health (4) OR	
+ BIO181	General Biology (Majors) I (4) OR One year of high school biology	0-4
+ BIO201	Human Anatomy and Physiology I	4
+ CHM130	Fundamental Chemistry (3) AND	
+ CHM130LL	Fundamental Chemistry Laboratory (1) OR One year of high school chemistry	0-4
+ ENG101	First-Year Composition (3) OR	
+ ENG107	First-Year Composition for ESL (3)	3
+ MAT140	College Mathematics (5) OR	
+ MAT141	College Mathematics (4) OR	
+ MAT142	College Mathematics (3) OR Satisfactory completion of higher level mathematics course	3-5

Students that are admitted into the MaricopaNursing Program for Fall 2015 and Spring 2016, AND completed MAT120/121/122 prior to Fall 2015 as an admission requirement, may complete the program without completing MAT140/141/142 as a graduation requirement, by waiver of the program director.

Required Courses: (25 credits) Credits

+ BIO202	Human Anatomy and Physiology II	4
+ NUR152	Nursing Theory and Science I	9
+ NUR172	Nursing Theory and Science II	9
+ NUR191	Practical Nursing Transition	3

Pre-Forestry

General Information

ASSOCIATE IN ARTS (AA)/TRANSFER PROGRAM FOR NORTHERN ARIZONA UNIVERSITY

A forester manages and develops forest lands and their resources for economic and recreational purposes.

Nearly two-thirds of salaried conservation scientists and foresters work for Federal, State, or local governments. The remainder worked in private industry, mainly in support activities for agriculture and forestry or in wood product manufacturing. Some were self-employed as consultants for private landowners, Federal and State governments, and forestry-related businesses.

Transfer Recommendations: For information on Northern Arizona University's Forestry program and transfer guide, please visit: <https://nau.edu/forestry/>.

Pre-Health

General Information

See options below. **Student Goals:** Transfer

Pre-health programs are designed for students preparing for the following professional schools: medical, dental, pharmacy, physical therapy, and optometry. Students planning to apply to one of these schools should first pursue the baccalaureate degree at a four-year institution (exception: most pharmacy programs do not require a baccalaureate degree). In view of the keen competition for admission to professional schools, a GPA of at least 3.0 is advisable, especially in the required prerequisite coursework in science and math. Also, many professional programs require specific entrance exams (e.g., MCAT, PCAT, etc.) and higher scores make applicants more likely to be accepted. Traditionally, students have chosen biology, chemistry, or biochemistry as their major. All majors are acceptable as long as program prerequisite courses are met.

Professional program admission requirements are fairly uniform across the country. However, students should become acquainted with the requirements of a particular professional school by consulting its web site. Students are urged to consult with a GCC Enrollment Center academic advisor to create an educational plan that will support their transfer major at their chosen four-year institution.

The following programs recommend pre-health courses suitable for transfer students.

PRE-MEDICAL/PRE-DENTAL

A physician, whether allopathic, osteopathic, or podiatric diagnoses, prescribes medication for, and treats diseases and disorders of the human body. A physician may also perform surgery and operations and often specializes in one aspect of medical care and treatment.

Dentists are concerned with examination, diagnosis, prevention and treatment of ailments or abnormalities of gums and teeth. Most dentists are general practitioners with a few specializing in certain areas.

Program Description: This is a suggested curriculum for the first

two years of preparation for entering medical or dental school. Students are urged to consult with a faculty advisor in planning a program which will meet the entrance requirements of professional schools.

Program Recommendations:

		Credits
+ BIO181	General Biology (Majors) I	4
+ BIO182	General Biology (Majors) II	4
+ CHM151	General Chemistry I (3) AND	
+ CHM151LL	General Chemistry I Laboratory (1)	4
+ CHM152	General Chemistry II (3) AND	
+ CHM152LL	General Chemistry II Laboratory (1) OR	
+ CHM154	General Chemistry II with Qualitative Analysis (3) AND	
+ CHM154LL	General Chemistry II with Qualitative Analysis Laboratory (1)	4-5
+ CHM235	General Organic Chemistry I (3) AND	
+ CHM235LL	General Organic Chemistry I Laboratory (1)	4
+ CHM236	General Organic Chemistry II (3) AND	
+ CHM236LL	General Organic Chemistry II Laboratory (1)	4
+ MAT151*	College Algebra / Functions	4
And Either:		Credits
+ MAT182	Plane Trigonometry	3
+ PHY111	General Physics I	4
+ PHY112	General Physics II	4

*See guidelines for proper placement of students in math. Students applying for medical school need to take the MCAT (Medical College Admission Test). Calculus is required in a few medical schools. See specific medical school catalog.

General Education Requirements:

Follow general education requirements for A.A. degree, ensuring the appropriate path for math courses (up to MAT 182) is followed. In determining course choices, students should be guided by the requirements of the four-year institution from which they expect to graduate.

PRE-OPTOMETRY

An optometrist examines and determines the condition of one's eyes and prescribes treatment to conserve or improve vision without the use of medicine, drugs, or surgery.

Program Description: This is a suggested curriculum for the first two years of preparation for entering optometry school. Students are urged to choose a specific professional school as soon as possible, and to consult with a faculty advisor in planning a program which will meet the entrance requirements of that school.

Program Recommendations:

		Credits
+ BIO181	General Biology (Majors) I	4
+ BIO182	General Biology (Majors) II	4
+ BIO205**	Microbiology	4
+ CHM151	General Chemistry I (3) AND	
+ CHM151LL	General Chemistry I Laboratory (1)	4

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

+ CHM152	General Chemistry II (3) AND	
+ CHM152LL	General Chemistry II Laboratory (1) OR	
+ CHM154	General Chemistry II with Qualitative Analysis (3) AND	
+ CHM154LL	General Chemistry II with Qualitative Analysis Laboratory (1)	4-5
+ CHM235	General Organic Chemistry I (3) AND	
+ CHM235LL	General Organic Chemistry I Laboratory (1)	4
+ CHM236	General Organic Chemistry II A (3) AND	
+ CHM236LL	General Organic Chemistry II A Laboratory (1)	4
+ MAT151	College Algebra/Functions	4
+ MAT182	Plane Trigonometry	3
+ MAT220*	Calculus with Analytic Geometry I	5
+ PHY111	General Physics I	4
+ PHY112	General Physics II	4
+ PSY230	Introduction to Statistics	3

*Most optometry schools require calculus. In this case MAT230 also is recommended.

**Two-thirds of optometry schools require microbiology or bacteriology.

General Education Requirements:

See approved list for A.S. degree. The following course is recommended within the General Education requirements in this program.

Credits

Social-Behavioral Sciences:

PSY101	Introduction to Psychology	3
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PRE-PHYSICAL THERAPY

Program Description: Physical therapists examine, treat, and instruct patients affected by physical disability, movement dysfunction, bodily malfunction and pain from injury or disease. A physical therapist is able to evaluate a patient's joint motion, muscle strength and endurance, functional ability, muscle tone and relaxes, appearance and stability of walking, need and use of braces and artificial limbs, function of the heart and lungs, integrity of sensation and perception, performance of activities required in daily living, and developmental activities.

Students are urged to choose a specific doctoral program before they commence their coursework, and to consult with an advisor at that university to plan a program of study which will meet the entrance requirements of that school. Students are encouraged to pursue a science-based Baccalaureate degree that includes all science and math-related courses required for admission to the doctoral program they choose. To prepare an educational plan that encompasses courses required for the Baccalaureate degree, students should consult with a GCC Academic Advisor in the Enrollment Center.

Program Recommendations:

+ BIO201	Human Anatomy and Physiology I	4
+ CHM151	General Chemistry I (3) AND	
+ CHM151LL	General Chemistry I Laboratory (1)	4
+ CHM152	General Chemistry II (3) AND	
+ CHM152LL	General Chemistry II Laboratory (1)	4

+ CHM235	General Organic Chemistry I (3) AND	
+ CHM235LL	General Organic Chemistry I Laboratory (1)	4
+ CHM236	General Organic Chemistry II A (3) AND	
+ CHM236LL	General Organic Chemistry II A Laboratory (1)	4
+ MAT182	Plane Trigonometry	3
+ PHY111	General Physics I	4
+ PHY112	General Physics II	4

General Education Requirements:

Follow general education requirements for A.A. degree, ensuring the appropriate path for math courses (up to MAT182) is followed. In determining course choices, students should be guided by the requirements of the four-year institution from which they expect to graduate.

PRE-PHARMACY

Pharmacists are medication specialists, who advise patients on the proper use of medicines, monitor patients for therapeutic and adverse drug responses, and serve as consultants to other health professionals on drug therapy.

Pharmacy is a health-care profession which offers the practitioner excellent and diverse career opportunities in community or hospital practice, clinical pharmacy, industry, education, or government.

Most professional pharmacy schools do not require a Baccalaureate degree – they require up to 90 semester credits of prerequisite courses, including extensive science coursework. Students are urged to choose a specific pharmacy program before they commence their coursework, and to consult with an advisor at that university to plan a program of study which will meet the entrance requirements of that school. To prepare an educational plan that encompasses courses required to satisfy prerequisites, students should consult with a GCC Academic Advisor in the Enrollment Center.

Program Recommendations:

+ BIO181	General Biology (Majors) I	4
+ BIO182	General Biology (Majors) II	4
+ BIO201	Human Anatomy and Physiology I	4
+ BIO202	Human Anatomy and Physiology II	4
+ CHM151	General Chemistry I (3) AND	
+ CHM151LL	General Chemistry I Laboratory (1)	4
+ CHM152	General Chemistry II (3) AND	
+ CHM152LL	General Chemistry II Laboratory (1)	4
+ CHM230	Fundamental Organic Chemistry (3) AND	
+ CHM230LL	Fundamental Organic Chemistry Laboratory (1)	4
+ MAT182	Plane Trigonometry	3
+ PHY111	General Physics I	4
+ PHY112	General Physics II	4

General Education Requirements:

Follow general education requirements of the transfer university.

Pre-Law

General Information

For Information: Scott Stroher
Phone: 623.845.3453

Student Goals: Transfer

General information for students planning a career in Law:

No formal pre-law course of study is required to be eligible to apply for admission to law school. The demands of law are so varied that no one course of preparation can possibly be regarded as exclusive, and law schools attempt to do no more than urge students aiming toward a legal career to acquire a liberal education to the fullest sense of that term. Legal educators agree that a pre-legal education should be geared to the development of:

- A broad cultural background.
- Habits of thoroughness, intellectual curiosity, and scholarship.
- Ability to organize materials and communicate the results, both in writing and orally.

Since the attorney's principal tools are the abilities to analytically think and communicate, every student should be particularly well-grounded in the use of language. The ability to write clearly, concisely, and with a sense of style is highly desirable. Therefore, courses in English composition and literature beyond the bare minimal requirements are recommended as well as courses which develop a lucid writing style.

A broad liberal arts education which is planned to provide understanding of institutions and values with which the law deals is excellent preparation for a career in law. The habits of reading widely and writing clearly are tied closely to the development of the capacity to absorb abstract ideas and to reason systematically. Study in the areas of government, history, philosophy, psychology, sociology, economics, and literature will all contribute to the deep understanding of our social, political, and economic institutions that every good attorney must have. Law school admission committees give strong consideration to the following:

1. Scores on the Law School Admission Test (LSAT). A preparation course is recommended before taking the LSAT.
2. Overall academic performance for the full period of attendance in college. (Admission becomes increasingly more competitive each year and students should endeavor to keep grades at the highest possible level.)
3. Breadth in the undergraduate program in addition to the major field of study. Electives should include courses in a wide range of disciplines. Courses at the undergraduate level in law are not essential since much of the material will be explored at a later time.
4. Ability to write correctly, clearly, and concisely. (Many law schools require demonstration of this ability as part of their admission test.)
5. General community involvement and/or personal achievement.
6. Many schools require character and personal references in addition to the above listed requirements. The study of

law requires self-discipline and hard work which makes it important for students to develop good study habits in their academic career.

Program Description: This suggested program should be considered as the first two years of a baccalaureate program. Students should select an undergraduate major in liberal arts, social sciences, or business. A business transfer program is especially recommended.

Program Recommendations: General Elective Credits
 Students should choose a major and consult with an advisor in planning their pre-law program. The following courses are recommended:

COM100	Introduction to Human Communication	3
+ COM225	Public Speaking	3
ECN211	Macroeconomic Principles	3
ECN212	Microeconomic Principles	3
+ GBS233	Business Communication	3
HIS103	United States History to 1865	3
HIS104	United States History 1865 to Present	3
PHI101	Introduction to Philosophy	3
+ PHI103	Introduction to Logic	3
POS110	American National Government	3
POS120	World Politics	3
PSY101	Introduction to Psychology	3
SOC101	Introduction to Sociology	3

General Education Requirements:

Follow general education requirements for A.A., A.S., or A-Bus degree, depending on intended transfer major. Meet with an academic advisor in the GCC Enrollment Center to develop an educational plan. In determining course choices, students should be guided by the requirements of the four-year institution from which they expect to earn a baccalaureate degree.

Programming and System Analysis²

Associate in Applied Science - AAS 3844
61-67 credits

For Information: Bill Stewart
Phone: 623.845.3250

www.gccaz.edu/business-information-technology

Program Description: The Associate in Applied Science (AAS) in Programming and Systems Analysis program provides an in-depth exploration of different computer language and technical skills. The AAS includes, but is not limited to the following: operating systems, local area networks, business communication, team roles, and dynamics. Certificate of Completions (CCL) in Programming and Systems Analysis Level I and Level II and iOS Application Development are also available.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Consultation with an Academic Advisor is recommended for course selection.

This degree also is offered at Chandler-Gilbert, Estrella Mountain, Mesa, Phoenix, Paradise Valley, Rio Salado, and Scottsdale

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Community Colleges.

Program Prerequisites: None

Required Courses: (33-34 credits)

	Credits
GBS151 Introduction to Business	3
CIS105 Survey of Computer Information Systems	3

CIS126DL Linux Operating System (3) OR	
CIS126RH Red Hat System Administration I (3) OR	
+ MST150++ Any Microsoft Windows course (3)	3
CIS133DA Internet/Web Development Level I	3

Students interested in pursuing an iOS Certificate of Completion (CCL) are recommended to take CIS150AB

+ CIS150 Programming Fundamentals (3) OR	
+ CIS150AB Object-Oriented Programming Fundamentals (3)	3
CIS166++ Any Web Scripting course(s)	3

+ CIS190 ² Introduction to Networks (3) OR	
+ CIS190 ¹ Introduction to Local Area Networks (3) OR	
CNT140AA Introduction to Networks (4) OR	
+ MST140 Microsoft Networking Essentials (3)	3-4

+ CIS225 Business Systems Analysis and Design (3) OR	
+ CIS225AB Object-Oriented Analysis and Design (3) OR	
+ CIS250 Management of Information Systems (3)	3

+ CIS119DO Introduction to Oracle: SQL (3) OR	
+ CIS276DA MySQL Database (3) OR	
+ CIS276DB SQL Server Database (3)	3

Select a programming language from below that best aligns with academic and professional goals (two courses for a total of six credits) in one of the following areas:

+ CIS159 Visual Basic Programming I (3) AND	
+ CIS259 Visual Basic Programming II (3) OR	

CIS162++ Any C Programming: Level I course (3) AND	
CIS262++ Any C Programming: Level II course (3) OR	

+ CIS163AA Java Programming: Level I (3) AND	
+ CIS263AA Java Programming: Level II (3) OR	

CIS165++ Any Mobile Application Development course (3) AND	
+ CIS265 Advanced iOS Application Development (3)	6

Restricted Electives: (6 credits)

Students may not use courses from the Required Courses Area.

CIS224 Project Management Microsoft Project for Windows	3
+ CIS151 Computer Game Development-Level I	3
+ CIS156 Python Programming: Level I	3
+ CIS159 Visual Basic Programming I	3
CIS162++ Any C Programming: Level I course	3
+ CIS163AA Java Programming: Level I	3
CIS165++ Any Mobile Application Development course	3

+ CIS251 Computer Game Development-Level II	3
+ CIS259 Visual Basic Programming II	3
CIS262++ Any C Programming: Level II course	3
+ CIS263AA Java Programming: Level II	3
+ CIS265 Advanced iOS Application Development	3
GBS211 Legal, Ethical and Regulatory Issues of the Internet Studies	3

General Education Requirements: (22-27 credits)

General Education Core: (12-17 credits) Credits

First-Year Composition: 6

+ 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)	

Oral Communication: 3

Any approved general education course in the Oral Communication area, see page 31.

Critical Reading: 0-3

+ CRE101 College Critical Reading and Critical Thinking (3) OR Equivalent by assessment.

Mathematics: 3-5

+ MAT150 College Algebra/Functions (5) OR	
+ MAT151 College Algebra/Functions (4) OR	
+ MAT152 College Algebra/Functions (3)	
Any MAT course that is equivalent or higher	

General Education Distribution: (10 credits) Credits

Humanities, Arts and Design: 3

Any approved general education course in the Humanities, Arts and Design [HU] area, see page 31.

Social-Behavioral Sciences: 3

ECN211 Macroeconomic Principles (3) OR	
ECN212 Microeconomic Principles (3) OR	
SBU200 Society and Business (3)	

Natural Sciences: 4

Any approved general education course in the Natural Sciences (Quantitative) [SQ] area or the Natural Sciences (General) [SG] area, see page 31.

Programming and System Analysis¹ title change to:

Programming and System Analysis Level I²

Certificate of Completion - CCL 5048

24 credits

For Information: Bill Stewart

Phone: 623.845.3250

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Programming and System Analysis provides an in-depth exploration of different computer language and technical skills. Includes, but is not limited to the following: operating systems, local area networks, team roles, and dynamics. An Associate in Applied Science (AAS) also is available.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Consultation with an Academic Advisor is recommended for course selection.

This program also is offered at Chandler-Gilbert, Estrella Mountain, Mesa, Phoenix, Paradise Valley, and Scottsdale Community Colleges.

Program Prerequisites: None

Required Courses: (24 credits)

	Credits
CIS105 Survey of Computer Information Systems	3
CIS133DA Internet/Web Development Level I	3
GBS151 Introduction to Business	3
CIS126DL Linux Operating System (3) OR	
CIS126RH Red Hat System Administration I (3) OR	
MST150++ Any Microsoft Windows course (3)	3
+ CIS150 Programming Fundamentals (3) OR	
+ CIS150AB Object-Oriented Programming Fundamentals (3)	3
CIS166++ Any Web Scripting course(s)	3
+ CIS119DO Introduction to Oracle: SQL (3) OR	
+ CIS276DA MySQL Database (3) OR	
+ CIS276DB SQL Server Database (3)	3

Select a programming language from below that best aligns with academic and professional goals (one course for a total of three credits) in one of the following areas:

+ CIS159 Visual Basic Programming I (3) OR	
CIS162++ Any C Programming: Level I course (3) OR	
+ CIS163AA Java Programming: Level I (3) OR	
CIS165++ Any Mobile Application Development course (3)	3

Programming and System Analysis Level II²

Certificate of Completion - CCL 5962

This program currently is not eligible for Title IV Federal Financial Aid
36-37 credits

For Information: Bill Stewart

Phone: 623.845.3250

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Programming and Systems Analysis Level II provides an in-depth exploration of different computer language and technical skills. This CCL includes, but is not limited to the following: local area networks, team roles, and dynamics. A Certificate of Completion (CCL) in iOS Application Development and an Associate in Applied Science (AAS) in Programming and Systems Analysis are available.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Consultation with an Academic Advisor is recommended for course selection.

This program also is offered at Chandler-Gilbert, Estrella

Mountain, Mesa, Phoenix, Paradise Valley, and Scottsdale Community Colleges.

Program Prerequisites: None

Required Courses: (33-34 credits)

	Credits
The following courses are required and included in CCL Programming and Systems Analysis Level I	
CIS105 Survey of Computer Information Systems	3
CIS133DA Internet/Web Development Level I	3
GBS151 Introduction to Business	3
CIS126DL Linux Operating System (3) OR	
CIS126RH Red Hat System Administration I (3) OR	
MST150++ Any Microsoft Windows course (3)	3
+ CIS150 Programming Fundamentals (3) OR	
+ CIS150AB Object-Oriented Programming Fundamentals (3)	3
CIS166++ Any Web Scripting course(s)	3
+ CIS119DO Introduction to Oracle: SQL (3) OR	
+ CIS276DA MySQL Database (3) OR	
+ CIS276DB SQL Server Database (3)	3
+ CIS159 Visual Basic Programming I (3) OR	
CIS162++ Any C Programming: Level I course (3) OR	
+ CIS163AA Java Programming: Level I (3) OR	
CIS165++ Any Mobile Application Development course (3)	3

The following courses are required for CCL Programming and Systems Level II

+ CIS190 ² Introduction to Networking (3) OR	
+ CIS190 ¹ Introduction to Local Area Networks (3) OR	
CNT140AA Introduction to Networks (4) OR	
MST140 Microsoft Networking Essentials (3)	3-4
+ CIS225 Business Systems Analysis and Design (3) OR	
+ CIS225AB Object-Oriented Analysis and Design (3) OR	
+ CIS250 Management of Information Systems (3)	3

Select a programming language from below that best aligns with academic and professional goals (one course for a total of three credits) in one of the following areas:

+ CIS259 Visual Basic Programming II (3) OR	
CIS262++ Any C Programming: Level II course (3) OR	
+ CIS263AA Java Programming: Level II (3) OR	
+ CIS265 Advanced iOS Application Development (3)	3

Restricted Electives: (3 credits)

Select one of the courses below that best aligns with academic and professional goals for a total of three credits. Students may not choose courses they have taken from the required courses area.

CIS224 Project Management Microsoft Project for Windows	3
+ CIS151 Computer Game Development-Level I	3
+ CIS156 Python Programming: Level I	3
+ CIS159 Visual Basic Programming I	3

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

CIS162++	Any C Programming: Level I course	3
+ CIS163AA	Java Programming: Level I	3
CIS165++	Any Mobile Application Development course	3
+ CIS251	Computer Game Development-Level II	3
+ CIS259	Visual Basic Programming II	3
CIS262++	Any C Programming: Level II course	3
+ CIS263AA	Java Programming: Level II	3
+ CIS265	Advanced iOS Application Development	3
GBS211	Legal, Ethical and Regulatory Issues of the Internet Studies	3

Psychology

General Information

For Information: Julie Morrison

Phone: 623.845.4761

www.gccaz.edu/psychology

ASSOCIATE IN ARTS (AA)/TRANSFER PROGRAM

Student Goals: General Education, Transfer to a University, Personal Interest

Psychologists are concerned with the scientific study of behavior and mental processes. Psychology is a beneficial major or minor for students interested in education, medicine, law, social work, management, or any of the human service fields such as nursing, child care, medical technology, law enforcement, or real estate. Positions in the field of psychology as a psychologist require a graduate degree.

Employment will remain competitive in educational institutions but will show 8-14% growth in clinical and industry settings between 2016-2026. Related careers include personnel management, public relations, sports and recreation, speech pathology, special education, counseling, vocational rehabilitation, gerontology, business management, and computer science.

Program Description: This program provides the first two years of a four-year curriculum for students who wish to specialize in psychological sciences or are preparing for graduate programs in psychology or related fields. With a bachelor's degree, students may pursue numerous careers such as mid- and top-level managers, market research analysts/specialists, human resources specialists/managers, social and human service assistants, psychiatric technicians, survey researchers, and probation officers/correctional treatment specialists. Most careers in psychology require graduate work. With a graduate degree, students may pursue a number of careers, including but not limited to: psychologists (industrial-organizational, clinical, counseling, and school), research scientists, psychiatrists, neuropsychologists, statisticians, teachers, and human factors engineers.

Special Skill Levels Needed: College level reading, writing, and math skills.

Core Requirements:

		Credits
PSY101	Introduction to Psychology [SB]	3
+ PSY230	Introduction to Statistics [CS]	3
+ PSY231	Laboratory for Statistics	1
PSY290++	Research Methods [L, SG]	4

Electives:

The following courses are available as electives but should be chosen only sparingly by psychology majors. No more than one or two of these should be taken. (Some of these courses are junior-senior level upper division courses at the universities and have no lower division equivalents there. If taken at GCC, they will count as lower division credit at the universities.)

		Credits
PSY132	Psychology and Culture [C,G,SB]	3
PSY143	Lesbian, Gay, Bisexual and Transgendered Studies [C]	3
PSY156	Understanding Death and Dying	3
PSY157	African/Black Psychology [SB, C]*	3
+ PSY215	Introduction to Sport Psychology	3
+ PSY235	Psychology of Gender [SB,C]*	3
+ PSY240	Developmental Psychology [SB]*	3
+ PSY241	Understanding and Changing Behavior	3
+ PSY242	Understanding and Changing Behavior Lab	3
+ PSY243	The Psychology of Developmental Disabilities	3
+ PSY244	Internship in Psychology	1
+ PSY250	Social Psychology [SB]	3
+ PSY262	Positive Psychology	3
+ PSY266	Abnormal Psychology [SB]*	3
+ PSY267	Forensic Psychology	3
+ PSY275	Biopsychology [SG]*	4
+ PSY277	Psychology of Human Sexuality [SB]*	3
+ PSY280	Industrial/Organizational Psychology [SB]*	3
+ PSY295AA	Independent Research in Psychology	1

*[SB] counts at ASU as Social and Behavioral Science general education requirement. [C] counts as Cultural Awareness general education requirement. [CS] counts as Computer/Statistics, [L] counts for Literacy and Critical Inquiry, and [SG] counts for Natural Sciences-General general education requirements.

Typically psychology majors will need to take ten or more psychology courses for graduation with BA or BS degree. At least five should be upper division courses at a university. Between three and five of those courses may be at the lower division (community college) level including the core requirements and suggested electives listed previously. Psychology majors should consult early with a departmental advisor about the math and science requirements and planning their course of study.

Recommendations for Psychology Minors:

A minor in psychology fits very well as a companion discipline with a wide variety of majors. Most universities will require five or six psychology courses for a minor; at least two of them should be at the upper division level at the university. Students wishing to minor in psychology should take PSY101, and choose other courses from the following list, depending on university requirements:

+ PSY230	Introduction to Statistics [CS]	3
+ PSY231	Laboratory for Statistics	1
+ PSY240	Developmental Psychology [SB]*	3
+ PSY241	Understanding and Changing Behavior	3
+ PSY250	Social Psychology [SB]*	3
+ PSY266	Abnormal Psychology [SB]*	3
+ PSY275	Biopsychology [SG]	4

+ PSY277	Psychology of Human Sexuality [SB]*	3
PSY290++	Research Methods [L,SG]	4

Personal Improvement and Personal Interest Courses:

With the numerous and varied demands of our complex world many of us face serious difficulties adjusting to and coping with the stresses and pressures of modern living. The following courses may be of considerable help in coping with such problems.

PSY143	Lesbian, Gay, Bisexual and Transgendered Studies [C]*	3
PSY156	Understanding Death and Dying	3
PSY157	African/Black Psychology [SB,C]*	3
+ PSY215	Introduction to Sport Psychology [SB]*	3
+ PSY235	Psychology of Gender [SB,C]*	3
+ PSY241	Understanding and Changing Behavior	3
+ PSY243	The Psychology of Developmental Disabilities	3
+ PSY262	Positive Psychology	3
+ PSY277	Psychology of Human Sexuality [SB]*	3

Public Relations**General Information**

For Information: Jennifer Duncan

Phone: 623.845.3914

www.gccaz.edu/english

Student Goals: Career-related

Public Relations specialists will be prepared for entry-level jobs in press relations, community or consumer relations, market research, small publication production, political campaigns, fund raising, and volunteer recruitment. Jobs in public relations and related occupations will accompany growth in business and industry.

Program Description: This program is designed to provide students with journalism, photography, business, and communications skills that will prepare them for entry-level employment in press relations, community or consumer relations, market research, in-house publications, political campaigns, fund raising, and volunteer recruitment.

Students will compile a portfolio of their news and feature writing, photography, publications designs, plans for events and advertising designs. The portfolio will include both published and unpublished work. Required courses may not be available every semester. Students should consult with a department advisor in planning their academic schedule in order to complete degree requirements in an expedient manner. Degree-seeking students may find it necessary to extend completion time lines and attend both day and evening classes.

Religious Studies**General Information**

For Information: Peter Lupu

Phone: 623.845.3747

www.gccaz.edu/philosophy-religious-studies

Student Goals: General Education, Personal Interest and Career Related

In today's global socioeconomic situation, it is important to understand and respect the differences present in a variety of ethnic and religious cultures. The academic study of religion is an excellent program for developing strong analytical, research and critical thinking skills that will contribute to success in life and career endeavours. An Associate of Arts degree with a focus in Religious Studies prepares students for a variety of career options.

Graduates often pursue careers in:

- Business/International Business
- Counseling
- Education
- Law
- Nursing
- Journalism
- Foreign Service
- Chaplaincy
- Public and Non-Profit Administration
- Social Work

Retail Management**Associate in Applied Science - AAS 3048****61-63 credits**

For Information: Kendra Swensen

Phone: 623.845.3749

www.gccaz.edu/business-information-technology

This degree can be applied to a Bachelor of Applied Science degree at the ASU West campus.

Program Description: The Associate in Applied Science (AAS) in Retail Management degree is designed to prepare individuals working in the retail management, food industry, and related fields, for the mid-level management position challenges of the future. The curriculum encompasses business essentials and also emphasizes the skill sets needed for effective management and communication in the work environment. Instruction will provide the background and knowledge necessary for students to develop the judgment skills they must exercise as business managers.

Program Notes: Students must earn a grade of C or better in all courses within the program.

This program also is offered by Chandler-Gilbert, GateWay, Mesa, Phoenix, Rio Salado, Scottsdale, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses: (24-27 credits)

Credits

Choose one of the following three accounting

sequences:

ACC111	Accounting Principles I (3) AND	
+ ACC230	Uses of Accounting Information I (3) AND	
+ ACC240	Uses of Accounting Information II (3)	
OR		
ACC111	Accounting Principles I (3) AND	
+ ACC112	Accounting Principles II (3) AND	
+ ACC212	Managerial Accounting (3)	
OR		
ACC211	Financial Accounting (3) AND	
+ ACC212	Managerial Accounting (3)	6-9

BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3

GBS110	Human Relations in Business and Industry (3) OR	
MGT251	Human Relations in Business (3)	3

MGT101	Techniques of Supervision (3) OR	
MGT229	Management and Leadership I (3)	3

MGT179	Utilizing the Human Resources Department (3) OR	
MGT276	Personnel/Human Resources Management (3)	3

MKT268	Merchandising (3) OR	
MGT180	Retail Management (3)	3

MKT271	Principles of Marketing	3
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Restricted Electives: (9-15 credits)

Student must complete additional 9 to 15 credits from GBS, MGT, and/or MKT prefixed courses (except courses used to satisfy Required Courses area nor excluded below) to complete a minimum of 61 total program credits. Must include at least one MKT course.

GBS+++++	Any GBS General Business course(s)	0-12
MGT+++++	Any MGT Management course(s) except MGT180	0-12
MKT+++++	Any MKT Marketing course(s) except MKT268	3-15

General Education Requirement: (22-27 credits)

General Education Core: (12-17 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 and Professional Writing (3)	

ENG102 or ENG108 recommended for students considering pursuing a bachelor's degree at an Arizona university.

Oral Communication:

COM100	Introduction to Human Communication	3
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Critical Reading:

+ CRE101	College Critical Reading and Critical Thinking (3) OR	0-3
	Equivalent as indicated by assessment	

Mathematics:

	Any approved general education course from the Mathematics area, see page 31.	3-5
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General Education Distribution: (10 credits)

Humanities, Arts and Design:

Any approved general education course from the Humanities, Arts and Design area, see page 31.

Social-Behavioral Sciences:

SBU200 Society and Business

Natural Sciences:

Any approved general education course from the Natural Sciences area, see page 31.

Retail Management

Certificate of Completion - CCL 5286 24 credits

For Information: Kendra Swensen

Phone: 623.845.3749

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Retail Management is designed to prepare individuals working in the Retail industry, and related fields, for the industry training needs in supervision and management, marketing, financial management, and business planning. 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 grade of C or better required for all courses within the program.

This certificate also is offered by Chandler-Gilbert, Estrella Mountain, GateWay, Mesa, Phoenix, Rio Salado, Scottsdale, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses: (24 credits)

		Credits
ACC111	Accounting Principles I (3) OR	
ACC211	Financial Accounting (3)	3
BPC110	Computer Usage and Applications (3) OR	
CIS105	Survey of Computer Information Systems (3)	3
COM100	Introduction to Human Communication	3
GBS110	Human Relations in Business and Industry (3) OR	
MGT251	Human Relations in Business (3)	3
MGT180	Retail Management (3) OR	
GBS270AC	Business Internship (3) OR	
GBS296WC	Cooperative Education (3) OR	
GBS298AC	Special Projects (3)	3
MGT101	Techniques of Supervision (3) OR	
MGT229	Management and Leadership I (3)	3
MGT179	Utilizing the Human Resources Department (3) OR	
MGT276	Personnel/Human Resources Management (3)	3
MKT271	Principles of Marketing	3

Small Business Management Level I²**Certificate of Completion - CCL 5153N****This program is not eligible for Title IV Federal Financial Aid 10-12 credits****For Information:** Kendra Swensen**Phone:** 623.845.3749

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Small Business Management Level I program is designed to meet the needs of individuals who wish to own and/or manage a small business. Prepares students to acquire the skills, tools and knowledge necessary for successful start-up and operations of a business.

This program also is offered at Chandler-Gilbert, Estrella Mountain, GateWay, Mesa, Phoenix, Rio Salado, Scottsdale, and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better required for all courses within the program.

Program Prerequisites: None**Required Courses: (10-12 credits)**

	Credits
EPS195 Business Start-Up and Planning (2) OR	
+ SBS216 Planning for a Small Business (2) OR	
MGT253 Owning and Operating a Small Business (3)	2-3
SBS200 Small Business Operations	2
SBS202 Small Business Bookkeeping and Tax Preparation (1) AND	
SBS203 Financing and Cash Management for a Small Business (1) OR	
SBS230 Financial and Tax Management for Small Business (2)	2
SBS204 Small Business Marketing and Advertising (2) OR	
SBS220 Internet Marketing for Small Business (2) OR	
MKT271 Principles of Marketing (3)	2-3
SBS213 Hiring and Managing Employees	1
SBS214 Small Business Customer Relations	1

Sustainability**Academic Certificate - AC 6240N****This program is not eligible for Title IV Federal Financial Aid 15-18 credits****For Information:** Michael Strong**Phone:** 623.845.3602

www.gccaz.edu/social-sciences

Program Description: The Academic Certificate (AC) in Sustainability is interdisciplinary and builds a strong academic expertise within a student's desired focus area of Sustainability. The focus areas are established within and among the foundational pillars of Sustainability (social - environmental - economic).

Program Notes: Students must earn a grade of C or better for all courses required within the program.

This program also is offered at Chandler-Gilbert, Mesa, Paradise

Valley, Rio Salado, and South Mountain Community Colleges.

Program Prerequisites: None**Required Courses: (6 credits)**

	Credits
SSH111 Sustainable Cities	3
SUS110 Sustainable World	3

Restricted Electives: (9-12 credits)

Students must select three focus area classes

	Credits
ASM104 Bones, Stones, and Human Evolution	4
BIO105 Environmental Biology	4
CHM107 Chemistry and Society (3) AND	
+ CHM107LL Chemistry and Society Laboratory (1)	4
COM263 Elements of Intercultural Communication	3
FON135 Sustainable Cooking	3
ECN212 Microeconomic Principles	3
EPS150 Introduction to Entrepreneurship	3
ENV101 Introduction to Environmental Science	4
GLG110 Geological Disasters and the Environment (3) AND	
GLG111 Geological Disasters and the Environment Lab (1)	4
GPH113 Introduction to Physical Geography	4
PHI216 Environmental Ethics	3
PSY132 Psychology and Culture	3
SBU200 Society and Business	3
SUS100 Introduction to Sustainability	3
SCT100 Introduction to Sustainable Built Environments	3

Victimology²**Certificate of Completion - CCL 5392N****This program is not eligible for Title IV Federal Financial Aid 15 credits****For Information:** Paul Brown**Phone:** 623.845.3913

www.gccaz.edu/public-safety-science

Program Description: The Certificate of Completion (CCL) in Victimology is designed for students who are interested in pursuing a course of study specifically focused on crisis intervention, community services, and victim rights. It is one pathway to the Associate in Applied Science (AAS) in Administration of Justice.

This certificate also is offered at Chandler-Gilbert, Mesa, Phoenix, Paradise Valley, Rio Salado, Scottsdale, and South Mountain Community Colleges.

Program Notes: Students must earn a grade of C or better for all courses required within the program.

Program Prerequisites: None**Required Courses: (15 credits)**

	Credits
AJS101 Introduction to Criminal Justice	3
AJS162 Domestic Violence	3
AJS225 Criminology	3

+ indicates course has pre/corequisites. ++ indicates suffixed courses

¹ Final Term Summer 2019, ² Effective Term Fall 2019

AJS255	Crime, Law and Mental Health	3
AJS/EMT/FSC/SWU258	Victimology and Crisis Management	3

Web Design

Certificate of Completion - CCL 5159

18 credits

For Information: Bill Stewart

Phone: 623.845.3250

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Web Design is intended for those interested in designing and maintaining web pages for personal or small business use.

Program Notes: Students must earn a grade of C or better for all courses within the program.

This program also is offered at Chandler-Gilbert, Estrella Mountain, Phoenix, Paradise Valley, and South Mountain Community Colleges.

Program Prerequisites: None

Required Courses: (18 credits)

		Credits
CIS120DC	Adobe Animate: Digital Animation	3
CIS120DF	Adobe Photoshop Level I: Digital Imaging	3
CIS133DA	Internet/Web Development Level I ¹	3
CIS166++	Any Web Scripting course(s)	3
+ CIS233DA	Internet/Web Development Level II	3
+ CIS235	e-Commerce	3

Web Developer

Certificate of Completion - CCL 5051

30 credits

For Information: Bill Stewart

Phone: 623.845.3250

www.gccaz.edu/business-information-technology

Program Description: The Certificate of Completion (CCL) in Web Developer is designed to prepare a software developer to properly create and maintain web applications. In addition to web page development, this certificate is designed to enable software developers to fully manage and develop corporate web systems using interactive applications as well as write programs to manage corporate databases via the web. An Associate in Applied Science (AAS) degree also is available.

Program Notes: Students must earn a grade of C or better for all courses within the program.

This program also is offered at Estrella Mountain, Phoenix, and Paradise Valley Community Colleges.

Program Prerequisites: None

Required Courses: (30 credits)

		Credits
CIS105	Survey of Computer Information Systems	3
CIS117DM	Microsoft Access: Database Management	3

CIS120DC	Adobe Animate: Digital Animation	3
CIS120DF	Adobe Photoshop Level I: Digital Imaging	3
CIS126DL	Linux Operating System	3
CIS133DA ¹	Internet/Web Development Level I	3
CIS166++	Any Web Scripting course(s)	3
+ CIS233DA	Internet/Web Development Level II	3
+ CIS234	XML Application Development	3
+ CIS235	e-Commerce	3

World Languages

General Information

For Information: Pam Joraanstad

Phone: 623.845.3773

www.gccaz.edu/communication-world-languages

The following world language course descriptions can be found in alphabetical order in this catalog:

Chinese (CHI), French (FRE), German (GER), Italian (ITA), Japanese (JPN), Latin (LAT), Sign Language (SLG), and Spanish (SPA)

Student Goals: Personal, Career-related, General Education

The study of another language not only provides a language skill, but also helps students understand the customs and cultures of other countries. GCC offers the opportunity to study a variety of world languages: Chinese, French, German, Italian, Japanese, Latin, Sign Language, and Spanish. Students take these courses:

- For Personal Interest. The standard courses (101, 102, 201, 202 sequence) provide a thorough grounding in basic grammar, pronunciation, and vocabulary in the selected language. The 115-226 sequence is especially recommended for those who wish to focus on conversation mainly for travel needs.
- To Provide Background for other careers. The 115-116 sequence is recommended.
- To Prepare for a Major at a four-year institution. Although most language majors with a bachelor's degree enter secondary school teaching, others find jobs in travel bureaus, firms involved in foreign trade, and governmental agencies. Those wishing to become college instructors or professional linguists need advanced training far beyond the bachelor's degree. The 101, 102, 201, 202 sequence in the selected language satisfies university transfer, entrance and graduation requirements. Other courses may be granted world-language elective credit. Students intending to pursue a baccalaureate degree in a world language should consult with a departmental advisor to plan their program.

Degree-seeking and transfer students should consult with a department advisor in planning their academic schedule in order to complete degree requirements in an expedient manner.



MCCCD DEGREES AND CERTIFICATES

MCCCD Degrees & Certificates

Legend

CG = Chandler Gilbert Community College
 EM = Estrella Mountain Community College
 GC = Glendale Community College
 GW = GateWay Community College
 MC = Mesa Community College

PC = Phoenix College
 PV = Paradise Valley Community College
 RS = Rio Salado Community College
 SC = Scottsdale Community College
 SM = South Mountain Community College

AGRICULTURE, FOOD, AND NATURAL RESOURCES

Environmental and Natural Resource Conservation PC
 Environmental and Natural Resource Sustainability PC
 Equine Science..... SC
 Landscape Aide..... MC
 Landscape Horticulture..... MC
 Landscape Specialist..... MC
 Sustainable Agriculture MC
 Veterinary Assisting MC
 Veterinary Technology MC

ARCHITECTURE AND CONSTRUCTION

Air Conditioning/Refrigeration/Facilities..... GW
 Architectural Technology SC
 Building Inspection MC

Computer Aided DraftingMC
 Construction ManagementMC
 Construction Trades – Mechanical Trades: Pipefitting GW
 Construction Trades – Mechanical Trades: Plumbing GW
 Construction Trades – Mechanical Trades: Sheet Metal..... GW
 Construction Trades: Carpentry..... GW
 Construction Trades: Construction Management GW, MC
 Construction Trades: Construction Worker Training for
 Cranes/Rigging Equipment GW
 Construction Trades: Electricity GW
 Construction Trades: Heat and Frost Insulation GW

ART, AV TECHNOLOGY, AND COMMUNICATION

Alteration SpecialistMC
 Apparel Construction PC

Audio Production Technologies	GC, MC, PC, PV, SC
Beginning Piano Pedagogy	MC
Costume Design and Production	MC
Costuming	PC
Dance Performance and Technology	SC
Digital Media Arts	GC
Disc Jockey Techniques	MC, SC
Disc Jockey Techniques I	MC, SC
Disc Jockey Techniques II	MC, SC
Fashion Design	PC
Fashion Design, Level I	PC
Fashion Design, Level II	PC
Fashion Design: Entrepreneurship	PC
Fashion Illustration	PC
Fashion Merchandising	PC
Fashion Merchandising and Design	MC
Graphic Design: Visual Communication	SC
Image Consultant	MC
Interior Design	MC, PC, SC
Interior Design: Advanced	MC
Interior Merchandising	EM, MC, PC
Intermediate Piano Pedagogy	MC
Journalism and New Media Studies	GC, MC, SC
Media Arts: Graphic Design	PC
Music Business	CG, GC, MC, PC, PV, SC, SM
Pattern Design, Level I	PC
Pattern Design, Level II	PC
Photography	GC, PC
Sound Design	MC, SC
Technical Theatre	PC, SC
Textile and Apparel: Fashion Stylist	MC

BUSINESS, MANAGEMENT, AND ADMINISTRATION

Accounting	CG, EM, GC, GW, MC, PC, PV, RS, SC, SM, PV
Accounting – Specialized Para-Professional	PV
Accounting Paraprofessional	GC
Administrative Professional	MC, PC, PV
Administrative Specialist	PV
Administrative Technology	GW
Automobile Insurance Claims: Customer Service	RS
Automobile Insurance: Customer Service	RS
Bookkeeping	SC
Broadband Telecommunications	RS
Broadband Telecommunications: Field Operation	RS
Business Administration Fastrack	CG, GC, MC, PC, SC
Business Management	SM
Business Micro Finance	SM
Business Office Assistant	GC
Business Technology Specialist	GW
Computer Applications	PC
Computer Applications: Microsoft Office Specialist/Advanced	MC
Computer Applications: Microsoft Office Specialist/Basic	MC
Court Reporting: Judicial	GW
Credit Counseling: Customer Service	RS
Debt Resolution: Customer Service	RS
Entrepreneurial Studies Level I ..	GC, GW, MC, PC, PV, RS, SC, SM
Entrepreneurial Studies Level II ..	GC, GW, MC, PC, PV, RS, SC, SM
General Business	CG, GC, MC, PC, RS, SC, SM
General Business Specialized	PV
Health Care Insurance: Customer Service	RS

Human Resources	
Management	CG, EM, GC, GW, MC, PC, RS, SC, SM
Human Services-Assistance: Public Assistance Eligibility	RS
Human Services-Specialist: Customer Service	RS
Human Services - Unemployment Insurance:	
Customer Service	RS
Insurance Studies	GC, MC, RS
International Trade	MC
Management	CG, EM, GC, MC, PC, PV, RS, SC, SM
Middle Management	GC, PV
Motor Vehicle: Customer Service	RS
Office Technology	GW
Organizational Leadership ...	CG, EM, GC, GW, MC, PC, PV, RS, SC, SM
Organizational Management ...	CG, EM, GC, GW, MC, PC, PV, RS, SC, SM
Personal Loans: Customer Service	RS
Project Management	MC
Public Relations	MC
Quality Customer Service	RS
Retail Management	CG, EM, GC, GW, MC, PC, RS, SC, SM
Retail Pharmacy: Customer Service	RS
Retail Sales Manager	MC
Small Business	
Management II	CG, EM, GC, GW, MC, PC, RS, SC, SM
Small Business Management	
Level I	CG, EM, GC, GW, MC, PC, RS, SC, SM
Small Business Start-Up	CG, PC, PV, RS, SM
Social Media Marketing	CG, EM, GC, GW, MC, PC, RS, SC, SM
Sports Management	PV, SC
Supervision	GC
Supervision and Management I	SM
Supervision and Management II	SM
Technology Support Analyst	MC
Utilities Customer Service	RS
Water Services: Customer Service	RS

EDUCATION AND TRAINING

Adult Learning and Development	RS
Bilingual Education/Dual Language Immersion (BE/DLI)	MC
Child and Family Organizations Management and Administration	GC, RS
Curriculum for Young Children	PC
Early Care Specialist	MC
Early Childhood Administration and Management	GC, RS
Early Childhood Classroom Management	PC
Early Childhood Education	EM, GC, PV
Early Childhood Education and Administration:	
Birth through Age Five	PC
Early Learning and Development	CG, MC, RS, SM
ESL Endorsement	MC
Family Child Care Management	RS, SM
Foundations of Early Childhood Education	CG, EM, GC, MC, PV, SM
Gifted Education	EM
Infant and Toddler Development	RS, SM
Instructional Assistance	MC, SM
Reading Specialist	MC
Senior Living Management	RS
Workforce Development and Community Re-Entry	RS
Workforce Development: Trim Plumbing	RS

ENVIRONMENTAL TECHNOLOGY

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Environmental Science Technology.....	GW
Geospatial Technologies	MC
Occupational Safety and Health Technology.....	GW
Wastewater Treatment	GW
Water Resources Technologies	GW
Water Treatment.....	GW

FINANCE

Bank Account Management: Customer Service.....	RS
Banking and Finance.....	PC
Licensed Residential Appraiser	MC
Real Estate: Prelicense	MC, SM
Residential Appraisal Trainee.....	MC

GOVERNMENT AND PUBLIC ADMINISTRATION

Public Administration	RS
Public Administration: Legal Services.....	RS
Tribal Development	SC

HEALTH SCIENCE

Advanced Behavioral Health Sciences.....	GC, SM
Advanced Emergency Medical Technology (Paramedic) ..	PC, PV
Basic Behavioral Health Sciences.....	GC, SM
Behavioral Sciences.....	GC, SM
Community Dental Health Coordination	RS
Community Emergency Response Team (CERT): Level I	PC
Computed Tomography	GW
Dental Assisting.....	PC
Dental Hygiene.....	MC, PC, RS
Developmental Disabilities Specialist.....	GC
Diagnostic Medical Sonography	GW
Diagnostic Medical Sonography: Vascular Technology	GW
Electroneurodiagnostic (END) Technology.....	GW
Emergency Communications and Deployment	PC
Fast Track Practical Nursing.....	GW
Foundations of Sports Medicine.....	RS
Health Information Technology.....	PC
Health Information: Long Term Care Settings	PC
Health Services Management	GW
Health Unit Coordinating/Patient Care Associate	GW
Healthcare Compliance	GW
Histologic Technology.....	PC
Hospital Central Service Technology.....	GW
Integrated Public Health	PV
Integrated Public Health: Health Administration	PV
Integrated Public Health: Health Education.....	PV
Integrated Public Health: Health Navigation.....	PV
Integrated Public Health: Mobile Integrated Health.....	PV
Laboratory Assisting	PC
Magnetic Resonance Imaging.....	GW
Medical Assisting.....	PC
Medical Billing and Coding: Physician-Based	PC
Medical Coding: Hospital-Based	PC
Medical Laboratory Sciences	PC
Medical Radiography.....	GW
Musculoskeletal Sonography.....	GW
Nuclear Medicine Technology.....	GW
Nurse Assisting.....	EM, GW, MC, PC, PV
Nursing	CG, EM, GC, GW, MC, PC, PV, SC
Nursing Refresher	GW, MC

Occupational Therapy Assistant.....	GW
Operating Room Nursing.....	GW
Phlebotomy.....	PC
Physical Therapist Assisting	GW
Polysomnographic Technology.....	GW
Practical Nursing	CG, EM, GC, GW, MC, PV, SC
Recovery Support.....	SM
Respiratory Care	GW
Speech Language Pathology Assistant.....	EM
Surgical Technology	GW

HOSPITALITY AND TOURISM

Airline Operations	RS
Airline Operations: Reservations and Ticketing Services.....	RS
Baking and Pastry	EM
Commercial Bakery and Pastry Arts.....	SC
Culinary Arts	SC
Culinary Fundamentals.....	SC, SM
Culinary Principles.....	EM
Culinary Studies	EM
Dietetic Technology	PV
Hospitality: Golf Management	SC
Hospitality: Hotel Management.....	SC
Hospitality: Meeting and Event Management.....	SC
Hospitality: Restaurant Management	SC
Hospitality: Spa and Wellness Center Management.....	SC
Hospitality: Tourism Development and Management	SC
Sustainable food Systems.....	RS

HUMAN SERVICES

Addictions and Substance Use Disorders	RS
Addictions and Substance Use Disorders Level I.....	RS
Addictions and Substance Use Disorders Level II.....	RS
Adolescent Studies.....	PC
Deaf Studies.....	PC
Exercise Science: Health, Fitness and Sports Performance.....	CG, GC, MC, PV, SC, SM
Family Development.....	PC
Family Life Education	RS
Family Support	PC
Group Fitness Instructor.....	MC
Interpreter Preparation	PC
Massage Therapy.....	PC
Mortuary Science.....	CG
Nutrition for Fitness and Wellness.....	GC, MC, SC
Parent Education	R
Personal Trainer	GC, MC
Personal Training Specialist	CG, GC, MC, PV, SC, SM
Professional Addictions Counseling	RS
Recreation Management	SC
Workforce Development: Foundations in Addictions and Substance Use Disorders.....	RS
Yoga Instruction.....	SC
Yoga Therapy	SC

INFORMATION TECHNOLOGY

Adobe Creative Suite in Business: Master Suite Applications Specialist.....	MC
Adobe Creative Suite in Business: Print and Web Applications Specialist.....	MC, PV

Adobe Creative Suite in Business: Production Applications Specialist.....	MC, SM	Microsoft Desktop Support Technology.....	EM, GC, PV
Adobe Foundations.....	GC, MC, PV, SM	Microsoft Networking Technology.....	EM, GC, GW
Advanced Computer Usage and Applications.....	RS	Microsoft Server Administration.....	EM, GC
Advanced Web Designer.....	MC	Microsoft Technical Specialist.....	EM, GW
Business Applications.....	CG	Mobile Apps Programming.....	RS, SM
Business Applications Specialist.....	CG	Motion Picture/Television Production.....	SC
Business Office Computer Applications.....	GC	Multimedia Technology.....	MC
CAD Application.....	GC	Network Administration.....	SC
Comic and Sequential Art.....	PC	Network Administration: Cisco Network Professional.....	MC, SM
Computer and Information Technologies.....	SM	Network Administration: Microsoft Windows Server.....	CG, GW, MC, SM
Computer and Networking Technology.....	GC	Network and Cyber Fundamentals.....	GW, SM
Computer Applications Technology.....	EM	Network Maintenance.....	GC
Computer Hardware and Desktop Support.....	CG, EM	Networking Administration: Cisco.....	CG, EM, GC, GW, SM, MC
Computer Hardware and Network Support.....	SC	Networking System Administration.....	MC
Computer Information Systems.....	GC, GW, PC	Networking Technology: Cisco.....	CG, EM, GC, GW
Computer Information Systems Technologies.....	SC	Networking: Design and System Support.....	RS
Computer Information Technology.....	PV	Oracle Database Operations.....	CG
Computer Networking Technology.....	PV	Production Film.....	SC
Computer Systems Maintenance.....	PV	Production Television.....	SC
Computer Technology.....	RS	Programming.....	EM, RS, SM
Computer Usage and Applications.....	RS	Programming and System Analysis.....	CG, EM, GC, MC, PC, PV, RS, SC
Data Analytics.....	SC	Programming and System Analysis Level I.....	CG, EM, GC, MC, PC, PV, RS, SC
Database Development.....	SC	Programming and System Analysis Level II.....	CG, EM, GC, MC, PC, PV, RS, SC
Desktop Publishing.....	EM	Screenwriting.....	SC
Digital Arts.....	MC	Web Application Development.....	SM
Digital Arts: Digital Illustration.....	MC	Web Design.....	CG, EM, GC, PC, PV, SM
Digital Arts: Digital Photography.....	MC	Web Design Technologies.....	SC
Digital Arts: Graphic Design.....	MC	Web Design: User Interface.....	RS
Digital Cinema Arts.....	GC	Web Designer.....	MC
Digital Design.....	RS	Web Developer.....	EM, GC, MC, PC, PV
Digital Media/Multimedia Technology.....	MC	Web Development.....	SC
Digital Photography.....	PC	Web Development and Graphic Design.....	EM, SM
Editing.....	SC	Web Server Administrator.....	MC
Game Technology.....	GC, MC		
Healthcare Technology Systems.....	GC, PV		
Information Security.....	GC		
Information Security Technology.....	GC		
Information Technology.....	CG		
Information Technology Support.....	SM		
Information Technology: Android/iOS Programming.....	SM		
Information Technology: Cisco Networking.....	MC, SM		
Information Technology: Computer Applications Specialist.....	SM		
Information Technology: Microsoft Programming.....	SM		
Information Technology: Network and Cyber Security.....	GW, SM		
Information Technology: Network Server.....	SM		
Information Technology: Programming and Mobile Development.....	SM		
Information Technology Support.....	SM		
iOS Application Development.....	CG, EM, GC, MC, PC, PV, RS, SC, SM		
IT and Power Systems Security.....	EM		
IT Security Associate.....	EM		
Linux Associate.....	CG, EM, MC		
Linux Networking Administration.....	EM, GC, MC		
Linux Professional.....	CG, EM, GC, GW, MC, PC, PV, SC, SM		
Media Arts: Computer Art/Illustration.....	CG, PC		
Media Arts: Digital Animation.....	PC		
Media Arts: Digital Imaging.....	CG, PC		
Media Arts: Web Design.....	PC		
Microsoft Certified Information Technology Professional (MCITP) Administrator.....	GW		
		LAW, PUBLIC SAFETY, CORRECTIONS, AND SECURITY	
		Administration of Justice.....	GC, EM, GC, MC, PC, PV, RS, SC, SM
		Administration of Justice Studies.....	CG, EM, GC, GW, MC, PC, PV, RS, SC, SM
		Advanced Corrections.....	RS
		Basic Corrections.....	RS
		Corrections.....	RS
		Crime Scene Investigation.....	CG, GC, MC, PC, PV, SC, SM
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		Driver Operator.....	GC, MC, PC, PV
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		Emergency Response and Operations.....	GC, MC, PC, PV
		Fire Officer Leadership.....	GC, MC, PC, PV
		Fire Science.....	GC, MC, PC, PV
		Fire Service Professional.....	PV
		Firefighter Operations.....	GC, MC, PC, PV
		Forensic Investigation.....	MC
		Forensic Science.....	CG, GC, MC, PC, PV, SC, SM
		Hazardous Materials Response.....	PC
		Homeland Security.....	CG, GC, GW, MC, PC, PV, RS, SM

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Juvenile Corrections.....	RS
Law Enforcement.....	CG, EM, GC, MC, PC, PV, RS, SC, SM
Law Enforcement Field Training.....	RS
Law Enforcement Investigator.....	GC
Law Enforcement Technology.....	RS
Law Enforcement Technology Academy.....	RS
Law Enforcement Training Academy.....	CG, GC
Legal Studies.....	CG, EM, GC, MC, PC, PV, RS, SC, SM
Paralegal.....	RS
Paralegal Studies.....	PC
Paramedic.....	GC, MC, PC, PV
Police Science.....	MC
Public Safety Leadership.....	RS
Public Safety Technology.....	RS
Tribal Court Justice Studies.....	SC
Victimology.....	CG, GC, MC, PC, PV, RS, SC, SM

MANUFACTURING

Applied Electrical Technologies.....	RS
CAD Fundamentals.....	GC
CAD Technology.....	GC
CAM Systems Programming.....	MC
CNC Machining I.....	MC
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Electric Utility Technology.....	CG
Electrical Systems Technology.....	EM
Electrical Technology.....	GW
Electrical Technology - Commercial Wiring.....	GW
Electrical Technology - Industrial Wiring.....	GW
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Electronics Technology.....	MC
Energy and Industrial Technology.....	EM
Industrial Design Technology.....	GW
Industrial Design Technology: Design Specialist: SolidWorks.....	GW
Industrial Manufacturing and Emerging Technologies.....	EM
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Lineman Technology Level III.....	RS
Lineman Technology Level IV.....	RS
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Manufacturing Technology.....	MC
Mechanical Systems Technology.....	EM
Mechatronics.....	EM
Meter Technology.....	CG
Nuclear Power Technology.....	EM
Production Technology.....	GW
Production Technology: CNC Technology.....	GW
Production Technology: Quality Assurance.....	GW
Salt River Project Relay Apprentice.....	MC
Welding.....	MC
Workforce Development: Electrical Level I.....	RS
Workforce Development: Electrical Level II.....	RS

MARKETING

Licensed Residential Appraiser.....	MC
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Marketing.....	GC, GW, MC, PC, PV, SC, SM
Marketing and Sales.....	GC, GW, MC, PC, PV, SC

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS

Aircraft Maintenance Technology.....	CG
Aircraft Maintenance Technology (Part 147).....	CG
Airframe Maintenance (Part 147).....	CG
Airway Science Technology, Flight Emphasis.....	CG
Biotechnology.....	MC
Biotechnology and Molecular Biosciences.....	GC
Certified Flight Instructor Instrument Airplane Rating.....	CG
Engineering Technology.....	CG, GC, EM, SM
Flight Technology.....	CG
Food Science and Technology I.....	SM
Food Science and Technology II.....	SM
Nanotechnology.....	RS
Powerplant Maintenance (Part 147).....	CG
Unmanned Aircraft Systems.....	CG

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Automated Industrial Tech I.....	EM, MC
Automated Industrial Tech II.....	EM, MC
Automotive Automatic Transmission and Transaxle.....	CG, GW
Automotive Brake Systems.....	GC, GW, MC
Automotive Chassis.....	GC, GW, MC
Automotive Drive Train.....	GC, GW, MC
Automotive Electrical, Heating, Ventilation and Air Conditioning Systems.....	GC, GW, MC
Automotive Electronic/Electrical Systems.....	GC, GW, MC
Automotive Engine Performance.....	GC, GW, MC
Automotive Engine Repair.....	GC, GW, MC
Automotive Engine Repair and Performance.....	GC, GW, MC
Automotive Heating, Ventilation and Air Conditioning Systems.....	GC, GW, MC
Automotive Maintenance and Light Repair.....	GC, GW, MC
Automotive Manual Drive Train and Axles.....	GC, GW, MC
Automotive Service.....	GC, GW, MC
Automotive Steering and Suspension.....	GC, GW, MC
Basic Automotive Maintenance.....	GC, GW, MC
Brakes, Alignment, Suspension and Steering.....	MC
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Accounting (ACC)

ACC105 **3 credits** **3 periods**
Payroll, Sales and Property Taxes

Tax reporting for payroll, sales, and personal property. Requisites: Prerequisites: None.

ACC107 **4 credits** **5 periods**
Bookkeeping Theory and Practice

Fundamental accounting practices; application to retail stores, professional firms, and personal service operations. Prerequisites: None.

ACC109 **3 credits** **3 periods**
Accounting Concepts

Introduction to accounting with emphasis on analysis and applications of financial information. Prerequisites: None. GBS151 and reading ability equivalent to RDG100 suggested but not required.

ACC111 **3 credits** **3 periods**
Accounting Principles I

Fundamental theory of accounting principles and procedures. Prerequisites: None.

ACC112 **3 credits** **3 periods**
Accounting Principles II

Continuation of the fundamental theory of accounting principles and procedures, including interpretation of general purpose financial statements. Prerequisites: ACC111 with a grade of C or better, or permission of department/division.

ACC115 **2 credits** **3 periods**
Computerized Accounting

Mastery of a microcomputer accounting system including the general ledger, accounts receivable, accounts payable and payroll. Prerequisites: A grade of C or better in ACC107, or higher level accounting course, or permission of instructor.

ACC121 **3 credits** **3 periods**
Income Tax Preparation

Preparation of and practical experience in preparing individual federal income tax returns using computer software. Prerequisites: None.

ACC211  **ACC2201** **3 credits** **3 periods**
Financial Accounting

Introduction to theory and practice in the preparation and interpretation of general purpose financial statements. Prerequisites: None.

ACC212  **ACC2202** **3 credits** **3 periods**
Managerial Accounting

Development and analysis of accounting information for managerial planning and control. Prerequisites: A grade of C or better in (ACC111 and ACC112), or ACC211, and (CIS105 or permission of department/division).

ACC216 **3 credits** **3 periods**
Fraud Examination

Fundamental theory of fraud examination methodology to detect and prevent accounting fraud. Prerequisites: A grade of C or better in (ACC230 or ACC112 or ACC211) or permission of Department

or Division

ACC219 **3 credits** **3 periods**
Intermediate Accounting I

Theory and practice applicable to determination of asset values, liabilities, and related problems of income determination. Prerequisites: ACC212 or ACC240 with a grade of C or better, or permission of Department/Division.

ACC220 **3 credits** **3 periods**
Intermediate Accounting II

Continuation of the theory and practice applicable to liabilities and owner's equity; special problems and financial reporting. Prerequisites: ACC219 with a grade of C or better, or permission of Department/Division.

ACC221 **3 credits** **3 periods**
Tax Accounting

Preparation of and accounting procedures for individuals; introduction to partnerships and corporate tax structures. Prerequisites: A grade of C or better in ACC111 or ACC211 or permission of department/division.

ACC230 **3 credits** **3 periods**
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.

ACC240 **3 credits** **3 periods**
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: A grade of C or better in ACC230.

ACC260 **3 credits** **3 periods**
Certified Bookkeeper (CB) Preparation

Fundamental accounting practices including accrual and deferral adjustments, correcting common transaction recording errors, bank reconciliations and adjusting entries. Includes payroll accounting and related Federal and State payroll law requirements. Accounting for depreciation for financial and tax accounting purposes covered. Inventory valuation methods. Includes calculating, recording, and reporting under generally accepted accounting principles (GAAP). Preventive internal control procedures to detect organizational fraud, theft, and embezzlement covered. Prerequisites: A grade of C or better in ACC111, or ACC211, or (bookkeeping experience and permission of Instructor).

Arabic Humanities (AHU)

AHU245 **3 credits** **3 periods**
Arabic Culture and Islam

A survey of Arab heritage in the Arab world (Middle East). Cultural and social institutions and their contribution to the development of the region and its heritag. Prerequisites: None.

American Indian Studies (AIS)

AIS105 **3 credits** **3 periods**
Introduction to American Indian Studies

Introduction to political, economic, and social structures of American Indian Nations. Provides overview of American Indian tribal cultures prior to contact, the impact of European contact, and the influence of western social systems on tribal nations. Prerequisites: None.

Administration of Justice (AJS)

AJS101  **AJS1101** **3 credits** **3 periods**
Introduction to Criminal Justice

An introduction to crime and society's responses to it. Examines the nature and causes of crime, the criminal law, constitutional safeguards, and the organization and operation of the criminal justice system including the police, courts, jails, prisons, probation and parole departments, and community corrections agencies. Covers the history of the criminal justice system, terminology and career opportunities. Prerequisites: None.

AJS107 **3 credits** **3 periods**
Patrol Procedures

Specialized areas of the patrol function, including responding to crowds, riots, bomb threats, intoxication, hazardous materials, fires, and domestic disputes. Partially fulfills Arizona POST (Peace Officer Standards and Training) requirements for proficiency skills academy attendance. Prerequisites: None.

AJS109 **3 credits** **3 periods**
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 definition of crimes, common defenses utilized. Includes specific offenses and the essential elements of each offense. Required in AJS curriculum. Prerequisites: None.

AJS110 **3 credits** **3 periods**
Law and Legal Review I

In-depth study of the Arizona laws governing arrest by peace officers, as well as, an intensive study of the Arizona substantive criminal law code (ARS Title 13). Focuses on specific sections of ARS Title 4 and ARS Title 8, as they apply to peace officers in Arizona. Partially fulfills the Arizona POST (Peace Officer Standard and Training) Board requirements for Proficiency Skills Academy attendance. Prerequisites: None.

AJS113 **3 credits** **3 periods**
Criminal Justice Crime Control Policies and Practices

Focus on changing the distribution of crime opportunities rather than offender motivation. Topics include application of situational crime prevention strategies, problem-oriented crime control approaches, hot spots policing, defensible space, and crime prevention through defensible space. Prerequisites: None.

AJS119 **3 credits** **4 periods**
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.

AJS123 **3 credits** **3 periods**
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. Explores issues of how media/social media shape ethics. Encourages critical thinking and value decision making in criminal justice system situations. Prerequisites: None.

AJS139 **3 credits** **3 periods**
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.

AJS140AA **1 credit** **1 period**
Patrol Rifle Concepts

Pre-law enforcement employment course relating to how rifles are used in the patrol function. Prerequisites: None.

AJS140AB **1 credit** **1 period**
Precision Rifle Concepts

Pre-law enforcement employment class relating to how precision rifles are used in the law enforcement function. Prerequisites: None.

AJS148 **3 credits** **3 periods**
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.

AJS151 **1 credit** **1 period**
Firearms I

Moral aspects, legal provisions, safety precautions and restrictions covering the use of firearms, and the firing of sidearms. Prerequisites: None.

AJS151AA **.5 credit** **.5 period**
Arizona Concealed Weapon Permit

A course meeting the requirements of the State of Arizona for issuance of a concealed weapon permit, including the responsibilities of the firearm owner regarding safety, legal aspects of using force and a demonstration of proficiency. Prerequisites: Must be legally able to possess a firearm.

AJS153 **1 credit** **1 period**
Firearms II/Handguns

Advanced familiarization with handguns. Variations of basic shooting stance. Legal and moral repercussions of self-defense. Includes range practice. Prerequisites: A grade of C or better in AJS151 or equivalent certified firearms training as reviewed by the Department.

AJS154 **Firearms III/Long Weapons** **1 credit** **1 period**

Familiarization with different types of long weapons and associated ammunition. Emphasis on safety techniques for use and storage of weapons. Limited use of range for practice. Prerequisites: None.

AJS156 **Home and Vehicle Personal Defense** **1 credit** **1 period**

Development of personal safety plans, confrontation avoidance, and effective self-defense tactics. Legal and safe use of firearms. Includes range practice. Prerequisites: A grade of C or better in AJS151 or permission of Instructor.

AJS162 **Domestic Violence** **3 credits** **3 periods**

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.

AJS191 **Hate Crimes** **3 credits** **3 periods**

Explores the causes, incidence rates and forms of hate crimes in the United States and other countries. Studies hate crime laws and the Constitution. Examines the impact of hate crimes on society, culture and the law. Considers societal responses to combat and prevent hate crimes. Prerequisites: None.

AJS192 **Serial Killers And Mass Murderers** **3 credits** **3 periods**

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.

AJS195 **International And Domestic Terrorism** **3 credits** **3 periods**

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.

AJS200 **Current Issues in Criminal Justice** **3 credits** **3 periods**

Examines current issues, techniques and trends in the Criminal Justice System. Prerequisites: None.

AJS201 **Rules of Evidence** **3 credits** **3 periods**

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, recordings and electronic surveillance; corpus delicti; opinion evidence, circumstantial evidence, evidential privileges. Prerequisites: None.

AJS205 **Effective Communication and Report Writing in Criminal Justice** **3 credits** **3 periods**

Overview of effective communication for criminal justice agencies. Covers the communication process and flow. Written communication emphasized with report writing, including 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.

AJS210 **Constitutional Law** **3 credits** **3 periods**

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.

AJS212 **Juvenile Justice Procedures** **3 credits** **3 periods**

Examines the history and development of juvenile justice theories, procedures, and institutions. Prerequisites: None.

AJS213 **Evidence Technology/Fingerprints** **3 credits** **3 periods**

Fundamental principles and processes of fingerprints to include identification, interpretation, and classification. In addition, students will apply fingerprinting latent fingerprint developing, preservation of evidence and the chain of custody. Prerequisites: None.

AJS213AB **Fingerprint Classification I** **1 credit** **1 period**

Identification of typelines, deltas, and cores. Rules for classification of loops, whorls, and arches. Prerequisites: None.

AJS215 **Criminalistics: Physical Evidence** **3 credits** **3 periods**

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.

AJS218 **Special Investigations: Drugs** **3 credits** **3 periods**

Advanced course in the specialized investigation area of drug enforcement. Emphasis on the pharmacological properties of abused drugs, field testing, evidence requirements, and specialized investigation techniques utilized in narcotic and dangerous drug investigations. Prerequisites: None.

AJS219 **Crime Scene Technology: Physical Evidence** **3 credits** **3 periods**

Scientific analysis and examination of physical evidence with emphasis on scientific investigation, recognition, collection, and preservation of evidence. Fingerprints, shoe prints, tool marks, firearms identification, paint chips and arson. Prerequisites: None.

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	AJS290BB Police Report Writing Writing clear, concise, and accurate reports with an emphasis on sentence and paragraph construction, grammar, and punctuation. Prerequisites: None.	1 credit	1 period
AJS230 The Police Function Theories of procedures and methods of operations of public police 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	AJS290BJ Accident Investigation I Skills and concepts necessary to conduct an adequate traffic accident investigation. Prerequisites: None.	1 credit	1 period
AJS240 The Correction Function Examines the history and development of correctional theories and institutions. Prerequisites: None.	3 credits	3 periods	AJS298 Special Projects See page 234.	1-3 credits	
AJS255 Crime, Law, and Mental Health An interdisciplinary course that draws from the fields of psychology, sociology, criminology, and law. Covers the distinct and interfacing roles of mental health professionals and the legal justice system when dealing with a mentally ill criminal offender. Other topics covered include mental health issues within communities, role of clinical assessment, civil and criminal commitment, civil competencies, confidentiality of clinicians, rights and refusal to treatment, and informed consent. Prerequisites: None.	3 credits	3 periods	<u>Alternative Energy (AEN)</u>		
AJS58 Victimology and Crisis Management Victimology, the criminal justice system, techniques of crisis intervention, and the importance of a multicultural and global perspective. Includes sexual assault, family violence, post-traumatic stress disorder, the role of substance abuse, effective coping skills, appropriate community resources and the responsiveness of the justice system. Prerequisites: None.	3 credits	3 periods	AEN100 Survey of Alternative Energy Basic principles and history of alternative energy sources. Alternative energy sources highlighted include solar photovoltaic, solar thermal, wind, hydropower and geothermal. Emphasis on local power facilities utilizing alternative energy sources. Prerequisites: None.	2 credits	2 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	<u>Arabic (ARB)</u>		
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	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
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	ARB102 Elementary Arabic II A continuation of ARB101. Continued study of grammar and vocabulary, with emphasis on pronunciation and speaking skills. Prerequisites: A grade of C or better in ARB101. Completion of prerequisites within the last three years is required.	4 credits	5 periods
			ARB201 Intermediate Arabic I Review of essential grammar of the Arabic language and study of the Arabic culture. Continued practice and development of reading, writing, and speaking skills. Emphasis on both fluency and accuracy in the spoken language. Prerequisites: A grade of C or better in ARB102 or permission of Department or Division. Completion of prerequisites within the last three years is required.	4 credits	5 periods
			ARB202 Intermediate Arabic II Advanced grammatical structures in Arabic. Further development of language skills with emphasis on speaking the language. Prerequisites: A grade of C or better in ARB201 or permission of Department or Division. Completion of prerequisites within the last three years is require.	4 credits	5 periods
			ARB296WC Cooperative Education Work-college experiences that involve the combined efforts of educators and employers to accomplish an outcome related to the	3 credits	15 periods


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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 students academic or career goals (students present job may qualify or permission of instructor. Corequisites: Must be concurrent in at least one class which is related to student's major or career interest or with permission of the Instructor.

Art Humanities/Art History (ARH)

ARH100 **3 credits** **3 periods**
Introduction to Art

Understanding and enjoyment of art and visual culture through study of two-dimensional and three-dimensional works of art, design elements, media and processes, and cultural contexts. Emphasis on contemporary topics and cultural diversity in the arts. Prerequisites: None.

ARH101  **ART1101** **3 credits** **3 periods**
Prehistoric Through Gothic Art

History of art from prehistoric through medieval period. Prerequisites: None.

ARH102  **ART1102** **3 credits** **3 periods**
Renaissance Through Contemporary Art

History of art from around the world from the Renaissance through contemporary period. Prerequisites: None.

ARH112 **3 credits** **3 periods**
History of Modern Art

Development of and significant aspects of modern art since the mid-nineteenth century. Emphasis on modern art's relationship to socio-political and aesthetic developments, new media and the rise of mass culture. Prerequisites: None.

ARH115 **3 credits** **3 periods**
History of Photography

Survey of history of photography from beginning to present. Emphasizes medium's impact upon society and other visual arts. Technical developments, aesthetic concerns, and individual photographers studied. Prerequisites: None.

ARH298 **1-3 credits**
Special Projects

See page 229.

Drawing (ART)

ART111  **ART1111** **3 credits** **6 periods**
Drawing I

Fundamental principles of drawing. Emphasis on composition and facility in objective and expressive representation, using variety of drawing media. Prerequisites: None.

ART122 **3 credits** **6 periods**
Drawing and Composition II

Emphasis on composition and exploration of drawing media. Prerequisites: A grade of C or better in ART111.

ART211 **3 credits** **6 periods**
Drawing and Composition III

Advanced development of drawing skill with emphasis on compositional theory. Prerequisites: A grade of C or better in ART122 or permission of instructor.

ART222 **3 credits** **6 periods**
Drawing and Composition IV

Further study of drawing techniques with emphasis on individual problems and techniques. Prerequisites: A grade of C or better in ART211 or permission of instructor.


Art Design Basics (ART)

ART112  **ART1112** **3 credits** **6 periods**
Two-Dimensional Design

Study of fundamental elements and principles of two-dimensional design. Prerequisites: None.

ART113 **3 credits** **6 periods**
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: None.

ART115  **ART1115** **3 credits** **6 periods**
Three-Dimensional Design

Fundamental principles of three-dimensional design. Prerequisites: None.

ART170 **3 credits** **6 periods**
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: A grade of C or better in ART100, ADA/ART169 or permission of Instructor.

Life Drawing (ART)

ART116 **3 credits** **6 periods**
Life Drawing I

Use of form, structure and anatomy of draped and undraped human figure to develop basic principles of sound draftsmanship. Prerequisites: None.

ART117 **3 credits** **6 periods**
Life Drawing II

Further study of form, structure, and anatomy of the draped and undraped human figure with emphasis on composition. Prerequisites: A grade of C or better in ART116.

ART118 **3 credits** **6 periods**
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: A grade of C or better in ART116 or permission of Instructor.

<p>ART216 3 credits 6 periods Life Drawing III Advanced creative study from model in various painting and drawing media. Prerequisites: A grade of C or better in ART117 or permission of instructor.</p>	<p>ART217 3 credits 6 periods Life Drawing IV Further development of skills in expressive drawing materials and techniques as applied to finished drawings of the human form. Prerequisites: A grade of C or better in ART216 or permission of instructor.</p>	<p>ART137 3 credits 6 periods Alternative Photographic Processes Emphasis on development of alternative photographic processes including technique, aesthetics, and creative imagery. Exploration of various types of non-silver photographic processes including cyanotype, Van Dyke, Polaroid imaging, and others. Prerequisites: None.</p>
<u>Comics and Cartooning (ART)</u>		
<p>ART119 3 credits 3 periods Penciling for Comic and Sequential Art Study of fundamental elements and principles of two-dimensional design. Prerequisites: None.</p>	<p>ART120 3 credits 3 periods Inking for Comic and Sequential Art Development of inking materials and techniques used in sequential art. Emphasis on the types of tools used in the industry and the various means of employing them. Understanding the duties of the inker and the process of computer finishing. Prerequisites: None.</p>	<p>ART138 3 credits 6 periods Commercial Photography I Basic techniques of lighting, camera work, and reproduction of commercial photography. Cooperation with commercial art community. Prerequisites: A grade of C or better in ART131, or ART142, or permission of Instructor. Course Notes: Digital camera with manual setting required.</p>
<p>ART221 3 credits 3 periods Comics Creation Development of a complete sequential comic, using all comics skills from beginning to end. Process includes scripting, penciling, inking, coloring or toning, lettering, and printing for publication. Prerequisites: None.</p>	<p>ART140 3 credits 6 periods Portrait Photography Fundamentals of portrait photography. Basic techniques of lighting, posing, design, and digital workflows applicable to the industry. Theory and practices of a portrait photography business. Prerequisites: A grade of C or better in ART131, or ART142, or permission of Instructor. Course Notes: Digital camera with manual settings required.</p>	
<u>Photography (ART)</u>		
<p>ART131 3 credits 6 periods Photography I Basic photographic principles and techniques. Basic camera functions and controls. Experience in the image-making process by creating and editing photographs for various display environments. Introduction to the photographic aesthetic and photography's role in society. Prerequisites: None. Course Notes: Camera required.</p>	<p>ART142 3 credits 6 periods Introduction to Digital Photography Fundamentals of digital photography. Includes camera operations, exposure techniques, introduction to digital output, and theory of digital photography. Prerequisites: None. Course Notes: Digital camera required.</p>	<p>ART143 3 credits 6 periods Intermediate Digital Photography Intermediate theory and techniques of digital photography. Aesthetic awareness and personal expression from image capture through intermediate techniques in the digital darkroom. Introduction to high-resolution digital output. Prerequisites: A grade of C or better in ART142 or permission of instructor. Course Notes: Digital camera with manual setting required.</p>
<p>ART132 3 credits 6 periods Photography II Advanced camera and darkroom techniques. Aesthetic awareness with personal expression. Prerequisites: A grade of C or better in ART131 or permission of instructor.</p>	<p>ART234 3 credits 6 periods Color Photography I Basic principles of color theory, camera and input and output techniques using slide film or digital photography. Prerequisites: A grade of C or better in ART131 or ART142 or permission of Instructor. Course Notes: Film or digital camera is required.</p>	<p>ART237 3 credits 6 periods Fashion Photography Practical application of photographic techniques within the fashion industry. Includes the photographing of models, garments, and accessories. Prerequisites: A grade of C or better in (ART131 OR ART142) OR permission of instructor. Digital Single Lens Reflex (DSLR) camera is required. ART237 may be repeated for credit.</p>
<p>ART133 3 credits 6 periods Photography III Refinement of aesthetic and technical aspects producing convincing images of highest quality. Prerequisites: A grade of C or better in ART132 or permission of Instructor.</p>	<p style="text-align: center;"><u>Sculpture (ART)</u></p>	
<p>ART134 3 credits 6 periods Photography IV Emphasis on personal statement and style. Related graphic art forms explored. Development of portfolio. Prerequisites: A grade of C or better in ART133 or permission of instructor.</p>	<p>ART151 3 credits 6 periods Sculpture I Exploration of sculptural form and expression in clay, plaster,</p>	

¹ Final Term Summer 2019, ² Effective Term Fall 2019

stone, wood and metal. Prerequisites or Corequisites: ART115 or permission of instructor.

ART152 **Sculpture II** **3 credits** **6 periods**

Emphasis on control of sculptural media. Prerequisites: A grade of C or better in ART151.

ART251 **Sculpture III** **3 credits** **6 periods**

With emphasis on attention to individual problems and techniques. Prerequisites: A grade of C or better in ART152.

ART252 **Sculpture IV** **3 credits** **6 periods**

Advanced sculpture problems and professional practices. Prerequisites: A grade of C or better in ART251.

Glass (ART)

ART155 **Glass Fusing and Slumping I** **3 credits** **6 periods**

Introduction to the basics involved in glass fusing and slumping. The concepts of glass, glass fusing, and glass slumping will be covered with hands-on experience using a variety of techniques to create finished glass projects such as jewelry, dishes, frames, and door bells. Prerequisites: None. Course Notes: ART155 may be repeated for a total of twelve (12) credits.

ART156 **Glass Fusing and Slumping II** **3 credits** **6 periods**

Further study in the area of glass fusing and slumping. Advanced techniques including Pate-de-Verre, Pattern Bars, watchbands, bracelets, and patterned dishes. Prerequisites: A grade of C or better in ART155. Course Notes: ART156 may be repeated for a total of twelve (12) credits.

ART256 **Glass Fusing and Slumping III** **3 credits** **6 periods**

Further study in the area of glass fusing and slumping with emphasis on advanced techniques and design considerations, such as, plates designed using different techniques, weaving or strip glass, and combining previous techniques to create projects. Prerequisites: A grade of C or better in ART156. Course Notes: ART256 may be repeated for a total of fifteen (15) credits.

ART257 **Glass Fusing and Slumping IV** **3 credits** **6 periods**

Further study of advanced glass fusing and slumping including problems, professional practices, personal expression and experimental research into various techniques. Prerequisites: ART256. Course Notes: A grade of C or better in ART257 may be repeated for a total of fifteen (15) credits.

Ceramics (ART)

ART161 **Ceramics I** **3 credits** **6 periods**

Introduction to ceramic materials and techniques of hand construction, decorating, glazing and throwing on potters' wheel. Prerequisites: None.

ART162 **Ceramics II** **3 credits** **6 periods**

Major emphasis on wheel throwing, glaze making and decorating techniques. Prerequisites: A grade of C or better in ART161.

ART261 **Ceramics III** **3 credits** **6 periods**

Emphasis on wheel throwing skill and individual style development. Prerequisites: A grade of C or better in ART162.

ART262 **Ceramics IV** **3 credits** **6 periods**

Experimental work in clays and glazes. Prerequisites: A grade of C or better in ART261.

Watercolor (ART)

ART165 **Watercolor Painting I** **3 credits** **6 periods**

Transparent and Gouache watercolor painting. Prerequisites: A grade of C or better in (ART111 and ART112) or permission of instructor.

ART166 **Watercolor Painting II** **3 credits** **6 periods**

Painting in water soluble media. Emphasis on individual techniques and design. Prerequisites: A grade of C or better in ART165.

ART265 **Watercolor Painting III** **3 credits** **6 periods**

Continuation of watercolor painting with emphasis on control and expression. Prerequisites: A grade of C or better in ART166.

ART266 **Watercolor Painting IV** **3 credits** **6 periods**

Advanced problems directed toward more personal expression. Prerequisites: A grade of C or better in ART265.

Painting (ART)

ART167 **Painting I** **3 credits** **6 periods**

Exploration of technical and expressive possibilities of various painting media in easel painting. Prerequisites: A grade of C or better in (ART111 and ART112) or permission of instructor.

ART168 **Painting II** **3 credits** **6 periods**

Continued refinement of painting skills and investigation of new possibilities in painting. Prerequisites: A grade of C or better in ART167 or permission of instructor.

ART263 **Figure Painting** **3 credits** **6 periods**

Study of the nude and clothed figure in painting with special attention upon relevant color palettes, direct and indirect figurative painting techniques, and development of anatomical knowledge and compositional structure. Students will draw upon both historical and contemporary modes of depicting the figure to develop a personalized approach to figure painting. Live models, photographs, drawings, "Planes of the Head" models, and the studio skeleton will be used as the basis of projects. Prerequisites: A

grade of C or better in ART167 or permission of Instructor. Course Notes: Previous experience drawing from the live model recommended. Oil paint is the preferred medium but students may work in other painting media if they have previous experience. ART263 may be repeated for credit.

ART267 **3 credits** **6 periods**

Painting III

Development of materials and techniques of painting. Individual problem-solving. Prerequisites: A grade of C or better in ART168 or permission of instructor.

ART268 **3 credits** **6 periods**

Painting IV

Advanced problem in painting. Study with greater emphasis on personal expression. Prerequisites: A grade of C or better in ART267 or permission of instructor.

Jewelry (ART)

ART171 **3 credits** **6 periods**

Jewelry I

Fundamentals of jewelry making. Covers hand formed methods, including cutting, shaping, forging, soldering, and lost wax technique. Prerequisites: None.

ART172 **3 credits** **6 periods**

Jewelry II

Further refinement of personal expression using techniques and design concepts of ART171. Prerequisites: A grade of C or better in ART171.

ART271 **3 credits** **6 periods**

Jewelry III

Emphasis on advanced jewelry design techniques and practices. Prerequisites: A grade of C or better in ART172.

ART272 **3 credits** **6 periods**

Jewelry IV

Emphasis on expanding repertoire of advanced jewelry design techniques and practices. Prerequisites: A grade of C or better in ART271.

Graphic Design (ART)

ART100 **1 credit** **2 periods**

Introduction to Computer Graphic Art

Conceptualization, visualization, and production of art using the computer. Prerequisites: None.

ART248 **3 credit** **6 periods**

Graphic Design Self Promotion

Defining career goals, and developing a self-promotional marketing plan to enter the workplace, including a resume, business card, leave behind, social media presence, interactive portfolio and printed portfolio. Understand business ethics and etiquette, artist's rights, copyright laws and contractual agreements, and develop networking, interview and communication skills. Prerequisites: None.

ART169 **3 credits** **6 periods**

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.

ART181 **3 credits** **6 periods**

Graphic Design I

Basic understanding of design principles and the stages of graphic design, with an emphasis on final product and presentation. Prerequisites: A grade of C or better in ART100 or permission of Instructor.

ART182 **3 credits** **6 periods**

Graphic Design II

Utilizing graphic design essentials of typography, contrast and layout to develop design solutions to problems in consumer advertising, typography and structure. Prerequisites: A grade of C or better in ART100 or permission of Instructor.

ART280 **3 credits** **6 periods**

Graphic Design Studio

Advanced design course for graphic design majors allowing continuation in a subject field. Prerequisites: Any 100 or 200 level graphic arts courses in the subject matter area, or permission of Instructor. Course Notes: ART280 may be repeated for a total of six (6) credit hours.

ART297AA **1 credit** **1 period**

ART297AB **2 credits** **2 periods**

ART297AC **3 credits** **3 periods**

Computer Graphic Design Internship

Digital design, development, and photographic imaging work experience in a business or industry. 80 hours of designated work. Prerequisites: Permission of Department or Division.

Computer Animation (ART)

ART184 **3 credits** **6 periods**

Computer Animation

The art of animation (animated sequences, special effects, titles, etc.) using the computer. Construction characters, background graphics, color, scaling, storyboard, cells, timing, editing, and surface rendering. Screening and discussion of selected animated short films and videos. Prerequisites: A grade of C or better in ART100, or ART111, or ART116, or permission of instructor.

ART185 **3 credits** **6 periods**

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/MMT 184AC or permission of the instructor.

ART200 **3 credits** **6 periods**

Animation and Interactivity

Animation and object-oriented programming concepts and techniques using industry standard authoring tools applied by the creative industry to animation productions, and interactive media.

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Introduction to animation and object-oriented programming concepts and techniques using industry standard authoring tools. Includes tools used by the creative industry for animation productions and interactive media. Prerequisites: A grade of C or better in ART100 or permission of Instructor.

ART240 **3 credits** **6 periods**
Cinematography and Directing for 3D Animation

Essential skills, concepts and the use of the virtual camera in 3D animation environment: Planning, pre-production, storyboards and pre-visualization using real-world camera principles is combined with rendering, sound and postproduction in a non linear environment. Prerequisites: A grade of C or better in ADA/ART/MMT184, or TCM/VPT108, or permission of Instructor.

ART245 **4 credits** **8 periods**
Advanced 3D Modeling and Animation

Advanced techniques for 3D modeling and computer animation. Creating and applying 2D background and 3D model textures, creating and applying special effects to models and animation, designing, modeling, and animating a digital 3D character from a character study. Prerequisites: A grade of C or better in ART/MMT185.

ART295KA **1 credit** **2 periods**
Art Workshop/Seminar: Graphics/Animation

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 or Division Chair.

Web Design (ART)

ART190 **3 credits** **6 periods**
Art of Web Site Design

Introduction to design production for websites. Layout, typography and presentation style for HTML (Hyper Text Markup Language). Design of mock-ups using digital design software to produce artistic form and content for the Web using Hyper Text Markup Language (HTML), digital text, and graphics. Discussion of color, proportion, typography and Web-specific design principles. Emphasizes design of cross-browser compatible interfaces that optimize usability, accessibility and browser interoperability. Prerequisites: A grade of C or better in ART100, or permission of Instructor. CIS133DA¹ recommended.

ART192 **3 credits** **6 periods**
Advanced Web Presentation Design

Advanced interactive application and training for Web designers and graphic artists using Quark, Illustrator, Photoshop, HTML Flash, Dreamweaver and Digital Video site optimization techniques. Development of design concepts for web pages that communicate and deliver Web content creatively. Prerequisites: A grade of C or better in ART/MMT190 or permission of instructor. ART180AM and ART180AN suggested but not required.

Digital Arts (ART)

ART202 **3 credits** **6 periods**
Digital Arts Survey

Designed for broad overview of the digital arts. Experience

in digital based media, creative problem solving, design and aesthetics. Prerequisites: A grade of C or better in ART100 or permission of Instructor.

ART210 **3 credits** **6 periods**
Design Tools for Imagery, Production, and Publishing

Industry standard development of image manipulation, digital production, digital negatives, typography, and desktop publishing. New techniques using integrated software with multiple platform applications. Emphasis on alternative processes including: technique, aesthetics and creative imagery. Prerequisites: A grade of C or better in ART100 and [ART169 or (ADA/ART180AD, ADA/ART180AE, and ART180AS)] and ART181, or permission of Instructor.

Art (ART)

ART250 **3 credits** **6 periods**
Introduction to Printmaking

Introduction to concepts and techniques involved in Fine Art field of printmaking. Deals with three most basic printmaking modes of Serigraphy, Woodcut, and Monoprinting in first part of course. Overview of etching, lithography and papermaking in second part of course. Prerequisites: A grade of C or better in ART111 and ART113.

ART255 **3 credits** **3 periods**
Art Marketing

Career goals, presentation of artist and art work (portfolio, resume, business cards, catalog), pricing and selling works, networking, establishing a studio, promotion and publicity, writing press releases, proposal writing, business ethics, artist rights, copyright law, contracts and agreements, royalties, record keeping, and communication skills. Prerequisites: None.

ART255AA **1 credit** **1 period**
Self Promotion

Career goals, presentation of artist, communication skills, keeping files and records, developing self-promotional materials. Prerequisites: None.

ART255AB **1 credit** **1 period**
The Portfolio

Choosing the right pieces to include, presenting art work, developing the portfolio. Prerequisites: None.

ART255AC **1 credit** **1 period**
Marketing Fine Art

Exhibitions and galleries, establishing a studio, alternative markets. Prerequisites: A grade of C or better in ART255AB or permission of Instructor.

Studio Art (ART)

ART290AC **3 credits** **6 periods**
Studio Art

Studio course for art majors allowing continuation in subject field. Prerequisites: Permission of instructor. Course Notes: ART290AC students must have completed advanced courses in the subject field.

Art Workshop/Seminar (ART)

ART298 **1-3 credits**
Special Projects
 See page 229.

Anthropology: Social/Behavioral Science (ASB)

ASB100 **3 credits** **3 periods**
Introduction to Global Health
 The study of human health patterns at an international and local scale. Focus on pressing global health challenges that the world faces today are examined from a broad social, ecological, and cultural context. Prerequisites: None.

ASB102 **3 credits** **3 periods**
Introduction to Cultural Anthropology
 Principles of cultural anthropology, with illustrative materials from a variety of cultures. The nature of culture; social, political, and economic systems; religion, aesthetics and language. Prerequisites: None.

ASB202 **3 credits** **3 periods**
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.

ASB211 **3 credits** **3 periods**
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.

ASB214 **3 credits** **3 periods**
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.

ASB222 **3 credits** **3 periods**
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.

ASB223 **3 credits** **3 periods**
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 life ways, the rise of cities and complex societies, political strife across different cultures and the forces which fragment societies. Examples drawn from North American, Central America, and South America. Prerequisites: None.

ASB226 **3 credits** **3 periods**
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.

ASB298 **1-3 credits**
Special Projects
 See page 229.

Anthropology: Science/Mathematics (ASM)

ASM104 **4 credits** **5 periods**
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.

ASM275 **4 credits** **5 periods**
Forensic Anthropology
 Introduction to forensic anthropology. Survey of the role of forensic anthropologists, from the crime scene to the courtroom. Course focuses on how skeletal analysis can aid in medicolegal investigations, especially by identifying aspects of the life history of unknown individuals and by reconstructing events that took place at crime scenes. Covers both the legal aspects of forensic practice and the underlying biological basis for evidence obtained from skeletal remains. Examines applications of forensic anthropology in mass disasters, human rights investigations, and the deciphering of historic cases. Lab activities designed to illustrate techniques and principles central to the discipline. Prerequisites: None.

ASM298 **1-3 credits**
Special Projects
 See page 229.

Automotive Service (ASE)

ASE101 **2 credits** **3 periods**
Introduction to Automotive
 Introduction to the standards of the automotive industry. Includes an overview of the major automotive systems, safety practices, workplace habits, tools and equipment. Prerequisites: None.

completed the corresponding lecture course. Current MCCC students should enroll in AST/GLG106 only.

AST111 **4 credits** **6 periods**
Introduction to Solar System Astronomy

Introduction to astronomy for the non-science major. The scientific method, properties of light, astronomical instruments, our Solar System and solar systems around other stars. Includes hands-on astronomical observations and laboratory exercises. Prerequisites: A grade of C or better in MAT092 or higher, or satisfactory score on district placement exam.

AST112 **4 credits** **6 periods**
Introduction to Stars, Galaxies, and Cosmology

Introduction to astronomy for the non-science major. Structure and evolution of stars; supernovae, black holes, and quasars; nebulae; star clusters; galaxies; cosmology, including the birth and death of the universe. Prerequisites: A grade of C or better in MAT092 or higher, or satisfactory score on district placement exam. Course Notes: Note that AST111 is not a prerequisite for this course.

AST113 **1 credit** **3 periods**
Introduction to Solar System Astronomy Laboratory

Hands-on astronomical observations and exercises to supplement AST111. Prerequisites: AA grade of C or better in AST111 and permission of Instructor or Department or Division. Course Notes: AST113 is a course intended for those students who have previously completed the corresponding lecture course. Current MCCC students should enroll in AST111 only.

AST114 **1 credit** **3 periods**
Introduction to Stars, Galaxies, and Cosmology Laboratory

Hands-on astronomical observations and exercises to supplement AST112. Prerequisites: A grade of C or better in AST112 and permission of Instructor or Department or Division. Course Notes: AAST114 is a course intended for those students who have previously completed the corresponding lecture course. Current MCCC students should enroll in AST112 only.

AST285 **4 credits** **6 periods**
Introduction to Astrodynamics

Introduction to celestial mechanics and the dynamics of spacecraft navigation. Introduction to rocket propulsion and spacecraft design. Orbital and interplanetary celestial mechanics and maneuvers. Astrophysics and characteristics of the space environment. Lab is project-based, utilizing a real-time spacecraft simulation environment. Prerequisites: A grade of C or better in ENG101 and (PHY115 or PHY121).

Automotive Technology (AUT)

AUT097 **3 credits** **3 periods**
General Automotive Maintenance

A study of automotive systems operation and maintenance for the consumer. Purchasing service for cars and performing minor maintenance. Prerequisites: None. Note: This course will not apply toward degree requirements for Automotive technology majors.

AUT101AA **3 credits** **4 periods**
Internal Combustion Engines Theory

Study of construction and operating principles of internal combustion engines and related lubrication, cooling, fuel, and electrical systems. Prerequisites: None.

AUT103AB **4 credits** **7 periods**
Automotive and Electrical/Electronic Systems I

Designed for beginning automotive students. The principle of electricity; the mathematical computations involved with Ohm's Law; the use of meters; electrical schematic; 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.

AUT103DA **1.1 credits** **2 periods**
Basic Automotive Electrical Theory

Studies the basic concepts and principles that underlie the selection, fitting and care of hearing aid technology. Examines hearing aid types and their components, methods of amplification, prescriptive fitting procedures for linear and non-linear amplification, ear impressions and ear molds, and ANSI standards for electroacoustic evaluations. Prerequisites: None.

AUT103DB **0.6 credits** **1 period**
Automotive Batteries

Study of automotive batteries. Diagnosis, testing, service, and repair of batteries and related circuits covered. Prerequisites: A grade of C or better in AUT103DA or permission of Instructor.

AUT103DC **0.9 credits** **1.5 periods**
Automotive Charging Systems

The diagnosis, testing, service, and repair of charging systems and related components. Prerequisites: A grade of C or better in AUT103DA or permission of Instructor.

AUT103DD **0.6 credits** **1.1 periods**
Automotive Starting Systems

Covers the starting motor systems used on modern automotive vehicles including light duty trucks. Diagnosis, testing, service, and repair of starting systems and related components covered. Prerequisites: A grade of C or better in AUT103DA or permission of Instructor.

AUT103DE **0.8 credits** **1.4 periods**
Automotive Lighting, Indicator, and Warning Circuits

Covers the operation of, diagnosis and repair of common automotive lighting, instrumentation, and warning device circuits used on the automobile. Prerequisites: A grade of C or better in AUT103DA or permission of Instructor.

AUT104AA **3 credits** **5 periods**
Automotive Fuel Systems

Theory and operation of fuel injection, engine control management, turbo charging and fuel systems, training in diagnosis, service and reconditioning procedures. Prerequisites: A grade of C or better in AUT103AA, or AUT103AB, or permission of instructor.

AUT105AA **3 credits** **5 periods**
Engine Performance and Diagnosis

The theory and fundamentals of automotive engine management

¹ Final Term Summer 2019, ² Effective Term Fall 2019

troubleshooting and oscilloscope testing as it pertains to diagnosis and tune-up of the modern day automobile. Emphasis on interpretation of oscilloscope patterns and Scantool Data as they relate to engine performance. Prerequisites: A grade of C or better in (AUT103AA or AUT103AB) and AUT104AA), or permission of instructor.

AUT106AA **4 credits** **8 periods**
Engine Overhaul and Reconditioning

Diagnostic and service skills essential to service and repair automotive internal combustion engines. Includes valve guide, seat reconditioning, cylinder block, piston, rod and crankshaft service. Prerequisites: None.

AUT107AC **3 credits** **6 periods**
Automotive Air Conditioning

The theory and principles of refrigeration and air conditioning. Training in diagnosis, servicing, and reconditioning procedures of automotive air conditioning systems. Prerequisites: None.

AUT108AB **4 credits** **7 periods**
Front-End Suspension, Steering, and Alignment

The fundamentals and principles of suspension and steering systems. Diagnosis, service, and reconditioning procedures. Laboratory emphasis on front-end service and alignment. Prerequisites: None.

AUT109AC **4 credits** **7 periods**
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.

AUT110AC **4 credits** **7 periods**
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.

AUT123AA **4 credits** **8 periods**
Automatic Transmissions

Theory of operation and servicing procedures for current domestic automatic transmissions; includes diagnostics and testing of mechanical, electrical, and hydraulic components. Prerequisites: None.

AUT215AA **4 credits** **7 periods**
Automotive and Electrical/Electronic Systems II

Electrical accessory circuits including horns, wipers, defoggers, automatic door locks, power mirrors, power windows and power seats. Focuses on introduction to body computers, advanced lighting circuits and instrumentation, and chassis electronic control systems. Includes training in diagnosis, testing, service, and repair. Prerequisites: AUT103AA, or AUT103AB, or permission of instructor.

AUT233 **3 credits** **5 periods**
Computerized Engine Control Systems

Presents the reasons for developing and using computerized engine control systems. Explores system operation, examining each component. Emphasizes diagnosis and repair of system

faults. Prerequisites: A grade of C or better in AUT103AB and AUT104AA, or permission of instructor.

AUT240 **2 credits** **3 periods**
Hybrid Vehicle Overview

Automotive hybrid vehicle design and operation. Safety practices as suggested by manufacturers for servicing hybrid vehicles. Prerequisites: A grade of C or better in AUT130.

AUT270AA¹ **1 credit** **1 period**

AUT270AB¹ **2 credits** **2 periods**

AUT270AC¹ **3 credits** **3 periods**
Auto Technology Internship

Automotive work experience in the automotive service industry. Course Notes: 80 hours of designated work per credit. Maximum of four (4) credits can be earned by taking any combination of AUT270AA and/or AUT270AB, and/or AUT270AC; this combination may include repeats of the same suffixed course(s). Prerequisites: Permission of Department or Division.

Behavioral Health Services Technology (BHS)

Prior to taking Behavioral Health Science courses, students must provide a copy of their English and reading Accuplacer test scores to the Counseling Department. A reading score of 56 or higher or a C or better in RDG100 is recommended.

BHS150 **3 credits** **3 periods**
Introduction to Behavioral Health and Social Services

Survey of the behavioral health and social services professions, including scope of practice and training requirements. Exploration of employment opportunities in the field and self-assessment/academic planning for a career in mental health. Overview of mental health disorders and first responder skills in a mental health crisis situation. Prerequisites: None.

BHS155 **1 credit** **1 period**
Professional Resiliency and Compassion Fatigue Prevention

Introduction to professional resilience and compassion fatigue prevention for social services and mental health professionals, healthcare providers and emergency first responders. Causes, symptoms, and effects of work-related stress disorders and techniques that help professionals mitigate potential harmful effects. Prerequisites: None.

BHS160 **3 credits** **3 periods**
Ethical, Legal and Professional Issues in Behavioral Health and Social Service

Explores relevant ethical, legal, and professional issues inherent in the behavioral health and social services field, including expectations of and limitations on providers. Key areas of inquiry include boundaries and dual relationships, mandated reporting, confidentiality, scope of practice, beneficence and non-maleficence, rights and responsibilities, professional relationships, and credentialing/regulating agencies. Prerequisites: None.

<p>BHS165 3 credits 3 periods Applied Therapeutic Interpersonal Skills in Behavioral Health and Social Services Development of communication skills important in establishing and maintaining effective helping relationships. Emphasis on rapport building, effective listening skills, appropriate feedback and the helping process. Prerequisites: None.</p>	<p>BHS210 3 credits 3 periods Addictions, Substance Use Disorders, and Relapse Prevention An introduction to the historical and current developments in the field of addictions, as well as sociological, psychological and physiological aspects of addictive behaviors and substance abuse. Introduces contemporary treatment methods within addiction practice, including self-help groups, levels of care, symptom identification, and models of prevention and intervention. Prerequisites: None.</p>
<p>BHS170 3 credits 3 periods Case Management and Clinical Documentation Overview and application of the principles, practices, and function of case management in human services. Case management service delivery and coordination for clients with psychological, developmental, and psychiatric and comorbid medical conditions. Documentation techniques necessary to maintain clinical records in a variety of behavioral healthcare settings. Prerequisites: None.</p>	<p>BHS215 3 credits 3 periods Therapeutic Group Interventions Evaluate and demonstrate the methods and techniques for influencing change in group settings. Prerequisites: None.</p>
<p>BHS175 3 credits 3 periods Introduction to Trauma-Informed Care and Trauma-Focused Caregiving Comprehensive overview of various types of trauma, neurobiological effects of traumatic stress, and ethics associated in working with a trauma survivor. Concepts and skills needed to become a fully functioning trauma-informed caregiver professional in the mental health and primary care setting. Prerequisites: None.</p>	<p>BHS216 3 credits 3 periods Group Process Evaluate and demonstrate the methods and techniques for influencing change in group settings. Prerequisites: Prerequisites: A grade of C or better in BHS165 or permission of Department or Division.</p>
<p>BHS180 3 credits 3 periods Child, Family, and Adult Advocacy The role of advocacy in relation to multiple systems affecting children, families, and adults. Emphasis on identifying appropriate supports, community resources, and “wrap-around” services to help foster healthy family and child development, adult recovery, and social welfare. Prerequisites: None.</p>	<p>BHS230 3 credits 3 periods Emergency Mental Health Crisis Response and Recovery Theoretical and applied foundation designed for behavioral health service providers working with people in crisis. Examines the phenomena and dynamics of crises and emergencies, as well as the related strategies/modalities. Prerequisites: None.</p>
<p>BHS185 3 credits 3 periods Cultural and Social Diversity in Behavioral Health and Social Services Values, perceptions, attitudes, behaviors emphasizing intercultural communication patterns. Techniques for establishing rapport and interaction methodologies in a multicultural context. Competencies, strategies, and treatment modalities necessary for the paraprofessional working successfully with the multicultural clients.. Prerequisites: None.</p>	<p>BHS235 3 credits 3 periods Crisis and Trauma Stabilization Comprehensive study of natural and human-caused disasters and their effects on the trauma survivor. Introduction to basic emergency mental health interventions to help stabilize those experiencing crisis following critical incident disasters. Prerequisites: None.</p>
<p>BHS190 3 credits 3 periods Professional Portfolio: Supervised Practice In Behavioral Health and Social Services Firsthand work experience in mental health, social service or a related behavioral healthcare provider setting. 80 hours of designated volunteer or paid work. Prerequisites: A grade of C or better in BHS150, BHS155, and BHS160, and permission of Department or Division.</p>	<p>BHS260 1 credit 1 period Case Report Writing Terminology, technical forms and techniques of observation necessary to create and maintain records. Prerequisites: A grade of C or better in BHS165 or permission of Department or Division.</p>
<p>BHS205 3 credits 3 periods Therapeutic Models and Interventions Introduction to the major evidence-based therapeutic models and interventions in social and behavioral sciences. Defines the key concepts, techniques and procedures of each theoretical model. Prerequisites: None.</p>	<p>BHS263 1 credit 1 period Applied Case Report Writing Application of observation and documentation techniques necessary to maintain clinical records in a variety of community based behavioral health settings. Application of legal issues to case report writing. Prerequisites: A grade of C or better in BHS260.</p>
	<p>BHS269 3 credits 3 periods Grief Counseling Techniques Techniques, strategies, and treatment modalities necessary for the helping professional working with the bereaved and others affected by traumatic loss. Prerequisites: A grade of C or better in BHS168 or BHS268 or permission of department.</p>
	<p>BHS271 3 credits 3 periods Developmental Disabilities Assistance Training Theories and practices to assist people with developmental</p>

¹ Final Term Summer 2019, ² Effective Term Fall 2019

disabilities, their derivations and treatments, and the conditions which may affect people with these conditions. Prerequisites: None.

BHS272 **3 credits** **3 periods**
Managing Difficult Children

Strategies for training and reinforcing positive interaction with children. Covers behavior management strategies and techniques for oppositional, defiant and explosive children. Prerequisites: A grade of C or better in PSY240 or permission of Department or Division.

BHS275 **3 credits** **3 periods**
Infant and Early Childhood Mental Health

Foundational knowledge of mental health during infancy and early childhood. Exploration of social-emotional development and relational influences on mental health. Emphasis on identifying early warning signs, making appropriate referrals, and employing a multidisciplinary child and family team approach to services. Prerequisites: None.

BHS281 **3 credits** **3 periods**
Introduction to Art Therapy

Exploration of the process, dynamics and objectives of the therapeutic art experience. Emphasis on Art Therapy from both the psychological and artistic perspectives. Highlights topics in the history, theory and practice of Art Therapy. Prerequisites: A grade of C or better in BHS105 or departmental approval.

BHS285 **3 credits** **3 periods**
Facilitating Art Therapy Groups

Emphasis on facilitating art therapy groups in a variety of settings using visual art as a medium. Process, dynamics, and objectives of group work and the therapeutic art process. Prerequisites: A grade of C or better in BHS215 and BHS281.

Biology (BIO)

BIO101 **4 credits** **6 periods**
Introduction to Human Genetics for Non-Majors

Study of inheritance in humans, at the organismal, cellular and molecular levels. Includes exploration of gene expression, isolation and manipulation of DNA, Mendelian genetics, pedigree analysis, as well as chromosomal abnormalities and genetic diseases. Prerequisites: None.

BIO102 **4 credits** **6 periods**
Cells to Systems: An Introduction to Biology for Non-Majors

Study of living things. Builds from basic molecular components to structure and physiology of cells and organ systems of animals and plants. Prerequisites: None. Course Notes: BIO102 is appropriate for non-biology majors. Course may include dissection of fetal pig and/or viewing of plastinized body parts. Laboratory work is done in small groups.

BIO105 **4 credits** **6 periods**
Environmental Biology

Fundamentals of ecology and their relevance to human impact on natural ecosystems. Field trips may be required at students' expense. Prerequisites: None.

BIO145 **4 credits** **6 periods**

Marine Biology

A survey of marine environments and their biotic communities with emphasis on the natural history of marine organisms. Prerequisites: None.

BIO149AL **2 credits** **14 periods**
Field Biology: Ecological and Environmental Field Experience

Field expeditions in which ecological and environmental principles and concepts are observed and studied. Prerequisites: None. Course Notes: BIO149AL may be repeated for a total of four (4) credit hours.

BIO156 **4 credits** **6 periods**
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: A grade of C or better in RDG100 or higher or eligibility for CRE101. One year of high school or one-semester of college level chemistry is strongly recommended.

BIO160 **4 credits** **6 periods**
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.

BIO173 **1 credit** **1 period**
Basic Instrumentation and Lab Math

Introductory course covering basic equipment, measurements, and calculations used in biotechnology laboratories. Prerequisites: None. BIO156 or BIO181 recommended.

BIO175 **1 credit** **2 periods**
Research Methods in Biology

Fundamentals of planning and conducting biological experiments, including ones that simultaneously vary multiple experimental variables. Subsequent analysis, interpretation, and reporting of results. Prerequisites: None. BIO156 or BIO181 recommended.

BIO181  **BIO1181** **4 credits** **6 periods**
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: A grade of C or better in RDG100 or higher or eligibility for CRE101. One year of high school or one semester of college-level biology and chemistry is strongly recommended.

BIO182  **BIO1182** **4 credits** **6 periods**
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 or BIO181XT. Course Notes: BIO182 may require field trips.

BIO192 **1 credit** **1 period**
Recitation in Biology

Discussion, guided practice and problem solving related to a topically focused area of biology. Prerequisites: None. Corequisites: Any 100-level BIO Biology course or permission of Instructor. Course Notes: BIO192 may be repeated for credit.

BIO201  **BIO2201** **4 credits** **6 periods**
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 BIO156XT or BIO181 or BIO181XT or one year of high school biology) and a grade of C or better in RDG100 or higher or eligibility for CRE101. CHM130 or higher or one year of high school chemistry suggested but not required.

BIO202  **BIO2202** **4 credits** **6 periods**
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; and fluid and electrolyte balance. Prerequisites: A grade of C or better in BIO201 or BIO201XT.

BIO205  **BIO2205** **4 credits** **6 periods**
Microbiology

Study of microorganisms and their relationship to health, ecology, and related fields. Prerequisites: (A grade of C or better in BIO156 or BIO156XT or BIO181 or BIO181XT or one year of high school biology) and a grade of C or better in RDG100 or higher or eligibility for CRE101. CHM130 or higher or one year of high school chemistry suggested but not required.

BIO208 **3 credits** **6 periods**
Nucleic Acid Methods

Intensive introduction to laboratory methods for the isolation, purification, manipulation analysis and quantification of nucleic acids. Prerequisites: A grade of C or better in [BIO156, or BIO181, and (BIO173 and BIO175)], or permission of Instructor.

BIO209 **3 credits** **6 periods**
Biomolecular Separation

Introduction to industrial laboratory biotechnology with intensive focus on the recovery of heterologous proteins and other biomolecules from cultivated cells and the subsequent recovery, purification and characterization of these molecules. Prerequisites: A grade of C or better in [BIO181, or BIO156, and (BIO173 and BIO175)], or permission of Instructor.

BIO210 **3 credits** **6 periods**
Advanced Lab Instrumentation

Provides training in the principles, operation and interpretation of data from laboratory instrumentation. Prerequisites: A grade of C or better in BIO208, or BIO209, or permission of Instructor.

BIO211AA **1 credit** **1 period**
Biotechnology Seminar: Biomedical Applications

Special topics in biotechnology with an emphasis on current issues not covered in other life science courses. Prerequisites: None. Course Notes: BIO211AA may be repeated for a total of two (2) credit hours.

BIO211AB **1 credit** **1 period**
Biotechnology Seminar: Laboratory Protocol

Special topics in biotechnology with an emphasis on current issues not covered in other life science courses. Prerequisites: A grade of C or better in BIO211AA or permission of instructor. Course Notes: BIO211AB may be repeated for a total of two (2) credit hours.

BIO211AE **1 credit** **1 period**
Biotechnology Seminar: Business and Regulatory Issues

Selected topics in biotechnology with an emphasis on current issues not covered in other life science courses. Prerequisites: None.

BIO215 **3 credits** **3 periods**
Biotechnology Internship

Internship experience in a biotechnology laboratory. Setting, achieving, and evaluating goals for hands-on learning experience in a biotechnology laboratory. Development of skills and knowledge needed to work in a biotechnology laboratory. Prerequisites: A grade of C or better in (BIO208 or BIO209 or BIO212AA or BIO212BA or BIO213 completed within the last year) and permission of Program Director. Course Notes: BIO215 requires 240 clock hours in the laboratory setting. BIO215 may be repeated for a total of six (6) credit hours.

BIO276 **3 credits** **4 periods**
Scientific Diving

Theory and practice of underwater research using snorkel and self-contained underwater breathing apparatus (SCUBA). Advanced diving skills, data acquisition and processing, and planning an underwater study. Prerequisites: A grade of C or better in PED101SU or PED201SU (any certification card from a nationally recognized agency.) BIO145 or BIO181 recommended but not required.

BIO283 **3 credits** **4 periods**
Bioinformatics and Scientific Computing

Introduction to bioinformatics, including history, concepts, major genetic databases and access tools. Computer software and techniques for analyzing one nucleotide or protein sequence, searching for similar sequences, and aligning and comparing two or multiple sequences. Microarray analysis and phylogenetic trees. Application of standard software to bioinformatic computing tasks, including word processing of reports, and use of spreadsheets for statistical analysis and graphing. Text editors, Unix, Internet web site searching and construction, and ethics. Prerequisites: Prerequisites: A grade of C or better in [(BIO156 or BIO181) and (MAT120 or MAT121 or MAT122 or higher-level mathematics course)], or permission of Instructor. Concurrent enrollment in, or previous completion of, BIO208 or BIO212AA is strongly suggested but not required.

BIO292 **1 credit** **1 period**
Advanced Recitation in Biology

Discussion, guided practice and problem solving related to advanced topics in biology. Prerequisites: None. Corequisites: Any 200-level BIO Biology course or permission of Instructor. Course Notes: BIO292 may be repeated for credit.

BIO295AA **1 credit** **1 period**
Independent Research in Biology

Original scientific investigation of biological phenomenon. Prerequisites: A grade of C or better in (BIO156 or BIO181) and permission of Instructor. Course Notes: BIO295AA requires a minimum of 80 hours of independent laboratory and/or field study. BIO295AA may be repeated for credit.

BIO295AB **2 credits** **2 periods**
Independent Research in Biology

Original scientific investigation of biological phenomenon. Prerequisites: A grade of C or better in (BIO156 or BIO181) and permission of Instructor. Course Notes: BIO295AB requires a minimum of 160 hours of independent laboratory and/or field study. BIO-295AB may be repeated for credit.

BIO295AC **3 credits** **3 periods**
Independent Research in Biology

Original scientific investigation of biological phenomenon. Prerequisites: Prerequisites: A grade of C or better in (BIO156 or BIO181) and permission of Instructor. Course Notes: BIO295AC requires a minimum of 240 hours of independent laboratory and/or field study. BIO295AC may be repeated for credit.

BIO298 **1-3 credits**
Special Projects
 See page 229.

Building Safety and Construction Technology (BLT)

BLT263 **3 credits** **3 periods**
Building Codes

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.

BLT263AL **3 credits** **3 periods**
Building Codes: IRC

Designed specifically to acquaint students with safety principles of building construction under the International Residential Code, including structural requirements for wood, masonry and concrete, fire resistance of building construction, fire resistant materials, and ratings and occupancy requirements. Prerequisites: None.

Business-Personal Computers (BPC)

BPC100AA **.5 credits** **.5 periods**
Business-Personal Computers I

Introduction to the use of personal computers in the business environment. Computer hardware components, operating system functions and concepts. Running application software. Prerequisites: None.

BPC100AB **.5 credits** **.5 periods**
Business-Personal Computers II

Use the personal computer to create, store and retrieve information. Procedures for running and using business application software to produce documents and spreadsheets. Prerequisites: A grade of C or better in BPC100AA or permission of instructor.

BPC101AA **1 credit** **2 periods**

Introduction to Computers I

Computer software applications for the personal computer, including electronic spreadsheet and word processing, keyboarding review, and a desktop environment. Prerequisites: None.

BPC101BA **1 credit** **1 period**

Introduction to Computers II

Computer software applications for the personal computer, including database management, computer graphics, electronic spreadsheet, and word processing, and operating system commands. Prerequisites: A grade of C or better in BPC101AA.

BPC106AH **.5 credits** **.5 periods**

MS Outlook: Level I

Messaging and word processing functions of a Microsoft Outlook electronic work state. Prerequisites: None.

BPC106BH **.5 credits** **.5 periods**

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: A grade of C or better in BPC106AH or permission of instructor.

BPC110 **3 credits** **4 periods**

Computer Usage and Application

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.

BPC111AA **1 credit** **1.7 periods**

Computer Keyboarding I

Mastery of essential microcomputer keyboarding skills. Emphasis on touch typing of alphabetic and numeric keys and symbols. Prerequisites: None.

BPC113 **1 credit** **1.7 periods**

Micro-Alphabetic Indexing

Mastery of essential microcomputer filing skills. Emphasis on indexing and alphabetizing individual and business names; subject, geographic, and numeric methods; and cross-referencing. Prerequisites: None.

BPC128 **1 credit** **2 periods**

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.

BPC170 **3 credits** **4 periods**

A+ Exam Prep: Computer Hardware Configuration and Support

Explore technical aspects of personal computers, including system components, installation, system configuration, peripheral devices, and notebooks. Emphasis placed on proper usage of tools, safety procedures, and professionalism. Helps prepare

students for the CompTIA A+ examinations. Prerequisites: A grade of C or better in CIS105 or permission of instructor.

BPC171 1 credit 2 periods

Recycling Used Computer Technology

Use of hardware maintenance knowledge and skills to refurbish used computers. Prerequisites: or Corequisites: BPC170 or permission of Instructor.

BPC270 3 credits 4 periods

A+ Exam Prep: Operating System Configuration and Support

Explore advanced technical aspects of maintaining and servicing computers. Emphasis placed on OS installation, maintenance, mobile devices, security, software troubleshooting, and on proper usage of tools, safety procedures, and professionalism. Helps prepare students for the CompTIA A+ examinations. Prerequisites: A grade of C or better in CIS105 or permission of Instructor.

BPC298 1-3 credits

Special Projects

See page 229.

Computer-Aided Drafting (CAD)

CAD100 3 credits 6 periods

Fundamentals of 2D AutoCAD

Utilize AutoCAD software to generate two-dimensional (2-D) drawings and components in a generic installation. Apply basic AutoCAD commands and properties to format, draw, edit, layer, dimension, import/export, and manage drawing files. Creation, manipulation, and hardcopy production of 2-D drawing files from major AutoCAD command and display environments and plot options. Prerequisites: None.

CAD101 3 credits 6 periods

Elements of CAD Graphics (AutoCAD)

Computer generation of drafting and design components using pure elements and basic geometric procedures. Incorporates concept illustration based on standard pictorial methods and develops multiview projection techniques and presentation methods. Introduction to the fundamentals of 3D modeling and the construction and printing of 3D objects. Prerequisites or Corequisites: CAD100 or permission of Instructor.

CAD105 3 credits 6 periods

Elements of CAD Graphics (AutoCAD)

Introduction to Revit Architecture. Utilize Revit software to develop and generate basic 3-D models and components. Create, edit, dimension, and manage 2-D and 3-D drawing views and projects. Produce drawing files and plots using various display environments and plot options. Prerequisites: A grade of C or better in CAD100 or (previous architectural and CAD experience, and permission of Department or Division).

CAD145 3 credits 6 periods

Design Principles for Industry

Survey of the basic standards and procedures for drawing setups and design documentation in the fields of architecture, manufacturing, and civil technology. Multi-source hard copy design presentation. Prerequisites: A grade of C or better in (CAD100 and CAD101) or permission of instructor.

CAD167 3 credits 6 periods

Architectural Drawings I (Revit): Residential CAD

Use of Revit architectural modeling software to develop 3-D architectural models, working drawings, construction documentation, and renderings. Emphasis on residential working drawings. Prerequisites: A grade of C or better in CAD105 or permission of Department or Division.

CAD175 3 credits 6 periods

Manufacturing Modeling and Design

Specialized training in parametric parts and assembly modeling with an emphasis in manufacturing design. Design, construction and documentation of primitive, regional, and composite models using American National Standards Institute (ANSI) and International Organization for Standardization (ISO) standards. Prerequisites: A grade of C or better in CAD100, or permission of Department or Division or Instructor or Corequisites: CAD100.

CAD186 3 credits 6 periods

Site Development I

Use coordinate geometry and survey point databases to create topographic maps utilizing civil engineering/surveying application software. Volumetric analysis of earthwork (cut and fills) utilizing civil engineering/surveying application software. Production of base mapping, earthwork, grading, and drainage plan utilizing civil engineering/surveying application software. Prerequisites: A grade of C or better in CAD145 or permission of instructor.

CAD201 3 credits 6 periods

Three-Dimensional (3D) Modeling and Advanced CAD Techniques

Advanced Computer Aided Drafting (CAD) techniques including the automation and semi-automation of design documentation, external referencing and attribute creation and manipulation. Development of three-dimensional (3D) models including construction, manipulation, rendering and 2D/3D output. Prerequisites: A grade of C or better in (CAD100 and CAD101) or permission of Instructor.

CAD235 3 credits 6 periods

Modeling, Rendering and Animation for Technical Presentations

Entry level course in technical modeling, visualization, and animation. Uses 3D modeling software, rendering, and animation tools to visualize and solve design issues. Development of professional quality presentation materials for design projects. Prerequisites or Corequisites: A grade of C or better in CAD201, or CAD215, or permission of Department or Division.

CAD245 3 credits 6 periods

Design and Modeling of Mechanisms

Specialized training in the design of manufactured products using commercially available mechanisms and hardware. Specific applications include: cams, gears, specification control parts, and operating sheets (O.S.) and methods of tooling (M.O.T.). Prerequisites: A grade of C or better in CAD175 or permission of instructor.

CAD267 3 credits 6 periods

Architectural Drawings II (Revit): Commercial CAD

Use of Revit architectural modeling software utilized by the architectural industry to generate plans and features associated with commercial building design. Focus on CAD development of selected plans, details, and structural practices common to

nonresidential buildings. Prerequisites: A grade of C or better in CAD167 or permission of Department or Division.

CAD270 **3 credits** **6 periods**
SolidWorks Application and Analysis Modules

Specialized training in the design of manufactured products using commercially available mechanisms and hardware. Specific applications include: cams, gears, specification control parts, operating sheets (OS) and methods of tooling (MOT). Prerequisites: A grade of C or better in CAD245 or permission of Department or Division.

CAD281 **3 credits** **6 periods**
Electro-Mechanical Product Documentation

Specialized training in the documentation and design of electro-mechanical products, using various sources of design information as part of the manufacturing process. Typical construction documents for this class will include block, schematic, logic, and interconnect diagrams, electronic component assemblies (ECA's), printed wiring board packages, and chassis and rack design including front panel layout. Prerequisites: A grade of C or better in CAD175 or permission of instructor.

CAD286 **3 credits** **6 periods**
Site Development II

Use a coordinate geometry and survey point database to create construction drawings utilizing civil engineering/surveying software. Prerequisites: A grade of C or better in CAD186.

CAD287 **3 credits** **6 periods**
Architectural Drawings III (Revit): Advanced Revit Techniques

Advanced use of Revit architectural modeling software utilized by the architectural industry. Develop custom families with parameters and formulas, generate conceptual mass plans, prepare design phasing for renovation and tenant improvement projects, and work with advanced features associated with architectural building design. Prerequisites: A grade of C or better in CAD105 or permission of Department or Division.

CAD292 **1 credit** **2 periods**
Current Developments in CAD Technology

The exploration and analysis of the newest software packages and/or plug-ins on the market designed to enhance or replace existing Computer Aided Drafting (CAD) software. Designed to introduce and develop skills in the latest state-of-the-art tools pertinent to industry today. Prerequisites: A grade of C or better in CAD100 or permission of Department or Division. Course Notes: CAD292 may be repeated for credit.

CAD295 **3 credits** **6 periods**
Design Geometry

CAD based graphical solutions for problems in architectural and engineering design. Study of the geometry of technical drawing with an emphasis on the space relationship of points, lines and planes. Develop skills used to resolve design problems using both analytical and graphical methods. Prerequisites: A grade of C or better in (CAD201 and DFT107) or permission of Instructor.

Chicana and Chicano Studies (CCS)

CCS101 **3 credits** **3 periods**
Chicana and Chicano Studies

Introduction to the wealth and diversity of Chicana and Chicano

Studies research from a variety of disciplinary perspectives through the use of a series of historical and social scientific studies, novels, testimonies, and films. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

Civil Engineering Technology (CET)

CET211 **3 credits** **3 periods**
Strength of Materials

A study of strength and application of the materials of engineering construction, including the mechanics of beams, shafts, and bolted and welded connections under various loading conditions. Prerequisites: A grade of C or better in DFT107 or ELT102 or (MAT151 and MAT182) or MAT187 or equivalent or permission of Department or Division.

Child/Family Studies (CFS)

CFS106 **1 credit** **1 period**
Stress Management in the Family

Impact of stress factors on the family. Managing time and stress in the home. Options for coping with anxiety. Prerequisites: None/

CFS123 **1 credit** **1 period**
Health and Nutrition In Early Childhood Settings

Creating and maintaining healthy environments and practices in programs serving young children. Emphasis on assessing the child's health status, nutrition and food service, communicable disease recognition, transmission, and prevention, infection control, regulations and regulatory agencies, current topics, resources, and innovative practices. Prerequisites: None.

CFS125 **1 credit** **1 period**
Safety in Early Childhood Settings

Fundamental concepts of promoting a safe, but challenging learning environments. Establishing and maintaining safety procedures in the early childhood setting. Emphasis on indoor and outdoor equipment and activities, risk analysis, accident, evacuation, and emergency plans, regulations, regulatory agencies and resources, current topics, and innovative practices. Prerequisites: None.

CFS157 **3 credits** **3 periods**
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.

CFS176 **3 credits** **3 periods**
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.

CFS177 **3 credits** **3 periods**
Parent-Child Interaction

Positive methods to strengthen relationships and resolve conflicts with children. Focus on effective interpersonal skills and guidance techniques. Prerequisites: None.

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	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
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	CFS225 Foundations 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
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	CFS235 Developing Child: Theory into Practice, Prenatal - Age 8 Understanding and working with young children, birth through age 8. Analysis of young children's physical, social, emotional, cognitive and linguistic development within their home, school, and cultural contexts. Typical and atypical development. Implications for teachers and parents. Emphasis on observations and planning curriculum based on theories, research, and child-specific data. 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	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
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	CFS245 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
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	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
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	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
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	CFS250 Social Policy and Families Examines the impact of social policy on family systems and the implications for professional roles and practice. Prerequisites:	3 credits	3 periods

¹ Final Term Summer 2019, ² Effective Term Fall 2019

None.

CFS251 **3 credits** **3 periods**
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.

CFS252 **3 credits** **3 periods**
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.

CFS257 **3 credits** **3 periods**
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.

CFS258 **3 credits** **3 periods**
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: A grade of C or better in CFS157 and CFS259, or permission of Instructor.

CFS259 **3 credits** **3 periods**
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.

CFS277 **3 credits** **3 periods**
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.

Chinese (CHI)

CHI101  **CHI1101** **5 credits** **6 periods**
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.

CHI102  **CHI1102** **5 credits** **6 periods**
Elementary Chinese (Mandarin) II

Continued study of grammar and vocabulary along with the study of Chinese culture. Emphasis on pronunciation and speaking skills. Prerequisites: A grade of C or better in CHI101 or permission of Department or Division. Completion of prerequisites within the last three years is required.

CHI115 **3 credits** **3 periods**
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.

CHI298 **1-3 credits**
Special Projects

See page 229.

Chemistry (CHM)

CHM090 **1 credit** **1 period**
Preparation for Fundamental Chemistry

A developmental course designed to review basic math and chemistry principles for students deficient or insecure in these areas. Stresses individualized instruction and hands-on experience. Serves to prepare the student for CHM130. Prerequisites: None.

CHM107 **3 credits** **3 periods**
Chemistry and Society

A survey of chemistry and its impact on the environment. Prerequisites: None. Course Notes: Completion of CHM107LL required to meet the Natural Science requirement.

CHM107LL **1 credit** **3 periods**
Chemistry and Society Laboratory

Laboratory experience in support of CHM107. Prerequisites: A grade of C or better required in all prerequisites. Prerequisites or Corequisites: CHM107.

CHM130  **CHM1130** **3 credits** **3 periods**
Fundamental Chemistry

A survey of the fundamentals of general chemistry. Emphasis on essential concepts and problem solving techniques. Basic principles of measurement, chemical bonding, structure and reactions, nomenclature, and the chemistry of acids and bases. Preparation for students taking more advanced courses in chemistry. Designed to meet needs of students in such diverse areas as agriculture, nursing, home economics, physical education and water technology. Prerequisites: A grade of C or better in [CHM090 or MAT090 or MAT091 or MAT092 or (MAT103AA and MAT103AB) or higher level mathematics course or satisfactory score on math placement exam] and [RDG100 or higher or eligibility for CRE101 as indicated by appropriate reading placement test score], or permission of the Instructor, or Department or Division Chair.

CHM130LL  CHM1130 1 credit 3 periods Fundamental Chemistry Laboratory Laboratory experience in support of CHM130. Prerequisites or Corequisites: A grade of C or better in CHM130.	CHM230  CHM2230 3 credits 3 periods Fundamental Organic Chemistry Chemistry of representative groups of organic compounds, emphasizing biological applications. Prerequisites: AA grade of C or better in (CHM130 and CHM130LL) or (CHM150 or CHM151 and CHM151LL), or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of prerequisites within the last two years recommended. CHM230 course content is designed to meet the needs of students in such areas as agriculture, home economics, nursing, pre-physician assistant, and physical education among others.
CHM150 4 credits 4 periods General Chemistry I Detailed study of principles of chemistry for science majors and students in pre-professional curricula. Prerequisites: A grade of C or better in [(CHM130 and CHM130LL), or CHM130AA, or one year of high school chemistry taken within the last five years] and (a grade of C or better in MAT151 or higher level mathematics course, or satisfactory score on placement exam), or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of all prerequisites within the last two years is recommended. Student may receive credit for only one of the following: CHM150 and CHM151LL, or CHM151 and CHM151LL, or CHM150AA, or CHM151AA.	CHM230LL  CHM2230 1 credit 3 periods Fundamental Organic Chemistry Laboratory Laboratory experience in support of CHM230. Prerequisites: A grade of C or better in CHM130LL or CHM151LL or equivalent or Corequisites: CHM230.
CHM151  CHM1151 3 credits 3 periods General Chemistry I Detailed study of principles of chemistry for science majors and students in pre-professional curricula. Prerequisites: AA grade of C or better in [(CHM130 and CHM130LL), or CHM130AA, or one year of high school chemistry taken within the last five years] and (a grade of C or better in MAT151 or higher level mathematics course, or satisfactory score on placement exam), or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of all prerequisites within the last two years is recommended. Student may receive credit for only one of the following: CHM150 and CHM151LL, or CHM151 and CHM151LL, or CHM150AA, or CHM151AA.	CHM235  CHM2235 3 credits 3 periods General Organic Chemistry I Rigorous introduction to chemistry of carbon-containing compounds. Reaction mechanisms and recent methods of synthesis emphasized. Prerequisites: A grade of C or better in (CHM152 and CHM152LL), or CHM152AA, or (CHM154 and CHM154LL), or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of prerequisites within the last two years recommended.
CHM151LL  CHM1151 1 credit 3 periods General Chemistry I Laboratory Laboratory experience in support of CHM150 or CHM151. Prerequisites: A grade of C or better in CHM150 or CHM151 or Corequisites: CHM150 or CHM151. Course Notes: Student may receive credit for only one of the following: CHM150 and CHM151LL, or CHM151 and CHM151LL, or CHM150AA, or CHM151AA.	CHM235LL  CHM2235 1 credit 4 periods General Organic Chemistry I Laboratory Laboratory experience in support of CHM235. Prerequisites or Corequisites: A grade of C or better in CHM235. Completion of prerequisites within the last two years recommended.
CHM152  CHM1152 3 credits 3 periods General Chemistry II A study of the chemical properties of the major groups of elements, equilibrium theory, thermodynamics, electrochemistry, and other selected topics. Prerequisites: AA grade of C or better in [(CHM150 or CHM151) and CHM151LL], or CHM150AA, or CHM151AA, or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of prerequisites within the last two years recommended. Completion of CHM152LL required to meet the Natural Science requirement. Student may receive credit for only one of the following: CHM152 and CHM152LL, or CHM152AA.	CHM236  CHM2236 3 credits 3 periods 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: AA grade of C or better in CHM235 and CHM235LL, or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of prerequisites within the last two years recommended.
CHM152LL  CHM1152 1 credit 3 periods General Chemistry II Laboratory Laboratory experience in support of CHM152. Prerequisites: CHM151LL or equivalent. Prerequisites or Corequisites: AA grade of C or better in CHM152 or Corequisites: CHM152. Course Notes: Student may receive credit for only one of the following: CHM152 and CHM152LL, or CHM152AA.	CHM236LL  CHM2236 1 credit 4 periods General Organic Chemistry IIA Laboratory Laboratory experience in support of CHM236. Prerequisites: A grade of C or better in CHM236 or Corequisite: CHM236. Completion of prerequisites within the last two years recommended.
	CHM260 3 credits 3 periods 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. Prerequisites: A grade of C or better in (CHM230 and CHM230LL) or (CHM235 and CHM235LL), or permission of the Instructor, or Department or Division Chair. Course Notes: Completion of prerequisites within the last two years recommended. Designed for students

¹ Final Term Summer 2019, ² Effective Term Fall 2019

in agriculture, dental hygiene, home economics, nursing, and physical therapy.

Computer Information Systems (CIS)

CIS102 **1 credit** **1 period**
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.

CIS102DA **3 credits** **4 periods**
Customer User Support

Examines skills, tools and strategies necessary for becoming a computer help-desk or end-user support professional. Prerequisites: None.

CIS105  **CIS1120** **3 credits** **4 periods**
Survey of Computer Information Systems

Overview of computer technology, concepts, terminology, and the role of computers in business and society. Discussion of social and ethical issues related to computers. Use of word processing, spreadsheet, database, and presentation software. Includes uses of application software and the Internet for efficient and effective problem solving. Exploration of relevant emerging technologies. Prerequisites: None.

CIS107 **3 credits** **3 periods**
The Electronic Game Industry

Introduction to the electronic game industry, including history, market, distribution and publishing channels, business models, team roles, and career landscape. Technical topics covered include software engineering, artificial intelligence, game physics, computer graphics, and networking. Prerequisites: A grade of C or better in CIS105 or permission of Instructor.

CIS108 **1 credits** **2 periods**
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: A grade of C or better in (CIS105 or BPC110) or permission of Instructor.

CIS111 **3 credits** **3 periods**
Ethics in Information Technology

Ethical issues that arise as a result of increasing use of computers, and the responsibilities of those who work with computers, either as computer science professionals or end users. Critical inquiry and review of ethical challenges in information technology business, including professional and corporate responsibility, government regulation, fiduciary responsibilities of information, infringement of intellectual property, security risk assessment, Internet crime, identity theft, employee surveillance, privacy, compliance, social networking, and the ethics of IT corporations. Prerequisites: None.

CIS113AE **1 credit** **2 periods**
Microsoft Word: Word Processing Level I

Using word processing software to create, name and manage files, edit text, and do basic formatting of documents. Prerequisites: None. Course Notes: CIS113AE may be repeated for a total

of three (3) credit hours.

CIS113BE **1 credit** **1 period**
Microsoft Word: Word Processing Level II

Using more advanced features of word processing software to format documents, create lists, mail-merged documents, and documents with themes and styles. Prerequisites: A grade of C or better in CIS113AE or permission of Instructor. Course Notes: CIS113BE may be repeated for a total of three (3) credit hours.

CIS113DE **3 credits** **4 periods**
Microsoft Word: Word Processing

Using word processing software to create, name and manage files, edit text, and do basic formatting of documents. Prerequisites: None.

CIS114AE **1 credit** **2 periods**
Excel: Level I

Computer spreadsheet skills for solving business problems, including calculations, forecasting, and projections. Prerequisites: None.

CIS114DE **3 credits** **4 periods**
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. Course Notes: CIS114DE may be repeated for a total of nine (9) credit hours.

CIS116 **1 credit** **2 periods**
Computer Graphics: Introduction to Microsoft Visio

Introduction to use of Visio graphics software to create and edit drawings using predefined shapes and templates. Use of Visio tools to create simple drawings with text, symbols and labels. Prerequisites: None.

CIS117AM **1 credit** **2 periods**
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.

CIS117DM **3 credits** **4 periods**
Microsoft Access: Database Management

Introduction to the basic elements, exploration of additional components and common database management problems related to the Microsoft Access program. Prerequisites: None. Course Notes: CIS117DM combines the contents of CIS117AM, CIS117BM and CIS117CM. CIS117DM may be repeated for a total of nine (9) credit hours

CIS118AB **1 credit** **2 periods**
Powerpoint: Level I

Use of Powerpoint software to produce professional-quality presentation visuals. Prerequisites: None.

CIS118BB **1 credit** **1 period**
PowerPoint: Level II

Use of PowerPoint software to add movement and sound to

desktop presentations to enhance audience attention. Prerequisites: A grade of C or better in CIS118AB. Course Notes: CIS118BB may be repeated for a total of three (3) credit hours.

CIS118DB **3 credits** **4 periods**
Desktop Presentation: PowerPoint

Use of PowerPoint to produce professional-quality presentation visuals with animation and sound. Prerequisites: None. Course Notes: CIS118DB may be repeated for a total of nine (9) credit hours.

CIS120AJ **1 credit** **2 periods**
Introduction to Digital Photo Editing

Introduction to digital photography and image editing. Digital photo editing use of electronic techniques to select, manipulate, and edit images. Prerequisites: None.

CIS20DA **3 credits** **4 periods**
Introduction to Digital Video Editing: Adobe Premiere

Foundations of video import, export, and editing. Includes parts and function of a video camera, preproduction and production, incorporating photographs, titles, graphics, animation and audio, capturing, editing, rendering and outputting digital video. Helps students prepare for the Adobe Certifications related to Adobe Premiere. Prerequisites: None.

CIS120DB **3 credits** **4 periods**
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.

CIS120DC **3 credits** **4 periods**
Adobe Animate: Digital Animation

Focuses on entry-level skill expectations for digital animation using Adobe Animate. Covers basic animation techniques used in the creation, manipulation, and editing of animation graphics. Helps students prepare for the Adobe certifications related to Adobe Animate. Prerequisites: None.

CIS120DF **3 credits** **4 periods**
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.

CIS120DG **3 credits** **4 periods**
Fireworks: Web Graphics

Use of graphics software to create and edit vector and bitmap (raster) graphics. Creation and manipulation of paths and special effects. Covers slices, buttons, pop-up menus, navigation bars, and animations for use in web sites. Prerequisites: None.

CIS120DL **3 credits** **4 periods**
Digital Video Compositing: After Effects

Includes creating visual effects for video projects. Techniques and methodologies used to create shots for big budget special effects will be explored. Topics such as color and light matching, keying, motion tracking, rotoscoping and working with film will be discussed. Prerequisites: None.

CIS120DO **3 credits** **4 periods**
Adobe Audition: Audio Editing

Introduction to editing audio files in a multitrack editing environment using Adobe Audition. Includes the import of files in a variety of formats that were generated using other software and how to export files. Prerequisites: None.

CIS120DP **3 credits** **4 periods**
Adobe Acrobat Pro: Portable Document Format (PDF) Files

Introduction to creating PDF (Portable Document Format) files using Adobe Acrobat for web viewing and printing. Addresses creation of interactive PDF documents including security settings, navigation links, and form fields. Prerequisites: None.

CIS121AB **1 credit** **2 periods**
Microsoft Command Line Operations

Use of the Microsoft command line interface: basic concepts, internal and external commands, subdirectories, and editor. Prerequisites: None.

CIS121AE **1 credit** **2 periods**
Windows Operating System: Level I

Specific topics include Windows basics, navigating and customizing the desktop, maintaining hardware and software, improving performance, configurations, securing your computer, taskbar, organizing, searching and managing folders and files, installing and uninstalling applications, Internet Explorer fine tuning, security, and searching, including advanced search techniques, keyboard shortcuts, and current topics. Prerequisites: None.

CIS121AH **3 credits** **4 periods**
Microsoft PowerShell/Command Line Operations

Day-to-day command line administration tasks of Microsoft Windows. PowerShell used to create scripts to administer Microsoft windows environment. Prerequisites: None. MST150 suggested but not required.

CIS126AA **1 credit** **2 periods**

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.

CIS126AL **1 credit** **2 periods**
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.

CIS126BA **1 credit** **1 period**
UNIX Operating System: Level II

Installation, configuration, and maintenance of the UNIX operating system. Prerequisites: A grade of C or better in CIS126AA.

CIS126CA 1 credit 1 period
UNIX Operating System: Level III
 Create login scripts and batch files, and maintain system communications. Prerequisites: A grade of C or better in CIS126BA.

CIS126DA 3 credits 4 periods
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.

CIS126DL 3 credits 4 periods
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.

CIS129 1 credit 2 periods
Introduction to Microsoft Sharepoint
 Designed to provide basic skills enabling the end user to navigate, manage documents and collaborate using Microsoft Sharepoint. Prerequisites: A grade of C or better in BPC110, or CIS105, or permission of Instructor.

CIS130DA 3 credits 4 periods
3D Studio Max: Modeling
 Introduction to 3D modeling using 3D Studio Max. Emphasis will be placed on Polygonal, Solid, and Surface modeling tools. Students will also understand concepts such as modifiers, sub-object editing, extruding, Booleans, lofting, lathing and compound object modeling. Introduction to basic lighting, texturing and rendering techniques. Prerequisites: A grade of C or better in CIS105.

CIS130DB 3 credits 4 periods
3D Studio Max: Animation
 Introduction to three-dimensional animation tools and principles, with an emphasis on character construction and animation. 3D Studio Max will be the primary application for use in this class. Prerequisites: A grade of C or better in CIS105.

CIS131AA 1 credit 1 period
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.

CIS133AA¹ 1 credit 2 periods
Internet/Web Development Level I-A
 Overview of the Internet and its resources. Hands-on experience with various Internet communication tools. Prerequisites: None.

CIS133DA¹ 3 credits 4 periods
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.

CIS138DA 3 credits 4 periods
Desktop Design and Publishing Using Adobe InDesign
 Use of Adobe InDesign to compose and print textual and graphic materials of high quality. Includes word processing of copy, use of graphics programs, layout of design elements, printing alternatives, and file formats. Prerequisites: A grade of C or better in CIS105, or BPC110, or permission of Instructor.

CIS150 3 credits 4 periods
Programming Fundamentals
 Structured program design and logic tools. Use of computer problems to demonstrate and teach concepts using appropriate programming language. Prerequisites: A grade of C or better in CIS105 or permission of Instructor.

CIS150AB 3 credits 4 periods
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: A grade of C or better in CIS105 or permission of instructor.

CIS151 3 credits 4 periods
Computer Game Development -Level I
 Introduction to object-oriented game development, game design, and game theory. Use of computer software to demonstrate and teach concepts using an appropriate game development platform to model real-time simulations and create computer games using object oriented tools. Introduction to developing PC games, educational software, and training software using windows based object oriented developments tools. Prerequisites: A grade of C or better in CIS105 or permission of Instructor.

CIS156 3 credits 4 periods
Python Programming: Level I
 Use of the Python programming language to solve problems using suitable examples from business or other disciplines. Prerequisites: A grade of C or better in CIS105, or permission of instructor.

CIS159 3 credits 4 periods
Visual Basic Programming I
 Use of the Visual Basic programming language to solve problems using suitable examples from business or other disciplines. Prerequisites: A grade of C or better in CIS105, or permission of instructor.

CIS162AB 3 credits 4 periods
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: A grade of C or better in CIS105 or permission of Instructor.

CIS162AC 3 credits 4 periods Visual C++: Level I Introduction to Visual 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: A grade of C or better in CIS105 or permission of Instructor.	CIS166AE 3 credits 4 periods Web Scripting with PHP: Hypertext Preprocessor (PHP) Introduction to web scripting with PHP (PHP: Hypertext Preprocessor). Web application development using Hypertext Markup Language (HTML), PHP, programming logic, and Structured Query Language (SQL). Prerequisites: A grade of C or better in CIS133CA ¹ or CIS133DA ¹ or permission of instructor.
CIS162AD 3 credits 4 periods 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: A grade of C or better in CIS105, or permission of instructor.	CIS166AF 3 credits 4 periods Web Scripting with Python Introduction to web scripting with Python. Web application development using HTML, Python and Structured Query Language (SQL). Prerequisites: A grade of C or better in CIS133CA ¹ , or CIS133DA ¹ , or permission of Instructor.
CIS163AA 3 credits 4 periods 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: A grade of C or better in CIS105 or permission of instructor.	CIS190² 3 credits 4 periods Introduction to Networking Overview of networks. Emphasis on the elements of a network, current issues and products, and use of a network. Includes terminology, hardware and software components, connectivity, resource monitoring and sharing, electronic mail and messaging, and security issues. Helps prepare students for the CompTIA Network+ examination. Prerequisites: A grade of C or better in CIS105 or permission of Instructor.
CIS164AG 2 credits 3 periods 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: A grade of C or better in CIS105 or permission of instructor.	CIS190¹ 3 credits 4 periods IOverview 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: A grade of C or better in CIS105 or permission of Instructor.
CIS166 3 credits 4 periods 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: A grade of C or better in CIS133CA ¹ , or CIS133DA ¹ , or permission of Instructor	CIS197 3 credits 4 periods VMware ESXI Server Enterprise Introduction to vSphere and VMware ESXI server in the enterprise. Covers many aspects of virtualization for VMware ESXI server administration. Designed to develop knowledge and skills required to install, configure and troubleshoot a VMware ESXI Server (vSphere) including basic network functions. Prerequisites: A grade of C or better in (CIS126DL or MST150 (any module)) and (CIS190 or MST140 or CNT140) or permission of Instructor.
CIS166AA 3 credits 4 periods 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: A grade of C or better in CIS133CA ¹ or CIS133DA ¹ or permission of instructor.	CIS213DE 3 credit 4 periods Advanced Microsoft Word: Word Processing Using advanced word processing software features to perform tasks such as mail merge, collaboration, web pages, math functions, macros, photo enhancements, graphics, tables, forms and manage long documents. Prerequisites: A grade of C or better in CIS113DE or (CIS113AE and CIS113BE and CIS113CE) or permission of Instructor.
CIS166AC 3 credits 4 periods 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: A grade of C or better in (CIS133CA ¹ or CIS133DA ¹ and (CIS159 or CIS162AD), or permission of Instructor.	CIS214DE 3 credit 4 periods Advanced Excel Spreadsheet: Level II Advanced Excel spreadsheet features including formatting techniques, macros and Visual Basic for applications. Templates, built-in functions and lists as well as analysis tools including Pivot Tables and Goal Seek covered. Import and export data, workgroup collaboration and Internet features of Excel emphasized. Prerequisites: A grade of C or better in CIS114DE or permission of Instructor.

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CIS217AM **3 credits** **4 periods**
Advanced Microsoft Access: Database Management

Basic database concepts including database design, primary and secondary key selection and relationships between tables. Queries, subforms, macros, events, Visual Basic modules and Access '97 Internet features also covered. Prerequisites: A grade of C or better in (CIS117DM or CIS117CM).

CIS220DC **3 credits** **4 periods**
Flash: Advanced Animation and Action Script

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: A grade of C or better in CIS120DC or permission of instructor.

CIS221AB **1 credit** **2 periods**
Microsoft Power Shell

Microsoft Power Shell (PS) is used to aid system administrators of Microsoft Network Operating Systems (NOS) in automating many administrative tasks through shell script automation. Prerequisites: A grade of C or better in BPC121AB CIS121AB or permission of Instructor.

CIS224 **3 credits** **4 periods**
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.

CIS225 **3 credits** **4 periods**
Business Systems Analysis and Design

Investigation, analysis, design, implementation and evaluation of business computer systems. Prerequisites: Any programming language or permission of Instructor.

CIS226AL **3 credits** **4 periods**
Internet/Intranet Server Administration-Linux

Configuration and management of internet/intranet services, including the Apache web server, Simple Mail Transfer Protocol servers (SMTP), Structured Query Language (SQL server), File Transfer Protocol (FTP), Network Time Protocol (NTP), and other network services used in home and small business environments. Covers basic security configuration and testing. Prerequisites: A grade of C or better in CIS126 (any module) or permission of Instructor.

CIS233DC **3 credits** **4 periods**
Internet Web Development: Dreamweaver

Design and development of comprehensive and interactive websites using Dreamweaver. Hands-on experience designing, developing, testing, and publishing web documents that contain various client-side web technologies. Prerequisites: A grade of C or better in CIS133CA¹, or CIS133DA¹, or permission of Instructor.

CIS238DL **3 credits** **4 periods**
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 CompTIA Linux+, the Red Hat Certified System Administrator (RHCSA), the Red Hat Certified Engineer (RHCE) and the Linux Professional Institute (LPIC-1). Prerequisites: A grade of C or better in CIS126DL or CIS126RH or permission of Instructor.

CIS239DL **3 credits** **4 periods**
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: A grade of C or better in CIS126DL or CIS126RH or permission of Instructor.

CIS240 **3 credits** **3 periods**
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: A grade of C or better in CIS190 or MST140 or permission of Instructor.

CIS240DL **3 credits** **4 periods**
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 CompTIA Linux+, the Red Hat Certified System Administrator (RHCSA), the Red Hat Certified Engineer (RHCE) and the Linux Professional Institute (LPIC-1). Prerequisites: A grade of C or better in CIS126DL or CIS126RH or permission of Instructor.

CIS250 **3 credits** **4 periods**
Management Information Systems

The study of business information systems and its management, communication, e-business strategies, emerging technologies, database concepts, and project management. Overview of systems analysis and design. Learn about the competitive and strategic uses of information systems and how they are transforming organizations and their management. Prerequisites: A grade of C or better in CIS105.

CIS251 **3 credits** **4 periods**
Computer Game Development -Level II

Advanced object-oriented game development, advanced game design, and advanced game theory. Use of game development software tools to demonstrate advanced concepts for modeling real-time simulations and creating computer games using object oriented development tools. In depth coverage of game programming (scripting) techniques, and decision logic using object oriented techniques. Prerequisites: A grade of C or better in CIS151 or permission of Instructor.

CIS259 3 credits 4 periods 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: A grade of C or better in CIS159 or permission of instructor.	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: A grade of C or better in CIS240DL or Permission of Instructor.
CIS262AC 3 credits 4 periods 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: A grade of C or better in CIS162AC or permission of Instructor.	CIS272DB 3 credits 4 periods Information Security Principles Covers threats to the IT infrastructure and how they can impact operations. Demonstrates strategies to mitigate risk impacts as they relate to the IT infrastructure. Provides technical knowledge required to execute on the essentials of information security. Provides partial preparation for certification in one or all of the following: Comptia Security + exam, International Information Systems Security Certification Consortium ((ISC)2), Systems Security Certified Practitioner (SSCP) exam, the Committee on National Security Systems (CNSS) 4011 certification, or GIAC Security Essentials Certificate (GSEC). Prerequisites: A grade of C or better in CIS271DB.
CIS262AD 3 credits 4 periods C# Level II Advanced C# programming with emphasis on data structures, dynamic memory allocation, object-oriented programming, user interfaces, and database processing. Overview of web applications, network programming, and reporting tools. Prerequisites: A grade of C or better in CIS162AD or permission of Instructor.	CIS274DA 3 credits 4 periods Introduction to Power Systems Security Demonstrates distinct difference between control systems, used to control physics and computer information systems, used to process data, in the Power and Utility industry. Background information related to the Power Systems industry, elements and security risks. In-depth overview of how all elements of the power system function, as well as risks. Prerequisites: A grade of C or better in CIS272DB and PPT120, or permission of Instructor.
CIS263AA 3 credits 4 periods Java Programming: Level II Intermediate Java programming. Includes features needed to construct object-oriented programming, multithreading, multimedia, files, streams and data structure. Prerequisites: A grade of C or better in CIS163AA or permission of Instructor.	CIS275 3 credits 4 periods Linux Capstone The Linux Capstone course aggregates the skills, knowledge, communication, and critical thinking skills from the Linux Program. This course is to emulate a production environment that prepares students to work as a Linux Systems Administrator. The course helps to prepare students for Linux Industry certification exams. Prerequisites: CIS271DL or permission of Instructor.
CIS270 3 credits 4 periods 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: A grade of C or better in CNT150, or any MST150 course or permission of instructor.	CIS275DA 3 credits 4 periods Generation and Transmission Systems Security Introduction to industrial control systems and how they support Power Generation and Transmission. Risks associated with infrastructures and why it is important to reduce those risks to acceptable levels by securing supporting industrial control systems. Advanced knowledge of industrial control systems used in the power, energy and utility industry with a concentrated focus on cyber security. This experience will also be directly transferable to other industries that operate industrial control systems such as Chemical Processing, Manufacturing, Defense, etc. Partial preparation for the Certified SCADA (Supervisory Control and Data Acquisition) Security Architect (CSSA) certification provided by the Information Assurance Certification Review Board (IACRB). Prerequisites: A grade of C or better in CIS274DA or permission of Instructor.
CIS271DB 3 credits 4 periods Information Security Essentials Overview of information security principles, access control, risk management, and compliance. Provides partial preparation for certification in one or all of the following: Comptia Security + exam, International Information Systems Security Certification Consortium (ISC)2, Systems Security Certified Practitioner (SSCP) exam, the Committee on National Security Systems (CNSS) 4011 certification, or GIAC Security Essentials Certificate (GSEC). Prerequisites: A grade of C or better in CNT140AA and (MST150SV or CIS126DL) and CIS250.	CIS275DB 3 credits 4 periods Smart Grid and Distribution System Security Information security risks associated with a modernized electric power grid. Provides detailed overview of the modern electric power grid including its components, functions and features. Focuses on security risks related to distribution automation and
CIS271DL 3 credits 4 periods 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	

¹ Final Term Summer 2019, ² Effective Term Fall 2019

smart meters including smart grid components, interfaces and interactions between components with differing levels of security. Architecture, protocols and security impacts associated with this infrastructure are stressed. Prerequisites: A grade of C or better in CIS274DA or permission of Instructor.

CIS275DC **3 credits** **4 periods**
Embedded Systems Security

In-depth overview of embedded systems used in power system utility environments and their underlying infrastructure. Provides understanding of what embedded systems are, how they are implemented and the security risks that are associated with them. Focuses on conducting reconnaissance activities from untrusted networks to identify weaknesses in control system networks. Describes how execution of attacks can be used to gain unauthorized access, creating impacts on embedded systems including the effects that they create. Actions that mitigate or reduce the risk of attacks to embedded systems that support grid operations are stressed. Partial preparation for certifications such as the International Council of Electronic Commerce Consultants (EC-Council) Certified Ethical Hacker (CEH) with a concentration in embedded systems security. Prerequisites: A grade of C or better in CIS274DA or permission of Instructor.

CIS275DL **3 credits** **4 periods**
Linux Capstone

The Linux Capstone course aggregates the skills, knowledge, communication, and critical thinking skills from the Linux Program. This course is to emulate a production environment that prepares students to work as a Linux Systems Administrator. The course helps to prepare students for Linux Industry certification exams. Prerequisites: A grade of C or better in CIS271DL or permission of Instructor.

CIS276DA **3 credits** **4 periods**
MySQL Database

A broad overview of the MySQL database. Includes Structured Query Language (SQL) instruction for data definition, data manipulation, and data retrieval. Develops knowledge and skills required to install MySQL, model and create new databases, manage users, authentication, and stored procedures, and develop backup/restore strategies. Prerequisites: A grade of C or better in CIS105 or permission of Instructor.

CIS276DB **3 credits** **4 periods**
SQL Server Database

A broad overview of the Microsoft Structured Query Language (SQL) Server database. Includes SQL instruction for data definition, data manipulation, and data retrieval. Develops knowledge and skills required to install SQL Server, model and create new databases, manage users, authentication, and stored procedures, and develop backup/restore strategies. Prerequisites: A grade of C or better in CIS105 or permission of Instructor.

CIS280 **3 credits** **4 periods**
Current Topics in Computing

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 MST140 or permission of Instructor.

CIS282AA **1 credit** **1 period**
Volunteerism for Computer Information Systems: A Service Learning Experience

Service learning field experience within private/public agencies, educational institution, and citizen volunteer groups. CIS282AA 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.

CIS290AA **1 credit** **6 periods**
CIS290AB **2 credits** **12 periods**
CIS290AC **3 credits** **18 periods**

Computer Information Systems Internship

Work experience in business or industry. Prerequisites: Permission of Instructor.

CIS296WA **1 credit** **5 periods**
CIS296WB **2 credits** **10 periods**
CIS296WC **3 credits** **15 periods**
CIS296WC **4 credits** **20 periods**

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 students academic or career goals (students present job may qualify) or permission of instructor. Corequisites: Must be concurrent in at least one class which is related to student's major or career interest or with permission of the Instructor.

CIS298 **1-3 credits**

Special Projects

See page 229

Construction (CNS)

CNS205 **3 credits** **3 periods**

Sustainable Construction/LEED Certification

Fundamentals of major components of sustainable design and construction, including energy, health care facilities, cultural and natural resources, and other environmental and economic issues of sustainable built environments. Importance of a collaborative team effort with owner, developers, architects, engineers, and constructors will be integrated into the course. Issues impacting schedule and budgets of sustainable construction projects will be analyzed. Prepares student for the Leadership in Energy and Environmental Design (LEED) Certification Exam. Prerequisites: None.

Cisco Networking Technology (CNT)

CNT140AA **4 credits** **6 periods**

Introduction to Networks

Introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced. Students will build simple LANs, perform basic configurations for routers and

switches, and implement IP addressing schemes. **Preparation for Cisco certification and Cisco Certified Network Associate (CCNA) examination.** Prerequisites: None.

CNT150AA **4 credits** **6 periods**
Cisco - Routing and Switching Essentials

Architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. Configuration and troubleshooting routers and switches and resolving common issues with RIPv1, RIPng, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. **Preparation for Cisco certification examination.** Prerequisites: A grade of C or better in CNT140AA or permission of Instructor.

CNT160AA **4 credits** **6 periods**
Scaling Networks

Architecture, components, and operations of routers and switches in large and complex networks. Configuring routers and switches for advanced functionality. Configuring and troubleshooting routers and switches and resolving common issues with OSPF, EIGRP, and STP in both IPv4 and IPv6 networks. Developing the knowledge and skills needed to implement a WLAN in a small-to-medium network. Preparation for Cisco certification examination. Prerequisites: A grade of C or better in CNT150AA or permission of Instructor.

CNT170AA **4 credits** **6 periods**
Cisco - Connecting Networks

Wide Area Network (WAN) technologies and network services required by converged applications in a complex network. Criteria selection of network devices and WAN technologies to meet network requirements. Configuring and troubleshooting network devices, and resolving common issues with data link protocols issues, and developing the knowledge and skills needed to implement Internet Protocol Security (IPSec) and Virtual Private Network (VPN) operations. **Preparation for Cisco certification examination.** Prerequisites: A grade of C or better in CNT160AA or permission of Instructor.

CNT171 **1 credit** **2 periods**
CCNA Exam Prep

Preparation for renewal of CCNA certification by reviewing the OSI model and industry standards including network topologies, IP addressing, subnet masks, access control list, basic network design and cable installation. Practice the skills to configure, customize, maintain and troubleshoot Cisco routers and switches for Local Areas Networks (LANs) and Wide Area Networks (WANs) using Cisco IOS command set. Review any new material introduced since the last CCNA exam version. Prerequisites: A grade of C or better in CNT170 or CNT170AA or CCNA certification or permission of instructor. Course Notes: CNT171 can be offered on credit (P) No credit (Z) basis. Standard grading available according to procedures outlined in college catalog.

CNT200 **4 credits** **6 periods**
CCNP ROUTE: Implementing Cisco IP Routing

Development of knowledge and skills needed to manage Internet Protocol (IP) traffic and access, understand scalable internet-networks configure advanced routing protocols Border Gateway Protocol [BGP], Enhanced Interior Gateway Routing Protocol [EIGRP], Open Shortest Path First [OSPF], as well as Internet

Protocol (IPv6), and configuration of secure routing solutions to support branch offices and mobile workers. Comprehensive labs emphasize hands-on learning and practice to reinforce configuration skills. Prerequisites: A grade of C or better in CNT170AA, or CCNA industry certification, or permission of Instructor. Corequisites: CNT220. Course Notes: Preparation for Cisco Certified Network Professional (CCNP) exam.

CNT202 **4 credits** **5 periods**
Cisco Secure Firewall Appliance 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, Authentication, Authorization, and Accounting (AAA), Failover, and Virtual Private Network (VPN) implementation using firewalls. Prerequisites: A grade of C or better in CNT170AA or permission of Instructor.

CNT205 **4 credits** **6 periods**
Cisco Certified Network Associate Security

Associate-level knowledge and skills required to secure Cisco networks. Development of a security infrastructure, identification of threats and vulnerabilities to networks. Mitigation of security threats. Core security technologies. Installation, troubleshooting and monitoring of network devices to maintain integrity, confidentiality and availability of data and devices. Competency in the technologies that Cisco uses in its security structure. Prerequisites: A grade of C or better in CNT170 or CNT170AA or Certified Cisco Networking Associate (CCNA) certification or permission of Instructor.

CNT206 **4 credits** **6 periods**
Cisco Certified Network Associate Wireless

Associate-level knowledge and skills required in Cisco wireless networks. Includes comprehensive hands-on labs to design, plan, implement, operate, secure, and troubleshoot wireless networks. Prerequisites: A grade of C or better in CNT170, or CNT170AA, or permission of Instructor. *Course offered only in the Fall semester.*

CNT220 **4 credits** **6 periods**
CCNP SWITCH: Implementing Cisco IP Switching

Development of knowledge and skills in building, monitoring, and maintaining switching in converged enterprise networks using advanced and multi-layer switching technologies. Planning, configuring, securing and verifying the implementation of complex enterprise switching solutions. Hands-on learning and practice to reinforce configuration skills. Prerequisites: A grade of C or better in CNT170AA, or CCNA industry certification, or permission of Instructor. Corequisites: CNT200. Course Notes: Preparation for Cisco Certified Network Professional (CCNP) exam.

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Communication (COM)

COM080 **3 credits** **3 periods**
Conversation Circles

Practice in conversing in English for non-native speakers. Emphasis in developing conversational techniques to facilitate building and maintaining relationships. Prerequisites: None. Course Note: COM080 may be repeated for a total of six (6) credit hours.

COM095 **3 credits** **3 periods**
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.

COM100  **COM1100** **3 credits** **3 periods**
Introduction to Human Communication

Introduces the theory and practice of human communication. Surveys communication topics related to interpersonal, small group, and public communication. Prerequisites: None.

COM110  **COM1110** **3 credits** **3 periods**
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, developing and maintaining personal and professional relationships. Prerequisites: None.

COM120 **3 credits** **3 periods**
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.

COM163 **3 credits** **3 periods**
Intercultural Communication in Everyday Life

Provides knowledge to promote greater understanding and application of intercultural communication in social and organizational interactions. For advanced non-native English speakers. Prerequisites: Appropriate English placement test score at the ENG101 or ENG107 level or a grade of C or better in ENG091 or ESL097 or permission of Instructor.

COM207 **3 credits** **3 periods**
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: A grade of C or better in ENG101 or ENG107 or equivalent, and COM100 or equivalent, or permission of Instructor. Course Notes: COM207 is recommended for the communication major

COM222 **3 credits** **3 periods**
Argumentation

Discussion and practice of the use of evidence, applied reasoning,

recognition of fallacies, selection of arguments, and methods of analyzing issues. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

COM225 **3 credits** **3 periods**
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: A grade of C or better in ENG101 or ENG107 or equivalent.

COM230  **COM2271** **3 credits** **3 periods**
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: None.

COM241 **3 credits** **3 periods**
Oral Interpretation of Literature

The study, analysis, and preparation for performance of prose, poetry, and dramatic literature. Preparation of material for public audiences. Prerequisites: A grade of C or better in ENG101 or ENG107.

COM250 **3 credits** **3 periods**
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.

COM259 **3 credits** **3 periods**
Communication in Business and Professions

Interpersonal, group, and public communication in business and professional organizations. Emphasis on oral communication. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

COM263 **3 credits** **3 periods**
Elements of Intercultural Communication

Diverse cultural contexts are explored through basic concepts, principles, and theories of intercultural communication. Discovering effective interaction and appropriate communication in a global community is emphasized. Prerequisites: None.

COM270 **3 credits** **3 periods**
Health Communication

Theory and practice of interpersonal, intercultural, public, and team communication skills in a healthcare setting. Prerequisites: None.

COM281 **1 credit** **3 periods**
COM281AA **2 credits** **4 periods**
COM281AB **3 credits** **5 periods**

Communication Activities

Designed to provide students with competence and confidence in a variety of speech situations beyond the classroom setting. May include presentations at speech competitions or at community organizations. Prerequisite: None. Course Notes: COM281, COM218AA, 281AB may be repeated for a total of six (6) credit hours.

COM282AA	1 credit	1 period
COM282AB	2 credits	2 periods
COM282AC	3 credits	3 periods

Service-Learning Experience in Communication

Unpaid Service-Learning (SL) experience, completed with approved community partner. Prerequisites: Permission of instructor. Course Notes: COM282AA, COM282AB, COM282AC may be repeated for a total of six (6) credit hours. Standard grading available according to procedures outlined in catalog

Construction (CON)

CON241	3 credits	2 periods
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Surveying

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: None.

Counseling and Personal Development (CPD)

CPD096	2 credits	2 periods
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Personal Success in College

Student attitudes, behaviors, and skills required for success in college. Includes an overview of instructional strategies commonly used in college classrooms, use of resources, and identification of obstacles to academic progress, and to effective communication. Prerequisites: None.

CPD102AB	2 credits	2 periods
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Career Exploration

Designed to assist students make informed career decisions. Focuses on current occupational trends and outlook. Explores career-related interests, values, needs, preferences, skills, and strengths with the use of various assessments. Aids in the development of individualized educational/career goals and action plan. Prerequisites: None. Course Notes: CPD102AB may be repeated for a total of six (6) credit hours.

CPD102AD	2 credits	2 periods
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Growth and Transformation Strategies

Designed to help students adopt a growth mindset within a holistic framework in order to transform patterns that prevent them from achieving their goals. Prerequisites: None.

CPD102AH	2 credits	2 periods
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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.

CPD102AS	2 credit	2 periods
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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.

CPD104 ²	3 credits	3 periods
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Career and Personal Development

An overview of the holistic process of career/life planning through self-awareness and understanding of the world of work. Exploration and application of behavioral, social, and cultural factors leading to college, career, and personal success with emphasis on assessment, applied behavior management, motivation, self-care, and career development. Prerequisites: None.

CPD104 ¹	3 credits	3 periods
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Career and Personal Development

An overview of the process of career/life planning through self-awareness and understanding. Focus on specific skill development such as dealing with change, decision making, goal setting and understanding lifestyles. Provides opportunity to evaluate interests, skills and values. Emphasis on the development of a comprehensive career search process which includes current occupational information, specific tools for researching the job market and acquiring employment. Prerequisites: None.

CPD150	3 credits	3 periods
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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.

CPD160	3 credits	3 periods
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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. Critical thinking skills for recognizing, analyzing, and mediating cultural and psychological factors impacting conflict and accord between diverse cultures through written and oral discourse. Prerequisites: A grade of C or better in ENG101, or ENG107, or permission of Instructor.

CPD195AB	1 credit	1 period
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Special Topics: Counseling and Personal Development

Introduction to current topics and contemporary issues related to promoting personal development. Focuses on a variety of techniques and strategies to improve personal and interpersonal effectiveness. Prerequisites: None.

Critical Reading (CRE)

CRE101	3 credits	3 periods
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College Critical Reading and Critical Thinking

Develop and apply critical thinking skills through critically reading varied and challenging materials. Includes analysis, evaluation, interpretation, and synthesis through at least two substantial writing and/or speaking tasks. Prerequisites: (A grade of C or better in ENG101 or ENG107) and (appropriate reading placement test score or a grade of C or better in RDG095 or RDG100 or RDG111 or RDG112 or RDG113 or permission of Instructor).

Creative Writing (CRW)

CRW120	3 credits	3 periods
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Introduction to Writing Children's Literature

Overview of writing children's literature. Emphasis on genres

¹ Final Term Summer 2019, ² Effective Term Fall 2019

and standards for quality. Development of techniques in reading, evaluating, writing, revising, and editing literature written for children ENH291 suggested but not required. Prerequisites: None. ENH291 suggested but not required

CRW150 **3 credits** **3 periods**

Introduction to Creative Writing

Introduction to the basic aesthetics and techniques in contemporary creative writing within a variety of genres. Introduction to the analytical concepts and terminology necessary to understand, interpret, and enact contemporary creative writing. Facilitation of writing practices and evaluation. Introduction to literature's role in society. Prerequisites: None.

CRW160 **3 credits** **3 periods**

Introduction to Writing Poetry

Prewriting (invention and discovery); writing; analyzing and evaluating (in workshop); and 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.

CRW170 **3 credits** **3 periods**

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. Prerequisites: None. CRW150 recommended but not required.

CRW180 **3 credits** **3 periods**

Introduction to Writing Nonfiction

Practice in writing creative nonfiction, including autobiography and biography, the essay, reviews, and humor using a process of invention and discovery, writing, analysis, evaluation, and revision. Combines lecture, discussion, and workshop, leading to the production of marketable quality creative nonfiction. Prerequisites: None. CRW150 recommended but not required.

CRW190 **3 credits** **3 periods**

Introduction to Screenwriting

Overview of screenwriting elements; introduction to screenwriting techniques. Prerequisites: None. CRW150 recommended but not required.

CRW200 **1 credit** **1 period**

Readings for Writers

Close analysis and interpretation of selected literary texts designed to strengthen the students' own writing by extending their familiarity with the genre in which they write and their knowledge of selected literary elements. One-on-one meetings between student and instructor. Prerequisites: A grade of C or better in CRW150, or permission of instructor. Course Notes: CRW200 may be repeated for a total of six (6) credits.

CRW201 **1 credit** **1 period**

Portfolio

Close analysis of the creative writing portfolio culminating in selection, revision, editing, and compiling of the student's own literary work in a portfolio. Students meet individually with instructor to choose, prepare, and compile their work. Prerequisites: (Acceptance into Creative Writing Certificate Program and

completion of at least nine (9) credit hours in creative writing (CRW)), or permission of Program Director.

CRW202 **3 credits** **3 periods**

The Writer as Witness

Studio course focusing on writing with the writer as witness of the world: pre-writing, writing, analysis, evaluation, and writing of monologue and dialogue in various formats. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

CRW203 **3 credits** **3 periods**

Dialogue

Studio course focusing on writing dialogue in a variety of genres; prewriting, writing, analysis, evaluation, and writing of monologue and dialogue in various formats. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

CRW204 **3 credits** **3 periods**

Journaling

Studio course focusing on journal writing. Prerequisites: A grade of C or better in CRW150 or permission of instructor.

CRW220 **3 credits** **3 periods**

Intermediate Writing Children's Literature

Application of techniques in writing literature for children. Emphasis on independent writing, self-evaluation, and revision. Includes completion of a major writing project of marketable quality. Prerequisites: A grade of C or better in CRW120 or permission of Instructor.

CRW251 **3 credits** **3 periods**

Topics in Creative Writing

Analysis, writing, and revision focused on a selected element applicable to all genres of creative writing. CRW251 may be repeated, topic must be different, for a total of nine (9) credit hours. Prerequisites: None. CRW150 recommended.

CRW260 **3 credits** **3 periods**

Intermediate Poetry Writing

Emphasis on writing a series of original poems; analysis and evaluation of the functions and effects of established works of poetry; concentration on evaluation and revising students' poetry through intensive workshopping. Prerequisites: A grade of C or better in CRW160 or permission of Instructor.

CRW261 **3 credits** **3 periods**

Topics in Writing: Poetry

Analysis, writing, and revision of genre or element within poetry. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

CRW270 **3 credits** **3 periods**

Intermediate Fiction Writing

Writing original short stories; analysis of works of fiction; concentration on revising students' fiction through intensive workshopping. Prerequisites: A grade of C or better in CRW170.

CRW271 **3 credits** **3 periods**

Topics in Writing: Fiction

Analysis, writing, and revision of genre or element within fiction. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

CRW272 3 credits 3 periods

Planning and Structuring the Novel

Focus on planning, structuring, and beginning a novel; prewriting, writing, analysis, evaluation, and revision of novel plans and excerpts. Prerequisites: A grade of C or better in CRW150 or permission of instructor.

CRW273 3 credits 3 periods

Writing the Novel

Provides the beginning novelist with structure, support, and guidance vital to sustained writing; focus on establishing goals and using critique sessions with instructor and peers to draft a novel; open- and topic-focused in-class forums, novel writing, peer and instructor critiques. Prerequisites: CRW272 or permission of instructor.

CRW274 3 credits 3 periods

Revising the Novel

Studio course workshop format. Requires a complete novel finished, in manuscript, ready for revision and polishing. Prerequisites: CRW273 or permission of instructor.

CRW281 3 credits 3 periods

Topics in Writing: Non-Fiction

Analysis, writing, and revision of genre or element within non-fiction. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

CRW290 3 credits 3 periods

Intermediate Screenwriting

Drafting and revision of original screenplay; overview of marketing a screenplay. Prerequisites: CRW190 or permission of instructor.

CRW291 3 credits 3 periods

Topics in Writing: Plays

Analysis, writing, and revision of genre or element within plays and/or motion picture screenplays. Prerequisites: A grade of C or better in CRW150 or permission of Instructor.

Computer Science (CSC)

CSC100AA 3 credits 4 periods

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: A grade of C or better in MAT120 or MAT121 or MAT122.

CSC100AB 4 credits 4 periods

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: A grade of C or better in MAT120, or MAT121, or MAT122.

CSC110 3 credits 3 periods

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: A grade of C or better in MAT120 or MAT121 or MAT122.

CSC110AB 4 credits 4 periods

Introduction to Computer Science (Java)

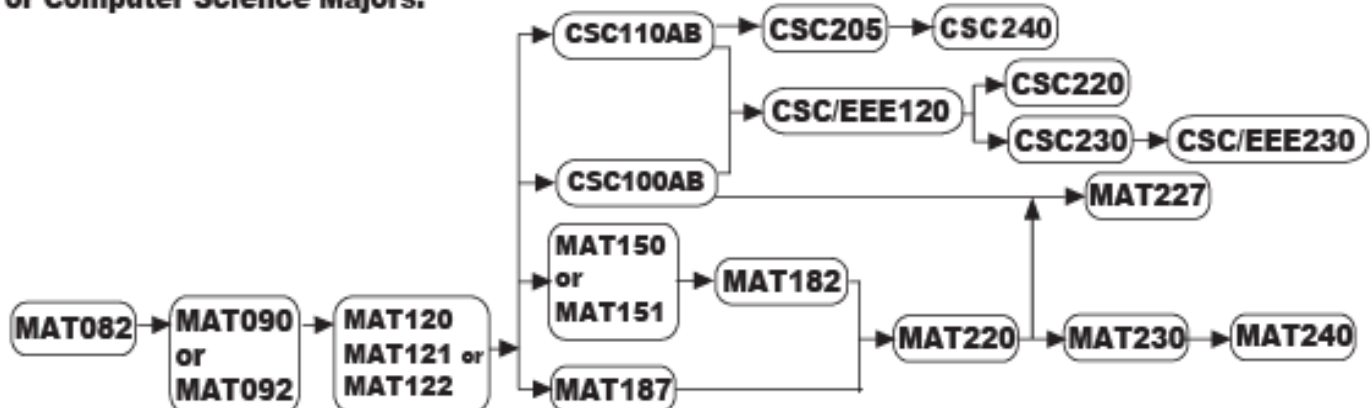
Concepts of problem solving, structured and object-oriented programming in Java, fundamental algorithms and techniques and computer system concepts. Social and ethical responsibilities. Intended for Computer Science and Computer Systems Engineering Majors. Prerequisites: A grade of C or better in MAT120, or MAT121, or MAT122.

CSC120 4 credits 6 periods

Digital Design Fundamentals

Number systems, conversion methods, binary and complement arithmetic, Boolean switching algebra and circuit minimization techniques. Analysis and design of combinational logic, flipflops, simple counters, registers, ROMs, PLDs, synchronous and

For Computer Science Majors:



Note: MAT187 is recommended only for students with previous Trig. experience

¹ Final Term Summer 2019, ² Effective Term Fall 2019


asynchronous sequential circuits and state reduction techniques. Building physical circuits. Prerequisites: A grade of C or better in CSC100, or CSC110, or CSC181, or ELE181, or NET181, or equivalent, or permission of instructor.

CSC180AA **3 credits** **4 periods**
Computer Literacy

Introduction to computers and technology and their impact on society. Explores technology, current topics in computing, applications and related issues. Students gain fluency in integrating technology to solve problems using computational thinking. Use of application software to create documents, spreadsheets, databases, e-mail and text files, and use of Internet browsers. Prerequisites: None.

CSC185AA **3 credits** **4 periods**
World Wide Web and Introductory Internet Programming

Organization of and access to information on the Internet. Design, creation and publication of interactive web pages with HTML, multimedia, animated custom graphics, applets and JavaScript programming. Ethical issues, including security and privacy on the World Wide Web. Prerequisites: None.

CSC205  **CSC2205** **3 credits** **3 periods**
Object Oriented Programming and Data Structures

Covers Object-Oriented design and programming; elementary data structures; arrays; lists; stacks; queues; binary trees; recursion; searching and sorting algorithms. Prerequisites: A grade of C or better in CSC110, or permission of Instructor.

CSC205AB **4 credits** **4 periods**
Object Oriented Programming and Data Structures

Covers Object-Oriented design and programming; elementary data structures; arrays; lists; stacks; queues; binary trees; recursion; searching and sorting algorithms. Prerequisites: A grade of C or better in CSC110, or permission of Instructor.

CSC220 **3 credits** **5 periods**
Programming for Computer Engineering

Introduction to procedural programming (C/C++) and hardware description language (VHDL). Prerequisites: A grade of C or better in ((EEE120 or CSC120) and CSC205) or permission of Instructor

CSC230 **4 credits** **5 periods**
Computer Organization and Assembly Language

Assembly language programming including input/output (I/O) programming and exception/interrupt handling. Register-level computer organization, I/O interfaces, assemblers, and linkers. Processor organization and design, data path, control, pipelining, and input/output. Memory organization with cache and virtual memory. Prerequisites: A grade of C or better in [(CSC100 or CSC110) and CSC/EEE120], or permission of instructor.

CSC283 **3 credits** **4 periods**
Bioinformatics and Scientific Computing

Introduction to bioinformatics, including history, concepts, major genetic databases and access tools. Computer software and techniques for analyzing one nucleotide or protein sequence, searching for similar sequences, and aligning and comparing two or multiple sequences. Microarray analysis and phylogenetic trees. Application of standard software to bioinformatic computing tasks,

including word processing of reports, and use of spreadsheets for statistical analysis and graphing. Text editors, Unix, Internet web site searching and construction, and ethics. Prerequisites: A grade of C or better in [(BIO156 or BIO181) and (MAT120 or MAT121 or MAT122 or higher-level mathematics course)], or permission of Instructor. Concurrent enrollment in, or previous completion of, BIO208 or BIO212AA is strongly suggested but not required.

CSC294AA **3 credits** **4 periods**
Special Topics in Computing

Investigation of special topics in computing technology and applications. Examination of industry trends to solve problems and/or investigate issues. Prerequisites: Permission of Instructor.

CSC298 **1 credit**
Special Projects

See page 229.

Career Work Experience (CWE)

For Information: Diane Taylor
Phone: 623.845.3062

Many students are undecided about their career goals and direction and need some knowledge, experience, or investigation to help them make a decision. Others wish to enter the work world for the first time but learn that it is often difficult to obtain employment without actual work experience. Still other students may be dissatisfied with their present job or career and wish to explore other careers while still employed. These critically important needs may be met by this course which helps students gain work experience, on-the-job training, and exploration of a work environment by interning or volunteering to work in a business or agency of their choice. In addition, this course will aid in the student's career development by focusing on resume writing, interviewing techniques and job search strategies.

Credit for Career/Work Experience will be assigned on the following basis:

- Required attendance at a seminar once a week for 4 weeks
- Open-entry, self-paced, contact and meet with instructor

- 3 work hours weekly = 1 credit
- 6 work hours weekly = 2 credits
- 9 work hours weekly = 3 credits

Courses numbered 198 may be used as an elective toward fulfilling requirements for degrees offered by the Maricopa Community Colleges. They also may transfer to other colleges and universities as electives.

CWE198AA **1 credit**
CWE198AB **2 credits**
CWE198AC **3 credits**

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.

Dance Humanities (DAH)

DAH100 **3 credits** **3 periods**
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.

DAH101 **3 credits** **3 periods**
Introduction to Dance Through History
 Survey of dance throughout history examining the interplay between the cultural, social and political climate of the time and its expression in dance. Prerequisites: None.

DAH110 **3 credits** **3 periods**
Dance in Film
 Survey of the history and development of dance in film and video including basic film technology and critical analysis and evaluation. Prerequisites: None.

DAH250 **3 credits** **3 periods**
Dance in Popular Culture
 Interdisciplinary approach investigating the role dance plays in shaping American popular culture from the late 19th to the early 21st centuries. Explores social and cultural issues of power, class, gender, age and sexual orientation. Prerequisites: None.

DAH255 **3 credits** **3 periods**
Hip Hop: Arts, Aesthetic and Culture
 Selective survey and historico-cultural analysis of hip hop arts, aesthetics and culture organized around the founding elements of DJing, MCing, B-boy and B-girling, graffiti arts and knowledge. Prerequisites: A grade of C or better in ENG101 or ENG107.

Dance (DAN)

DAN102AA **1 credit** **3 periods**
Contemporary Dance Trends: Hip Hop
 Theory and practice of Hip Hop dance. Development of movement quality and performance skills. Prerequisites: None. Course Notes: DAN115AA may be repeated for credit.

DAN102AB **1 credit** **3 periods**
Hip Hop II
 Theory and practice of Hip Hop dance at the advanced beginning level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN102AA or permission of Instructor. Course Notes: DAN102AB may be repeated for credit.

DAN105AA **1 credit** **3 periods**
Swing I
 Theory and practice of Swing dance at the beginning level. Development of movement quality and performance skills. Prerequisites: None. Course Notes: DAN105AA may be repeated for credit.

DAN129 **1 credit** **3 periods**
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 Notes: DAN129 may be repeated for credit.

DAN131 **1 credit** **3 periods**
Ballet I
 Introduction to the theory and practice of ballet at the beginning level. Development of movement quality and performance skills. Prerequisites: None. Course Notes: DAN131 may be repeated for credit.

DAN132 **1 credit** **3 periods**
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 Notes: DAN132 may be repeated for credit.

DAN133 **1 credit** **3 periods**
Jazz Dance I
 Introduction to the theory and practice of jazz dance at the beginning level. Development of movement quality and performance skills. Prerequisites: None. Corequisites: DAN138 for dance majors. Course Notes: DAN133 may be repeated for credit.

DAN134 **1 credit** **3 periods**
Ballet II
 Theory and practice of ballet at the advanced beginning level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN131 or permission of instructor. Course Notes: DAN134 may be repeated for credit.

DAN135 **1 credit** **3 periods**
Modern Dance II
 Theory and practice of modern dance at the advanced beginning level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN132 or permission of instructor. Course Notes: DAN135 may be repeated for credit.

DAN136 **1 credit** **3 periods**
Jazz Dance II
 Theory and practice of jazz dance at the advanced beginning level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN133 or permission of instructor. Course Notes: DAN136 may be repeated for credit.

DAN138 **1 credit** **1 period**
Dance Seminar I
 Level I scientific evaluation and in-depth discussion of the theory and practice of work done in dance technique class. Prerequisites: None. Corequisites: Any ballet, modern dance, or modern jazz dance technique course.

DAN140 **1 credit** **3 periods**
Tap Dance I
 An introduction to the theory and practice of tap dance. Prerequisites: None. Course Notes: DAN140 may be repeated for credit.

DAN145 **1 credit** **3 periods**
Tap Dance II
 Theory and practice of tap dance at an advanced beginning level. Prerequisites: A grade of C or better in DAN140 or permission of Instructor. Course Notes: DAN145 may be repeated for credit.

¹ Final Term Summer 2019, ² Effective Term Fall 2019

<p>DAN150 Dance Performance I An introduction to the process and practice of dance performance. Prerequisites: None. Course Notes: DAN150 may be repeated for credit.</p>	1 credit	3 periods	<p>mance skills. Prerequisites: A grade of C or better in DAN135 or permission of Instructor. Course Notes: DAN232AA may be repeated for credit.</p>
<p>DAN155 Contemporary Dance Trends Theory and practice of current social dance trends. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN150 or permission of instructor. Corequisites: Any level of any of the following dance technique courses with a DAN prefix: ballet, modern, jazz, hip hop, tap, social, or world dance. Course Notes: DAN155 may be repeated for credit.</p>	1 credit	3 periods	<p>DAN233AA Jazz Dance III: Intensive Theory and intensive practice of jazz dance at the beginning intermediate level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN136 or permission of Instructor. Course Notes: DAN233AA may be repeated for credit.</p>
<p>DAN170 Dance Kinesiology In-depth study of how the human body functions during dance movement both theoretically and practically. Attention given to correct body alignment and use while dancing, exploring each part of the body individually and analyzing the body as a whole. Prerequisites: Appropriate reading and writing placement test scores, or a grade of C or better in ENG091 and RDG100. Corequisites: Any dance technique course.</p>	3 credits	3 periods	<p>DAN234AA Ballet IV: Intensive Theory and intensive practice of ballet at the advanced intermediate level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN231AA or permission of Instructor. Course Notes: DAN234AA may be repeated for credit.</p>
<p>DAN202AA Hip Hop I Theory and practice of Hip Hop dance at the beginning level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN102AB or permission of instructor. Course Notes: DAN102AA may be repeated for credit.</p>	1 credit	3 periods	<p>DAN235AA Modern Dance IV: Intensive Theory and intensive practice of modern dance at the advanced intermediate level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN232AA or permission of Instructor. Course Notes: DAN235AA may be repeated for credit.</p>
<p>DAN202AB Hip Hop IV Theory and practice of Hip Hop dance at the intermediate level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN202AA or permission of Instructor. Course Notes: DAN202AB may be repeated for credit.</p>	1 credit	3 periods	<p>DAN236AA Jazz Dance IV: Intensive Theory and intensive practice of jazz dance at the advanced intermediate level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN233AA or permission of Instructor. Course Notes: DAN236AA may be repeated for credit.</p>
<p>DAN210 Dance Production I Introduction to the elements of light, sound, and scenery as they relate to the art of dance. Prerequisites: None.</p>	3 credits	3 periods	<p>DAN237 Ballet Pointe I An introduction to the theory and practice of pointe work at the beginning level. Development of strength and movement quality. May be repeated for a total of two (2) semester credit hours. Prerequisites: A grade of C or better in DAN134 or permission of instructor. Corequisites: DAN231 or DAN234.</p>
<p>DAN221 Rhythmic Theory for Dance I Exploration of the ways in which music, time, pitch, and energy work with the art of dance. Emphasis on reading and writing music notation and performing movement that correlates to the notation and vice versa. Prerequisites: None.</p>	2 credits	3 periods	<p>DAN238 Dance Seminar II Level II scientific evaluation and in-depth discussion of the theory and practice of work done in dance technique class. Prerequisites: A grade of C or better in DAN138 or permission of instructor. Corequisites: Any ballet, modern dance, or modern jazz dance technique course.</p>
<p>DAN231AA Ballet III: Intensive Theory and intensive practice of ballet at the beginning intermediate level. Development of movement quality and performance skills. Prerequisites: A grade of C or better in DAN134 or permission of Instructor. Course Notes: DAN231AA may be repeated for credit.</p>	2 credits	5 periods	<p>DAN250 Dance Performance III Continued study of the process and practice of dance performance at a level III. Prerequisites: A grade of C or better in DAN155 or permission of instructor. Course Notes: DAN250 may be repeated for a total of two (2) semester credit hours.</p>
<p>DAN232AA Modern Dance III: Intensive Theory and intensive practice of modern dance at the beginning intermediate level. Development of movement quality and perfor-</p>	2 credits	5 periods	<p>DAN255 Dance Performance IV Culmination of the process and practice of dance performance</p>

at a level IV. Prerequisites: A grade of C or better in DAN250 or permission of instructor. Course Notes: DAN255 may be repeated for a total of two (2) semester credit hours.

DAN264 **3 credits** **3 periods**
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.

DAN280 **2 credits** **6 periods**
Dance Practicum

A culmination of coursework for the dance major requiring completion of an extended choreographic work from conception to performance. Also requires a final evaluative paper on the successes and challenges encountered throughout the project. Prerequisites: Permission of instructor.

DAN282AA **1 credit** **1 period**
Service-Learning Experience in Dance

Unpaid Service-Learning (SL) experience, completed with approved community partner. Prerequisites: Permission of Instructor. Course Notes: DAN282AA may be repeated for a total of six (6) credit hours. Standard grading available according to procedures outlined in online student handbook, Grading (AR 2.3.3).

Drafting Technology (DFT)

DFT106 **3 credits** **3 periods**
Algebra and Graphs for Design Technology

Algebraic principles and applications used in the design trades. Additional topics in the use of rectangular coordinates. Prerequisites: A grade of C or better in MAT092 or equivalent or 1 year of high school algebra or permission of Department or Division.

DFT107 **3 credits** **3 periods**
Trigonometry and Analytic Geometry for Design Technology

An introduction to plane trigonometry and plane and solid geometry with practical applications to the field of design drafting. Problems in the analysis of force, stress, and vectors as well as primary geometric considerations. Prerequisites: A grade of C or better in DFT106 or equivalent.

DFT115 **3 credits** **3 periods**
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 MET109) or permission of Department or Division.

DFT126 **3 credits** **3 periods**
Building Trades Blueprint Reading

Analysis and interpretation of technical drawings common to the construction industry and building trades. Prerequisites: None.


Engineering Science (ECE)

ECE101 **3 credits** **3 periods**
Origins of Science and Engineering

Introduction to the profession of engineering from a historical perspective. Evolution of engineering from its ancient roots in China, Europe and the Mideast to the development of engineering during the Renaissance and the 18th and 19th centuries in Europe and the growth of engineering in the United States from its French and British roots to current day practices. Prerequisites: None.

ECE102  **EGR1102** **2 credits** **4 periods**
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 A grade of C or better in MAT122 or permission of Department or Division Corequisites: MAT151 or MAT182 or MAT187.

ECE103  **EGR1102** **2 credits** **4 periods**
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: A grade of C or better in (ECE102 or ECE102AA) and (high school physics, or PHY111, or PHY111AA).

ECE103EP **2 credits** **4 periods**
Engineering Problem Solving and Design (with EPICS projects)

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: A grade of C or better in (ECE102 or ECE102AA) and (high school physics, or PHY111, or PHY111AA) or permission of Department or Division. Course Notes: Student may receive credit for only one of the following: ECE103, or ECE103EP.

ECE105 **1 credit** **2 periods**
MATLAB Programming

Use MATLAB to solve engineering problems. An overview of programming, including matrices, structures, strings, functions, control flow, file management, data analysis, graphing capabilities, and mathematical calculations. Prerequisites: A grade of C or better in [(MAT150 or MAT151 or MAT152) and MAT182] or MAT187 or higher level mathematics course.

ECE111 **3 credits** **5 periods**
Bioengineering Systems

Introduction to biological concepts and application of engineering to biological and earth systems. Analysis of materials, structures, fluid mechanics, bioelectricity, and dynamics as applied to biological and environmental systems. Prerequisites: None.

ECE211 **3 credits** **5 periods**
Engineering Mechanics-Statics

Mathematical treatment of the basic physical principles of statics. Methods of vector algebra and vector calculus. Prerequisites:

A grade of C or better in ECE103 (MAT230 or MAT231) and (PHY115 or PHY121). Corequisites: MAT241.

ECE212 **3 credits** **5 periods**
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: A grade of C or better required in all Prerequisites. Prerequisites: ECE211 and (PHY115 or PHY121). Prerequisites or Corequisites: MAT240 or MAT241². Prerequisites: A grade of C or better in ECE211 and (MAT240 or MAT241)¹

ECE215 **3 credits** **5 periods**
Mechanics of Materials

Designed to provide students with a strong fundamental foundation in the mechanics of solids. Includes the concepts of stress and strain applied to the analysis and design of members subjected to axial and torsional loads and members subjected to shear and bending, applications and transformation of plane stress and plane strain, deformation of beams, and elastic buckling of columns. Prerequisites: A grade of C or better in [ECE214 or (ECE211 and ECE212)] and (MAT262 or MAT276 or MAT277).

ECE216 **2 credits** **2 periods**
Computer-Aided Engineering

Introduction to engineering graphics, including tolerancing and fasteners, as well as creation and use of engineering drawings. Prerequisites or Corequisites: ECE214 or (ECE211 and ECE212). Corequisites: ECE216LL.

ECE216LL **1 credit** **2 periods**
Computer-Aided Engineering Laboratory

Laboratory experience in support of ECE216. Prerequisites or Corequisites: ECE214 or (ECE211 and ECE212). Corequisites: ECE216.

ECE294 **3 credits** **3 periods**
Special Topics in Engineering

Exploration and investigation of a focused topic in engineering. Prerequisites: Permission of Instructor, or Department or Division Chair. Course Notes: ECE294 may be repeated for credit.

ECE298 **1-3 credits**
Special Projects

See page 229.

Early Childhood Education (ECH)

ECH176 **3 credits** **3 periods**
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.

ECH270 **1 credit** **1 period**
Observing Young Children

Introduction to techniques of observing young children. Recording methods, interpretation and use of collected information including legal and ethical implications. Prerequisites: None.

ECH271 **1 credit** **1 period**

Arranging the Environment

Exploration of the influence of the environment on the behavior of young children. Indoor and outdoor spaces considered and analysis of environments practiced. Prerequisites: None.

ECH279 **1 credit** **1 period**

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. Prerequisites: None. Course Notes: ECH279 may be repeated for a total of four (4) credit hours.

ECH280 **1 credit** **1 period**

Food Experiences with Young Children

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. Prerequisites: None.

ECH282 **1 credit** **1 period**

Discipline/Guidance of Child Groups

Exploration of techniques for guiding children in groups with focus on individual child and adult needs for a disciplined environment. Prerequisites: None.

ECH287 **1 credit** **1 period**

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.

Economics (ECN)

ECN211  **ECN2201** **3 credits** **3 periods**
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. Recommendations: Completion of ENG101 and MAT122.

ECN212  **ECN2202** **3 credits** **3 periods**
Microeconomic Principles

Microeconomic analysis including the theory of consumer choice, price determination, resource allocation and income distribution. Includes noncompetitive market structures such as monopoly and oligopoly; and the effects of government regulation. Selected issues are examined. Prerequisites: None. Recommendations: Completion of ENG101 and MAT122.

ECN263 **3 credits** **3 periods**
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: A grade of C or better in ECN100 or ECN211 or ECN212.

ECN298 **1-3 credits**
Special Projects
 See page 229.

Education (EDU)

EDU220 **3 credits 3 periods**
Introduction to Serving English Language Learners (ELL)
 Introduction to Serving English Language Learners (ELL) Rationale for and current educational and legal issues for serving 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. Includes SEI, ESL, and bilingual strategies. Prerequisites: None. Course Notes: Approved school-based practicum is required. EDU220 incorporates the 45-clock hour curricular framework for provisional SEI endorsement through the Arizona Department of Education.

EDU221 **3 credits 3 periods**
Introduction to Education
 Overview of education and educational institutions in our society, including current issues, responsibilities, and qualifications of educators. Opportunity for students to assess their interest in this area. Prerequisites: None. Course Notes: Requires minimum of 30 hours of field experience in elementary or secondary classroom environment.

EDU222 **3 credits 3 periods**
Introduction to the Exceptional Learner
 Overview of the exceptional learner with emphasis on factors relating to current practices, identification, characteristics, and educational adaptations. Issues related to mild disabilities, Prerequisites: None. Course Notes: EDU222 requires an approved field experience.

EDU230 **3 credits 3 periods**
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.

EDU250 **3 credits 3 periods**
Teaching and Learning in the Community College
 The history, functions, organization and current issues in the community/junior college with emphasis on the Arizona community colleges. Includes focus on the design and practice of effective community college teaching and learning with special emphasis on the Maricopa County Community College District. Prerequisites: None.

EDU282AC **3 credits 3 periods**
Service-Learning Experience in Education
 Unpaid Service-Learning (SL) experience, completed with approved community partner. Prerequisites: Permission of Instructor. Course Notes: EDU282AC may be repeated for a total of six (6) credit hours. Standard grading available according to procedures outlined in online student handbook, Grading (AR 2.3.3).

EDU291 **3 credits 3 periods**
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.

EDU292 **3 credits 3 periods**
The Art of Storytelling
 Explore the art and origin of storytelling. Provide a variety of storytelling techniques, styles and exercises to enhance the delivery of telling stories. Assist in the integration and application of storytelling to the learning environment in the classroom. Prerequisites: None.

Early Education (EED)

EED111 **3 credits 3 periods**
Multimedia and the Early Childhood Education Classroom
 Explore theories and teaching strategies of utilizing multimedia with children birth through 8 years of age. Examine usage of various multimedia in early childhood education settings. Explore ways to integrate appropriate multimedia usage into learning. Explore the use of multimedia and ECE professional growth. Prerequisites: None.

EED200 **3 credits 3 periods**
Foundations of Early Childhood Education
 Overview of early childhood education (birth to age eight) 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. Prerequisites: None. Course Notes: EED200 requires a minimum of 30 hours of field experience in birth to age eight environments.

EED210 **3 credits 3 periods**
Creative and Cognitive Play
 Benefits of play for children birth to 8 years of age. Inclusion of art, music, and movement used in all dimensions of play. Identify uses and roles in the development of children. Prerequisites: A grade of C or better in CFS/ECH176.

EED211 **3 credits 3 periods**
Language Acquisition in the Young Child
 Define speech and language and discuss theories of language acquisition in young children, birth through 8 years of age in a variety of settings. Explore techniques to encourage and support the development of language, assessment techniques and family involvement. Prerequisites: A grade of C or better in CFS/ECH176.

EED212 **3 credits 3 periods**
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 eight. Prerequisites: None.

EED215 **3 credits** **3 periods**
Early Learning: Health, Safety, Nutrition and Fitness

Consideration of public health issues and safety procedures within early childhood settings, serving young children birth to age eight. Overview of nutritional needs and issues of physical fitness and well-being in young children. Includes field experiences. Prerequisites: None.

EED220 **3 credits** **3 periods**
Child, Family, Community and Culture

Examines family, community and cultural influences on development of the young child (birth to age eight). Considers trends and threats to attachment, relationships and cultural identity. Includes social and emotional experiences and their impact on the developing brain. Prerequisites: None.

EED222 **3 credits** **3 periods**
Introduction to the Exceptional Young Child: Birth to Age Eight

Overview of the exceptional learner (birth - age eight), 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.

EED250 **3 credits** **3 periods**
Early Literacy Development

Overview of emergent literacy, early literacy development, and appropriate early experiences with books, reading, and writing. Emphasis placed on reading and writing readiness, methods to enhance literacy development, and strategies for selecting and using children's books. Prerequisites: None.

EED255 **3 credits** **3 periods**
Portfolio Development and Writing for the Profession

Portfolio development, completion, and presentation. Self-assessment and educational short-term and long-term planning, professional development, writing and critical learning included. Prerequisites: Completion of twelve (12) credit hours of EED coursework and permission of Program Coordinator.

EED260 **1 credit** **1 period**
Early Childhood Infant/Toddler Internship

Work experience with infants and toddlers in early care and education settings. 80 hours of designated work per credit. Prerequisites: Permission of department. Course Notes: May be repeated for a total of six (6) credit hours.

EED261 **1 credit** **1 period**
Early Childhood Preschool Internship

Work experience with preschoolers in early care and education settings. 80 hours of designated work per credit. Prerequisites: Permission of department. Course Notes: May be repeated for a total of six (6) credit hours.

EED278 **3 credits** **3 periods**

Early Learning: Curriculum and Instruction – Birth/Preschool

Considerations and evaluations of curriculum appropriate to the developmental characteristics of learners, birth through five years. Includes how early childhood standards, philosophies, and program settings relate to the teaching, learning, and assessment process. Includes field experience. Prerequisites: A grade of C or better in EED200.

EED280 **3 credits** **3 periods**

Standards, Observation and Assessment of Typical/Atypical Behaviors of Young Children Birth Age Eight

Standards, observation, and assessment of typical and atypical behaviors, overview of standards, observation and assessment methodologies for typical and atypical young children (birth to age eight). Includes ethics, referral and reporting procedures, and collaboration with families and other professionals. Prerequisites: A grade of C or better in CFS/ECH176, or CFS235, or EED205.

Electrical Engineering (EEE)

EEE120 **4 credits** **6 periods**

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: A grade of C or better in CSC100, or CSC110 or CSC181, or ELE181, or NET181, or equivalent, or permission of instructor.

EEE202 **5 credits** **6 periods**

Circuits and Devices

Introduction to circuits and devices. Component models, transient analysis, steady state analysis, Laplace transform, and active and passive filter networks. Prerequisites: A grade of C or better in ECE103 or ECE103AB. Corequisites: (MAT276 or MAT277) and (PHY116 or PHY131).

EEE220 **3 credits** **5 periods**

Programming for Computer Engineering

Introduction to procedural programming (C/C++) and hardware description language (VHDL). Prerequisites: A grade of C or better in ((EEE120 or CSC120) and CSC205) or permission of Instructor

EEE230 **4 credits** **5 periods**

Computer Organization and Assembly Language

Assembly language programming including input/output (I/O) programming and exception/interrupt handling. Register-level computer organization, I/O interfaces, assemblers, and linkers. Processor organization and design, data path, control, pipelining, and input/output. Memory organization with cache and virtual memory. Prerequisites: A grade of C or better in [(CSC100 or CSC110) and CSC/EEE120], or permission of instructor.

Electronics Technology (ELT)

ELT100 **3 credits** **3 periods**

Survey of Electronics

An introduction to the field of electronics for those who may not

intend to specialize in electronics. Essentially nonmathematical in nature; includes familiarization with a wide range of electronic components. Application to electronic systems, such as radio transmitters and receivers - both AM (amplitude modulation) and FM (frequency modulation), television transmitters and receivers, logic control, and computers. Application also to automotive electronics. Prerequisites: None.

ELT101 **3 credits** **3 periods**
Mathematics for Electronics I

Basic principles of Algebra with applications to the analysis of electronic circuits. Emphasis on the use of the calculator for conversions and DC (direct current) circuit problems. Prerequisites: None.

ELT102 **3 credits** **3 periods**
Mathematics for Electronics II

The study of simultaneous equations, quadratic equations, trigonometric relationships, periodic functions and logarithms as applied to AC (alternating current) circuit analysis. Application of the scientific calculator to technical problem solving in electronics. Prerequisites: A grade of C or better in ELT101 or equivalent.

ELT298 **1-3 credits**
Special Projects
 See page 229.

Emergency Medical Technology (EMT)

EMT101 **.5 credits** **.45 periods**
Basic Life Support/Cardiopulmonary Resuscitation (CPR) for Health Care Providers

Designed to provide the allied healthcare provider with the knowledge and skills to perform Basic Life Support (BLS) according to current guidelines for emergency cardiovascular care (ECC). Prerequisites: None. Course Notes: EMT101 may be repeated for credit.

EMT102AB **3 credits** **3 periods**
Emergency Medical Responder

A comprehensive course to train a lay person to provide care for patients suffering sudden illness or injury. For members of law enforcement agencies, industry, and the private sector. Prerequisites: None.

EMT104 **9 credits** **11.4 periods**
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, patient-assisted medication administration, automated external defibrillators (AEDs), and blood-glucose monitoring. Prerequisites: A grade of C or better in EMT101 or a current validation in Basic Life Support (BLS) Health Care Provider/Professional Rescuer and (appropriate score on Reading placement test to demonstrate minimum tenth grade level reading or completion of an Associate's degree or higher from an accredited institution). Course Notes: EMT/FSC104 students are required to complete additional hours in a competency-based clinical, vehicular, and/or scenario based experience. This may be completed through EMT104AB or program director-approved rotation. Students must meet National Registry of

EMTs requirements for certification. Additional information available at nremt.org.

EMT104AB **.5 credits** **.5 periods**
Applied Practical Studies for Emergency Medical Technology

Simulation of actual emergency responses, with practical application of techniques and skills covered in EMT curricula. Scenario based learning applied to the techniques of emergency medical care in accordance with national and state curriculum. Practical application of anatomy, physiology, patient assessment, and treatment of medically or traumatically compromised patients, special hazards and medical operations. Also includes patient-assisted medication administration, semi-automatic external defibrillator and blood glucose monitoring. Students function in outside, scenario based environment. Prerequisites: None. Corequisites: EMT/FSC104, or EMT200, or (EMT272AA, EMT272AB, and EMT272LL), or EMT273, or certified EMT Basic, IEMT, or Paramedic in the State of Arizona, or permission of Instructor.

EMT108 **3 credits** **3 periods**
Tactical Safety and Street Survival for EMTs

Principles of response to emergencies in potentially dangerous situations. Emphasis on recognizing and responding to potentially violent situations, including active crime scenes and domestic terrorism. Emphasis on personal protection, de-escalation, communication skills, defensive tactics, and interaction with local and national public safety and law enforcement professionals. Prerequisites: Healthcare provider certification or licensure, or police officer with POST certification. Level 1 DPS fingerprint clearance card or permission of Department or Division.

EMT200 **2 credits** **2.7 periods**
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.

EMT235 **3 credits** **3 periods**
Basic ECG Rhythm Analysis and Interpretation in the Emergency Setting

Designed to provide the allied healthcare provider with basic skills in analysis and interpretation of sinus, atrial, junctional and ventricular rhythms from electrocardiographs (ECG) in the emergency setting. Also addresses heart block and electronically paced rhythms. Prerequisites: Current basic life support (BLS) healthcare provider/professional rescuer card and a grade of C or better in (EMT/FSC104 or permission of Instructor).

EMT236 **3 credits** **3 periods**
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:

¹ Final Term Summer 2019, ² Effective Term Fall 2019

A grade of C or better in EMT/FSC104 or permission of instructor. MAT082 or equivalency preferred but not required.

EMT240 **2 credits** **4 periods**
Advanced Cardiac Life Support (ACLS)

Designed for the allied healthcare provider who initiates, directs, or participates in the management of cardiopulmonary arrest and other cardiovascular emergencies. Provides the allied healthcare provider with the knowledge and skills to recognize and manage cardiopulmonary arrest, acute arrhythmia, stroke, and Acute Coronary Syndromes (ACS) according to current advanced Emergency Cardiovascular Care (ECC) guidelines. Requires prior knowledge of basic electrocardiograph rhythm interpretation, pharmacologic agents, and other interventions used in Advanced Cardiac Life Support (ACLS). Prerequisites: Current Basic Life Support (BLS) healthcare provider/professional rescuer card and A grade of C or better in (EMT235 and EMT236, or permission of Instructor).

EMT242 **1 credit** **2 periods**
Pediatric Advanced Life Support (PALS)

Designed for the allied healthcare provider who initiates, directs, or participates in the management of an infant or child in respiratory compromise, circulatory compromise, or cardiopulmonary arrest according to current CPR and Emergency Cardiovascular Care (ECC) guidelines. Requires prior knowledge of basic electrocardiograph rhythm interpretation, pharmacologic agents, and other interventions used in Pediatric Advanced Life Support (PALS). Prerequisites: Current Basic Life Support (BLS) healthcare provider/professional rescuer card and A grade of C or better in (EMT235 and EMT236, or permission of Instructor).

EMT245 **2 credits** **3.5 periods**
Trauma Management I

Designed to instruct prehospital care personnel in the critical skills necessary to manage the trauma victim and the emergency scene through the Incident Command System (ICS). Enhances basic emergency medical technology (EMT) skills by focusing on emergency care interventions. Provides exposure to victim assessment, initial treatment, resuscitative techniques, victim stabilization, transportation of the victim to an emergency care facility, and documentation. Prerequisites: Basic EMT certification or nurse with emergency room experience or permission of Department or Division

EMT246 **4 credits** **4 periods**
Trauma Management II

Designed to instruct advanced prehospital care personnel the critical skills necessary to manage the trauma victim and the emergency scene through the Incident Command System (ICS). Enhances advanced emergency medical technology (EMT) skills by focusing on emergency care interventions. Provides advanced exposure to victim assessment, initial treatment, resuscitative skills, invasive techniques, electrical and pharmacologic interventions, stabilization, transportation of the victim to an emergency care facility, and documentation. Prerequisites: Certified as a Basic EMT, Intermediate EMT, Paramedic, or Arizona registered prehospital nurse, or permission of Instructor.

EMT255AD **.5 credits** **.5 periods**
Basic Cardiac Life Support Instructional Strategies

A participative course to prepare instructors in Basic Life Support

(CPR) courses. Includes American Heart Association Standards and guidelines, teaching and testing skills, classroom discipline, counseling, and student/instructor evaluation methods. Successful completion qualifies individual to teach Basic Life Support (CPR) classes according to American Heart Association Standards. Prerequisites: Current certification as a Basic Life Support Health Care Provider level, A grade of C or better in EMT101, or equivalent.

EMT258 **3 credits** **3 periods**
Victimology and Crisis Management

Focuses on victimology and techniques of crises 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.

EMT265 **1 credit** **1.43 periods**
Pediatric Education for Prehospital Providers: Advanced

An interactive, scenario based course designed for Advanced EMTs who practice in the field. Enables providers to perform a rapid assessment of sick and injured children in variety of circumstances. Includes scene management, use of pediatric assessment triangle, developmental differences, injury prevention, airway management techniques, intravenous and intraosseous access and monitoring, ECG arrhythmia recognition, synchronized and unsynchronized cardioversion, pediatric trauma and mechanism of injury, submersion events, children with special health care needs, child abuse and neglect, child and family interactions, use of specialized equipment, documentation of signs, symptoms, care and transportation, special issues in pediatric transportation. Treatment to children is in accordance with recommendations of the American Academy of Pediatrics. Prerequisites: Advanced cardiac life support course or emergency cardiac care course, and EMT-Paramedic certification, and current employment as an EMT Paramedic, or permission of instructor.

EMT272AA **12.5 credits** **7.37 periods**
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 pre-hospital emergency care. Emphasis on developing diagnostic and advanced emergency treatment skills necessary to care for the acutely ill and seriously injured. Prerequisites: [Valid Arizona EMT certification and A grade of C or better in (MAT090 or higher, or a satisfactory score on the ASSET, or COMPASS, or Accuplacer placement exam), (ENG101 or ENG107), EMT235, and EMT236], or permission of Program Director. Comprehensive written, oral and practical evaluation on all EMT272AA prerequisite courses.

EMT272AB **12.5 credits** **7.38 periods**
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: Valid Arizona EMT certification and A grade of C or better in EMT272AA. Comprehensive written, oral and practical evaluation on EMT272AA.

EMT272LL **7.5 credits 37.5 periods**
Advanced Emergency Medical Technology Practicum
 Clinical and vehicular practicum in support of EMT272AA and EMT272AB. Prerequisites or Corequisites: EMT272AA and EMT272AB.

EMT273 **3.5 credits 4 periods**
Advanced Life Support Refresher Course
 Designed to meet requirements for EMT-Intermediate and EMT- Paramedic under guidelines of the U.S. Department of Transportation (U.S. DOT), National Registry of EMTs (NREMT) as recognized by the Arizona Department of Health Services (A- DHS) Bureau of Emergency Services (B-EMS). Provides updated knowledge and skills related to hypoperfusion states, respiratory arrest or insufficiency, seizure states, cardiovascular emergencies, unconscious of undetermined etiology, head injury with altered levels of consciousness, and chest trauma. Validates requisite knowledge, validates skills, reviews and informs students of new standards and technologies. Trains and educates out of state applicants in knowledge, procedures, medications, and skills specific to Arizona's system. Remediate students who have been unsuccessful three times on the certification examinations, and refreshes information for those who have expired certifications and desire re-entry into the EMS system. Prerequisites: (EMT - Advanced Paramedic certification or EMT - Intermediate certification or proof of current paramedic registry with the National Registry of Emergency Medical Technicians [NREMT]) or permission of instructor.

EMT296WC **3 credits 15 periods**
Advanced Emergency Medical Technology Practicum Part II
 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: Work-college experiences that involve the combined efforts of educators and employers to accomplish an outcome related to the career objectives of the students.

English (ENG)

English courses 071, 081, 091, 101 and 102 may not be taken concurrently; they are to be taken sequentially.

ENG071 **3 credits 3 periods**
Preparatory Academic Writing I
 Emphasizes preparation for college level composition and related reading tasks with a focus on communicating through complete, grammatically correct writing, organized to communicate a central idea. Prerequisites: Appropriate writing placement test score or permission of Department or Division.

ENG081 **3 credit 3 periods**
Preparatory Academic Writing II
 Emphasizes preparation for college-level composition and related reading tasks with a focus on critical writing, reading, and thinking skills and processes. Prerequisites: Appropriate writing placement test score, or a grade of C or better in ENG071 or ESL077, or permission of Department or Division.

ENG091 **3 credits 3 periods**
Preparatory Academic Writing III
 Emphasizes preparation for first year composition with a focus


on critical writing, reading, and thinking skills and processes at an increased level of academic complexity. Prerequisites: Appropriate writing placement test score, or a grade of C or better in ENG081 or ESL087, or permission of Department or Division.


ENG100AA **1 credit 1 period**
American-English Spelling System
 American-English spelling system rules, mnemonic devices. Prerequisites: Appropriate English placement test score, or a grade of C or better in ENG091 or ESL097, or permission of Instructor.

ENG100AB **1 credit 1 period**
Vocabulary Development
 Latin and Greek derivatives, development of competency and discrimination in word choice, specialized vocabulary. Prerequisites: Appropriate English placement test score, or a grade of C or better in ENG091 or ESL097, or permission of Instructor.

ENG100AC **1 credit 1 period**
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 ENG091 or ESL097, or permission of Instructor.

ENG100AD **1 credit 1 period**
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 ENG091 or ESL097, or permission of Instructor.

ENG101  **ENG1101** **3 credits 3 periods**
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 writing placement test score, or a grade of C or better in ENG091 or ESL097.

ENG102  **ENG1102** **3 credits 3 periods**
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: Grade of C or better in ENG101.

ENG107 **3 credits 3 periods**
First-Year Composition for ESL
 Equivalent of ENG101 for students of English as a Second Language (ESL). 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 writing placement test score, or a grade of C or better in ENG091 or ESL097.

¹ Final Term Summer 2019, ² Effective Term Fall 2019

ENG108 **3 credits** **3 periods**
First-Year Composition for ESL

Equivalent of ENG102 for students of English as a Second Language (ESL). 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: Grade of C or better in ENG107.

ENG111 **3 credits** **3 periods**
Technical and Professional Writing

Covers analyzing, planning, organizing, researching, and writing correspondence, reports, and presentations for specific work-related audiences. Includes integrating data and graphics into work-related documents and presentations. Prerequisites: ENG101 with a grade of C or better, or permission of instructor.

ENG200 **3 credits** **3 periods**
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. Prerequisites: A grade of C or better in ENG102.

ENG213 **3 credits** **3 periods**
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.

ENG215 **3 credits** **3 periods**
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.

ENG216 **3 credits** **3 periods**
Personal and Exploratory Writing

Advanced course in techniques of analyzing and writing persuasive arguments addressing topics of current public interest. Papers research based. Prerequisites: A grade of C or better in ENG102.

ENG217 **3 credits** **3 periods**
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: A grade of C or better in ENG101 or ENG107 or equivalent.

ENG235 **3 credits** **3 periods**
Magazine Article Writing

Basic skills and techniques used by professional writers for publication in magazines. Includes analyzing markets, identifying article slant, research techniques, editing, and submission procedures. Emphasis on nonfiction. Prerequisites: None.

ENG260 **3 credits** **3 periods**
Film Analysis

Understanding and enjoyment of film and its correlation to liter-

ature, art, music, and other disciplines. Prerequisites: None.

English as a Second Language (ESL)

ESL010 **3 credits** **3 periods**
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. Prerequisites: Appropriate ESL placement test score. Course Notes: ESL010 may be repeated for a maximum of six (6) credits. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in online student handbook, Grading (AR 2.3.3).

ESL011 **3 credits** **3 periods**
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. Prerequisites: Appropriate ESL placement test score or a grade of C or better in ESL002. Course Notes: ESL011 may be repeated for a maximum of six credits.

ESL012 **3 credits** **3 periods**
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. Prerequisites: Appropriate ESL placement test score or permission of instructor. Course Notes: ESL012 may be repeated for a maximum of six (6) credits.

ESL016 **3 credits** **3 periods**
Reading English as a Second Language I

Designed for students who are learning English as a second language. Skills needed to become proficient readers in English. Sound symbol relationships of the English alphabet. Essential vocabulary for daily communication both in isolation and context. Development of reading comprehension skills. Prerequisites: Appropriate ESL placement test score.

ESL020 **3 credits** **3 periods**
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. Prerequisites: Appropriate ESL placement test score or a grade of P or C or better in ESL010. Course Notes: ESL020 may be repeated for a total of six (6) credit hours. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog.

ESL021 **3 credits** **3 periods**
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. Prerequisites: Appropriate ESL placement test score or a grade of C or better in ESL010 or ESL011 or ESL012 or RDG010. Course Notes: ESL021 may be repeated for a maximum of six credits.

ESL022 **3 credits** **3 periods**

ESL II–Writing with Oral Practice

Emphasis on basic writing skills, accompanied by recitation of short writings. Sentence patterns and introduction of paragraph writing. Prerequisites: Appropriate ESL course placement score, or a grade of C or better in ESL012, or permission of instructor. Course Notes: ESL022 may be repeated for a maximum of six (6) credits.

ESL026 **3 credits** **3 periods**
Reading English as a Second Language II

Designed for students who are learning English as a second language. Continued development of vocabulary and reading comprehension skills. Prerequisites: Appropriate ESL placement test score, or grade of C or better in ESL/RDG016, or permission of Instructor.

ESL030 **3 credits** **3 periods**
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. Prerequisites: Appropriate ESL placement test score or a grade of P or C or better in ESL020. Course Notes: ESL030 may be repeated for a total of six (6) credit hours. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog.

ESL031 **3 credits** **3 periods**
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. Prerequisites: Appropriate ESL placement test score or a grade of C or better in ESL020 or ESL021 or ESL022 or RDG020. Course Notes: ESL031 may be repeated for a maximum of six credits.

ESL032 **3 credits** **3 periods**
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. Prerequisites: Appropriate ESL course placement score, or a grade of C or better in ESL022, or permission of instructor. Course Notes: ESL032 may be repeated for a maximum of six (6) credits.

ESL036 **3 credits** **3 periods**
Reading English as a Second Language III

Designed for students who are learning English as a second language. Instruction for more advanced vocabulary and reading comprehension skills. Prerequisites: Appropriate ESL placement test score, or grade of C or better in ESL/RDG026, or permission of Instructor.

ESL040 **3 credits** **3 periods**
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. Prerequisites: Appropriate ESL placement test score or a grade of P or C or better in ESL030. Course Notes: ESL040 may be repeated for a total of six (6) credit hours. Credit (P) or no credit (Z). Standard grading available according to procedures outlined in catalog.

ESL041 **3 credits** **3 periods****English as a Second Language IV - Listening and Speaking**

Emphasis on academic skills. Listening to lectures, notetaking, peer interaction, accessing and using media resources, formal oral presentations. Prerequisites: Appropriate ESL placement test score or a grade of C or better in ESL030 or ESL031 or ESL032 or RDG030. Course Notes: ESL041 may be repeated for a maximum of six credits.

ESL042 **3 credits** **3 periods****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. Prerequisites: Appropriate ESL course placement score, or a grade of C or better in ESL032, or permission of instructor. Course Notes: ESL042 may be repeated for a maximum of six (6) credits.

ESL046 **3 credits** **3 periods****Reading English as a Second Language IV**

Developed for students of English as a second language. Development of advanced vocabulary, comprehension skills, and culture awareness. Prerequisites: Appropriate ESL placement test score, or grade of C or better in ESL/RDG036, or permission of Instructor.

ESL049 **3 credits** **3 periods****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 permission of Instructor.

ESL050 **3 credits** **3 periods****Review Grammar For ESL**

Review of grammatical concepts for ESL (English as a Second Language) students who have some previous experience in reading and writing English. Appropriate for students who want to practice sentence skills in English. Prerequisites: Appropriate ESL course placement score, or a grade of C or better in ESL040, or permission of instructor. Course Notes: ESL050 may be repeated for a total of six (6) credits.

ESL051 **3 credits** **3 periods****Pronunciation Improvement for ESL Speakers**

Individualized pronunciation practice and drills for English as a second language (ESL) speakers. 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. Course Notes: ESL051 may be repeated for a maximum of six (6) credits.

ESL061 **3 credits** **3 periods****Informal Conversational and Written English for Non-native Speakers**

Practice speaking and writing English in informal settings. Emphasis on friendly conversational techniques and effective use of the computer and the Internet to communicate in a friendly, relaxed manner. Prerequisites: Appropriate ESL placement test score or completion of ESL020 or ESL021 or ESL022 or RDG020 with a grade of P or C or better.

ESL071 **3 credits** **3 periods**
Advanced Pronunciation and Oral Reading for ESL

Pronunciation practice and review, spelling of English sounds, and oral reading for stress and intonation patterns in English. Prerequisites: A grade of C or better in ESL051, or permission of instructor. Course Notes: ESL071 may be repeated for a total of six (6) credit hours.

ESL077 **3 credits** **3 periods**
Preparatory Academic Writing I for ESL

Emphasizes preparation for college level composition and related reading tasks with a focus on communicating through complete, grammatically correct writing, organized to communicate a central idea. Prerequisites: Appropriate writing placement test score or permission of Department or Division.

ESL087 **3 credit** **3 periods**
Preparatory Academic Writing II for ESL

Emphasizes preparation for college-level composition and related reading tasks with a focus on critical writing, reading, and thinking skills and processes. Prerequisites: Appropriate writing placement test score, or grade of C or better in ESL077 or ENG071, or permission of Department or Division.

ESL097 **3 credit** **3 periods**
Preparatory Academic Writing III for ESL

Emphasizes preparation for first year composition with a focus on critical writing, reading, and thinking skills and processes at an increased level of academic complexity. Prerequisites: Appropriate writing placement score, or a grade of C or better in ESL087 or ENG081, or permission of Department or Division.

English Humanities (ENH)

ENH110 **3 credits** **3 periods**
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.

ENH112 **3 credits** **3 periods**
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.

ENH114 **3 credits** **3 periods**
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.

ENH206 **3 credits** **3 periods**
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.

ENH221 **3 credits** **3 periods**
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.

ENH222 **3 credits** **3 periods**
Survey of English Literature After 1800

Emphasizes the social and political backgrounds as well as the form and the content of English literature in the nineteenth and twentieth centuries. Prerequisites: (ENG101 or ENG107) or equivalent.

ENH235 **3 credits** **3 periods**
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. Prerequisites: None.

ENH241 **3 credits** **3 periods**
American Literature Before 1860

Includes literature written prior to 1860 in the United States. Prerequisites: A grade of C or better in ENG101.

ENH242 **3 credits** **3 periods**
American Literature After 1860

Includes literature written after 1860 in the United States. Prerequisites: None.

ENH251 **3 credits** **3 periods**
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.

ENH254 **3 credits** **3 periods**
Literature and Film

Presents works of literature and their film versions and analyzes distinguishing techniques of each medium. Prerequisites: ENG101, or ENG107, or equivalent.

ENH255 **3 credits** **3 periods**
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: A grade of C or better in ENG101.

ENH256 **3 credits** **3 periods**
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.

ENH260 3 credits 3 periods
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.

ENH275 3 credits 3 periods
Modern Fiction

Includes novels and short stories of modern writers which reflect significant themes of our time. Prerequisites: None.

ENH280 3 credits 3 periods
Topics in American Literature

Exploration of selected topic(s) in American Literature. Focuses on a theme, genre, era, technique, or critical approach. Includes reading and interpretation of literature from a variety of cultures within the United States. Prerequisites: A grade of C or better in (ENG101 or ENG107) or permission of Instructor. Course Notes: ENH280 may be repeated for a total of nine (9) credit hours.

ENH285 3 credits 3 periods
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.

ENH291 3 credits 3 periods
Children's Literature

Review of folk and modern literature, including application of literary criteria to folk and modern literature for children. Prerequisites: None.

ENH295 3 credits 3 periods
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.

Entrepreneurial Studies (EPS)

EPS150 3 credits 3 periods
Introduction to Entrepreneurship

Overview of entrepreneurship. Includes the entrepreneurial process and the skills required to be successful, including starting, planning, financing, marketing, and managing a business. Prerequisites: None.

EPS160 2 credits 2 periods
New Venture Creation

Process of starting a new venture including evaluating specific business opportunities identifying financing alternatives, and defining start-up issues. Prerequisites: None.

EPS162 3 credits 3 periods
Introduction to Social Entrepreneurship

Introduction to the history, theory, and emerging activities of social entrepreneurship. Includes management skills for social entrepreneurial organizations, scaling of social impact, and social

performance measurement. Emphasis on social capital, microfinance, and evaluation of social entrepreneurial opportunities. Prerequisites: None.

EPS195 2 credits 2 periods
The Business Plan and Business Start-Up

Development of a feasibility approach to strategic decision making concerning new venture start-up. Includes development of a business feasibility study and a preliminary business plan. Prerequisites: None.

Exercise Science Major-Minor or Certificate Courses (EXS)

EXS101 3 credits 3 periods
Introduction to Exercise Science

Introductory course that will provide the student with a general overview of the key theories and concepts, professions, and research areas associated with the field of Exercise Science. Educational pathways and career options will also be examined. Prerequisites²: None.

Prerequisites¹: A grade of C or better required in all Prerequisites. Prerequisites or Corequisites: RDG100, or RDG111, or RDG112, or RDG113 or satisfactory score on District reading placement exam.

EXS112 3 credits 3 periods
Professional Applications of Fitness Principles

Basic principles of fitness for the prospective fitness professional and characteristics of quality communication and fitness leadership. Topics include behavior modification, enhancing motivation components of fitness, fitness assessment, risk stratification, exercise programming and modifications. Prerequisites: None.

EXS123 2 credits 4 periods
Active for Life

Uses a variety of behavior change strategies to help fit physical activity into a busy schedule. Addresses the root causes of physical inactivity and focuses on the skills needed to establish a lifelong habit of physical activity. Prerequisites: None.

EXS125 3 credits 3 periods
Introduction to Exercise Physiology

Principles of exercise science applied to fitness instruction. Major factors related to the function of the human body will be examined/introduced with an emphasis on exercise physiology and functional anatomy. Prerequisites: A grade of C or better required in all Prerequisites. Prerequisites or Corequisites: EXS101 or permission of Instructor.

EXS130 3 credits 3 periods
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.

¹ Final Term Summer 2019, ² Effective Term Fall 2019

EXS132 **3 credits** **3 periods**
Cardiovascular Fitness: Physiological Principles and Training Techniques

Covers principles and techniques of aerobic training and the application of these to the development of aerobic training programs. Includes instructional techniques and safety, and stresses injury prevention. Prerequisites: None.

EXS138 **1 credit** **1 period**
Starting Your Own Personal Training Business

Overview of the personal training business in the fitness industry. Skills for becoming a successful and effective personal training business owner. Prerequisites: None.

EXS145 **3 credits** **4.5 periods**
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.

EXS150 **3 credits** **3 periods**
Introduction to Sports Management

Introduction to the field of sports management, including sports marketing and sales, facility management, event management, professional sports, public relations, intercollegiate and interscholastic athletics. Prerequisites: None.

EXS210 **2 credits** **3 periods**
Assessment and Program Design: Muscular Fitness

Principles of muscular fitness training including evaluation of movement patterns, selection and interpretation of assessment techniques and evidence-based program design for healthy and special populations. Prerequisites: A grade of C or better in EXS125.

EXS211 **2 credits** **3 periods**
Assessment and Program Design: Flexibility and Balance

Principles of flexibility and balance including evaluation of movement patterns, selection and interpretation of assessment techniques and evidence-based program design for healthy and special populations. Prerequisites: A grade of C or better in EXS125.

EXS212 **2 credits** **3 periods**
Assessment and Program Design: Cardiorespiratory Fitness

Principles of cardiorespiratory fitness training including evaluation of client needs and health, selection and interpretation of safe and effective assessment techniques and evidence-based program design for healthy and special populations. Prerequisites: A grade of C or better in EXS125 and (MAT090, or MAT091, or MAT092).

EXS213 **2 credits** **3 periods**
Assessment and Program Design: Weight Management and Motivation

Principles of weight management including evidence-based program design and interpretation of assessments for various populations as well as explanation of theories of motivation and behavior modification. Prerequisites: A grade of C or better in EXS125 and (MAT090, or MAT091, or MAT092).

EXS214 **2 credits** **3 periods**
Instructional Competency: 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.

EXS216 **2 credits** **3 periods**
Instructional Competency: 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.

EXS218 **2 credits** **3 periods**
Instructional Competency: 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.

EXS239 **3 credits** **5.4 periods**
Practical Applications of Personal Training Skills and Techniques Internship

Work experience in a fitness or health related facility. Eighty (80) hours of designated work per credit. Prerequisites: Completion of a grade of C or better in nine (9) credits of EXS courses required for the (AAS in Strength and Personal Training, or CCL in Personal Training Specialist, or CCL in Personal Trainer), current CPR card, and permission of Department or Division. Course Notes: CPR certification must be current through the duration of the internship. EXS239 may be repeated for a maximum of six (6) credits.

EXS239AA **1 credit** **1.8 periods**
EXS239AB **2 credits** **3.6 periods**

Practical Applications of Personal Training Skills and Techniques Internship

Work experience in a fitness or health related facility. Eighty (80) hours of designated work per credit. Prerequisites: Completion of a grade of C or better in nine (9) credits of EXS courses required for the (AAS in Exercise Science and Personal Training, or CCL in Personal Training Specialist, or CCL in Personal Trainer), current CPR card, and permission of Department or Division. Course Notes: CPR certification must be current through the duration of the internship. EXS239AA may be repeated for a maximum of six (6) credits.

EXS265BA **3 credits** **3 periods**
Baseball Theory of Coaching

Reviews the principles, philosophy, strategies and theory of coaching baseball, as a competitive sport. Prerequisites: None.

EXS265BB **3 credits** **3 periods**
Basketball Theory of Coaching

Reviews the principles, philosophy, strategies and theory of coaching basketball, as a competitive sport. Prerequisites: None.

EXS265FB **3 credits** **3 periods**
Football Theory of Coaching

Reviews the principles, philosophy, strategies and theory of coaching football, as a competitive sport. Prerequisites: None.

EXS280AB 1 credit 1 period**Special Topics in Exercise Science**

Conceptual and research basis of current topics in exercise science. Prerequisites: A grade of C or better in EXS101, or EXS112, or EXS125, or permission of Instructor. Course Notes: EXS280AB may be repeated for credit.

EXS281FB 3 credits 3 periods**Football Methods of Coaching**

Overview of the art and science of coaching football including: identifying various coaching styles, elements of effective communication, methods and techniques of coaching football. Prerequisites: None.

EXS290 3 credits 3 periods**Introduction to Evidence-Based Practice**

Introduction to best practices in the acquisition, analysis, synthesis, and potential application of research in the discipline of exercise science. Specific emphasis on the application of research-based evidence for applied problem solving in exercise science. Prerequisites: A grade of C or better in (RDG100, or RDG111, or RDG112, or RDG113 or satisfactory score on District reading placement exam) AND (MAT090, or MAT091, or MAT092, or satisfactory score on District math placement exam) AND (ENG101 or ENG107) or permission of Instructor. EXS101 recommended.

Family and Consumer Science (FCS)**FCS250** 3 credits 3 periods**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 FCS and/or FCS coursework and permission of Program Coordinator.

FCS260 1 credit 1 period**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. Course Notes: May be repeated for a total of six (6) credit hours.

Food and Nutrition (FON)

Food and Nutrition related careers include research, dietetics, and the various areas of the food and beverage industry. Employment of registered dietitians remains strong because of their increasing importance as members of the health care team. Opportunities in the food service industry are numerous and varied.

Food and Nutrition courses at Glendale Community College serve students who intend to major in dietetics or food service at a four-year institution, students who need these courses in preparation for other careers, and students choosing them for personal interest. Students intending to pursue a baccalaureate degree in dietetics should consult with a department advisor to plan their program.

FON241 taken with FON241LL meet the general education requirement in Natural Sciences [SG].

FON100 3 credits 3 periods**Introductory Nutrition**

Introduction to the science of food and human nutrition. Current sustainable dietary recommendations and applications for maximizing well-being and minimizing risk of chronic disease throughout the life cycle. An overview of the nutrients, emphasizing the importance of energy and fluid balance, and optimal functioning of the digestive system. Understanding factors that influence food intake in different cultures. Methods for evaluating credibility of nutrition claims, a focus on modern food safety and technology practices, and a worldview of nutrition are included. Emphasis is on personal dietary behavior change for a holistic life of wellness. Prerequisites: None.

FON105 3 credits 3 periods**Nutrition Principles for Fitness Professionals**

Basic principles of nutrition for the prospective fitness professional. Overview of health and wellness and its relationship to personal trainers. Emphasis on general principles of nutrition for health and fitness. Topics include: basic nutrition principles using the current food plans and dietary guidelines, label reading, estimating calorie and nutrient needs for health, fitness, sport, and weight management. Prerequisites: None.

FON125 1 credit 1 period**Introduction to Professions in Food, Nutrition, and Dietetics**

Overview and discussion of career opportunities in the fields of food, nutrition, and dietetics. Includes information about history, ethics, standards of practice, communication and counseling skills. Emphasis on how to become a Registered Dietitian Nutritionist or a Dietetic Technician Registered. Prerequisites: None.

FON142AB 3 credits 5 periods**Science of Food**

Exploration and Application of Scientific Principles of Food; experiences with ingredient functionality and application in cooking techniques. Prerequisites: None.

FON143 3 credits 3 periods**Food and Culture**

Understanding diet in the context of culture. Historical, religious, and sociocultural influences on the development of cuisine, meal patterns, eating customs, cooking methods, and nutritional status of various ethnic groups. Traditional and contemporary food habits. Health and social impact of changes in diet. Preparation and serving of foods from many cultures. Prerequisites: None. Course Notes: FON143 may be repeated for a total of six (6) credit hours.

FON210 3 credits 3 periods**Sports Nutrition and Supplements for Physical Activity**

Principles of nutrition applied to fitness, exercise, and sports. Dietary fundamentals as applied to body fuels, hydration, and other unique needs for exercise and sports. Includes dietary guidelines for weight or endurance training, glycogen loading, the pre-game meal, and glycogen recovery. Emphasis on maximizing fitness, performance, and safety. Discussion of supplements and their effects on metabolic enhancement. Discussion of anabolic, catabolic, and energy-producing agents. Addresses current

¹ Final Term Summer 2019, ² Effective Term Fall 2019

supplements on the market. Prerequisites: A grade of C or better in FON100 or FON241.

FON230 **3 credits** **3 periods**
Nutrition for Special Populations

Nutritional changes and appropriate management across the lifespan to maximize health and longevity. Addresses needs of those individuals with particular dietary restrictions, requirements or deficiencies. Includes special dietary needs of those diagnosed with common pathologies such as heart disease, diabetes. Prerequisites: A grade of C or better in FON100, or FON241, or permission of Instructor.

FON241 **3 credits** **3 periods**
Principles of Human Nutrition

Scientific principles of human nutrition. Emphasis on scientific literacy and the study of nutrients for disease prevention. Includes micro and macro nutrients, human nutrient metabolism and nutrition's role in the health of the human body throughout the life cycle. Addresses nutrition principles for prevention of nutrition-related health conditions. Prerequisites: None.

FON241LL **1 credit** **3 periods**
Principles of Human Nutrition Laboratory

Self-evaluative laboratory experience to complement FON241, Principles of Human Nutrition using anthropometric, biochemical, clinical, dietary analysis, and ecological/economical assessments. Includes the use of qualitative and quantitative methodology to determine nutritional status and evaluate methodological applications. Prerequisites: A grade of C or better in FON241 or Corequisites: FON241.

FON247 **3 credits** **3 periods**
Weight Management Science

The comprehensive study of obesity as a disease of modern society due to multiple determinants. Use of evidence-based data and methods to assess and manage weight in various settings. Use of client-centered counseling strategies, including behavior change theories. Focus on discovering successful healthful long-term weight management strategies. Prerequisites: A grade of C or better in FON100 or FON241 or permission of Instructor.

French (FRE)

 **FRE101** **FRE1101** **4 credits** **4 periods**
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.

 **FRE102** **FRE1102** **4 credits** **4 periods**
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: A grade of C or better in FRE101, or FRE101AA, or permission of Department or Division. Completion of prerequisites within the last three years is required.

FRE115 **3 credits** **3 periods**
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.

FRE116 **3 credits** **3 periods**
Beginning French Conversation II

Continued development of speaking and listening skills for effective communication in French. Prerequisites: A grade of C or better in FRE115 or permission of Department or Division. Completion of prerequisites within the last three years is required.

 **FRE201** **FRE2201** **4 credits** **4 periods**
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 or FRE102AA with a grade of C or better), or two years of high school French with an average of C or better, or permission of Department or Division. Completion of prerequisites within the last three years is required.

 **FRE202** **FRE2202** **4 credits** **4 periods**
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. Completion of prerequisites within the last three years is required.

FRE215 **3 credits** **3 periods**
French Civilization to 1800

A survey of those major cultural and historical forces which have shaped France from its origin through the Revolution of 1789. Prerequisites: Two years of high school French, FRE102, or departmental approval.

FRE298 **1-3 credits**
Special Projects
 See page 229.

Fire Science Technology (FSC)

FSC101 **3 credits** **4 periods**
Intro to Fire Service Selection

Overview of the application and selection processes utilized 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 insite experiences at a fire station. General components of the selection process, the importance of general education, and components of life long learning in career choices. Prerequisites: None.

FSC102 11 credits 19.6 periods Fire Department Operations Introductory fire science course primarily designed for the fire department recruit. Includes firefighting skills, equipment, and administrative policies, fire department operations, personnel policies, and International Fire Service Accreditation Congress Practical Skills Testing. Prerequisites: A grade of C or better in (EMT104, FSC105 and FSC130) and permission of instructor. Corequisites: FSC134.	FSC113 3 credits 3 periods Introduction to Fire Suppression Characteristics and behavior of fire, fire hazard properties of ordinary materials, extinguishing agents, fire suppression organization and equipment, basic fire fighting tactics, and public relations as affected by fire suppression. Prerequisites: None.
FSC103 7 credits 10.6 periods Advanced Firefighter Comprehensive review of Fire Department Standard Operating Procedures, Evaluation of Fitness and Conditioning as they relate to fire ground skills. Emphasis on physical development and hands on activities providing participants with skills necessary to safely operate on the fire ground and at emergency scenes. Prerequisites: Successful completion of the Fire Operations Academy, Certified Firefighter I and II through Arizona Fire Marshal and current PASS on Candidate Physical Ability Test (CPAT).	FSC117 3 credits 3 periods 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.
FSC105 3 credits 3 periods 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.	FSC118 3 credits 3 periods 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.
FSC106 3 credits 3 periods 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; techniques of fire-fighting. Also includes emergency medical services and fire prevention. Prerequisites: None.	FSC119 3 credits 3 periods 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.
FSC108 3 credits 3 periods 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.	FSC130 1 credit 1.5 periods Fitness for Firefighters/CPAT Skills and abilities required for entry level position in the fire service including physical ability, and stamina. Opportunity to take the International Association of Fire Fighters (IAFF) Candidate Physical Ability Test (CPAT) at the end of the course. Prerequisites: None.
FSC110 3 credits 3 periods Wildland Firefighter Basic level course for individuals with little or no experience in the wildland environment. Preparation for performing as a beginning level wildland firefighter with an organized fire department engine or hand crew. Prerequisites: None.	FSC131 3 credits 3 periods Introduction to Urban Technical Rescue Practical application of safe rescue practices for urban technical rescue. Includes ropes and rope systems, trench rescue, confined-space rescue, swiftwater rescue, and rescue from collapsed structures. Prerequisites: None.
FSC111 2 credits 2 periods Emergency Vehicle Driver Operator Emergency vehicle operators training including the problems facing operators; the personal qualities of emergency vehicle operator candidates; legal responsibilities of operators; and physical forces involved in driving an emergency vehicle. Includes hands-on training in an emergency response vehicle. Prerequisites: None.	FSC134 3 credits 4.6 periods Fitness and Conditioning/Firefighters Overview of all aspects of fitness for current and prospective firefighters. Includes mental aspects of performance for optimal achievement on fire department agility tests and firefighting tasks; physical fitness and workout techniques as they apply to performing specific firefighting tasks; individual conditioning strategies, nutritional guidelines, and basic exercise principles. Lifelong fitness and conditioning. Prerequisites: None.
	FSC139 3 credits 3 periods 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.

<p>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.</p>	<p>3 credits 3 periods</p>	<p>instructor or equivalent.</p>
<p>FSC147 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.</p>	<p>3 credits 3 periods</p>	<p>FSC209 3 credits 3 periods Fire Investigation I 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.</p>
<p>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.</p>	<p>3 credits 3 periods</p>	<p>FSC210 3 credits 3 periods Fire Investigation II Focus on practical skills for fire investigators. Emphasis on hands-on application with practice examining and recording the fire/arson scene. Includes class room and field exercises on each section. Prerequisites: A grade of C or better in FSC209 or permission of Instructor.</p>
<p>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 manmade hazards. Prerequisites: None.</p>	<p>3 credits 3 periods</p>	<p>FSC211 3 credits 3 periods Fire Investigation III Focus on case building for fire investigators. Emphasis on hands-on application, practice examining and recording the fire/arson scene. Includes field exercises with arson task force to investigate a crime scene. Prerequisites: A grade of C or better in FSC210 or permission of Instructor.</p>
<p>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.</p>	<p>3 credits 3 periods</p>	<p>FSC212 3 credits 3 periods Fire Investigation IV Skills and information for those responsible for fire investigation. Focus on courtroom and testimony. Includes continuing arson task force team assignment. Prerequisites: A grade of C or better in FSC211 or permission of Instructor.</p>
<p>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: A grade of C or better in FSC113 or permission of instructor or equivalent.</p>	<p>3 credits 3 periods</p>	<p>FSC215 3 credits 3 periods 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.</p>
<p>FSC205 Command Strategies for Major Emergencies Effective methods of managing major emergency incidents including multiple alarm structural fires, high rise fires, major brush fires, complex hazardous materials incidents and multi-casualty medical incidents. Includes incidents that require the commitment of resources based on a transitional situation and/or managing the effective interaction between numerous agencies to achieve control. Prerequisites: A grade of C or better in FSC204.</p>	<p>3 credits 3 periods</p>	<p>FSC224 3 credits 3 periods 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.</p>
<p>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: A grade of C or better in FSC113 or permission of</p>	<p>3 credits 3 periods</p>	<p>FSC282AC 3 credits 3 periods Service-Learning Experience in Fire Science Unpaid Service-Learning (SL) experience, completed with approved community partner. Prerequisites: Permission of Instructor. Course Notes: FSC282AC may be repeated for a total of six (6) credit hours. Standard grading available according to procedures outlined in online student handbook, Grading (AR 2.3.3).</p> <p>FSC298 1-3 credits Special Projects See page 229.</p>

General Business (GBS)

GBS110 **3 credits** **3 periods**
Human Relations in Business and Industry

Exploration of fundamental theories and concepts of human relations in business and industry. Particular emphasis is placed on developing effective interpersonal relationships and leadership skills within an organization. Prerequisites: None.

GBS131 **3 credits** **3 periods**
Business Calculations

Review of basic arithmetic and application of mathematics to business problems; includes percentage, interest, discount, and markups. Prerequisites: None.

GBS132 **3 credits** **3 periods**
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.

GBS151 **3 credits** **3 periods**
Introduction to Business

Characteristics and activities of current local, national, and international business. An overview of economics, marketing, management and finance. Prerequisites: None.

GBS205 **3 credits** **3 periods**
Legal, Ethical, and Regulatory Issues in Business

Legal theories, ethical issues and regulatory climate affecting business policies and decisions. Prerequisites: None.

GBS220 **3 credits** **3 periods**
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.

GBS221  **BUS2201** **3 credits** **3 periods**
Business Statistics

Business applications of descriptive and inferential statistics, measurement of relationships, and statistical process management. Includes the use of spreadsheet software for business and statistical analysis. Prerequisites: Grade of C or better in GBS220.

GBS233 **3 credits** **3 periods**
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.

GBS261 **3 credits** **3 periods**
Investments I

Evaluation of various investment forms including study of inflation, taxation, government securities, stocks and bonds, real estate and retirement plans. Prerequisites: None.

GBS270AB **2 credits** **2 periods**
Business Internship

General business work experience in a business or industry.

Eighty hours of designated work per credit totaling 160 hours per semester. Maximum of 3 credits allowed. Prerequisites: Permission of Department or Division.

GBS296WC **3 credits** **15 periods**
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 students academic or career goals (students present job may qualify) or permission of instructor. Corequisites: Must be concurrent in at least one class which is related to student's major or career interest or with permission of the Instructor.

GBS298 **1-3 credits**
Special Projects
 See page 229.

Cultural Geography (GCU)

Geography courses focus on the interrelationships between the earth and the humans who live on it. Cultural geography (GCU) courses describe and analyze geographical variations in relation to social, economic, and political phenomena. All of these courses transfer to state universities.

GCU102 **3 credits** **3 periods**
Introduction to Human Geography

Systematic study of human use of the earth. Spatial organization of economic, social, political, and perceptual environments. Prerequisites: None.

GCU121 **3 credits** **3 periods**
World Geography I: Eastern Hemisphere

Description and analysis of spatial variations in culture, social, economic, and political phenomena in major world regions. Emphasis on the major cultural realms of Europe, North Africa, and Asia. Prerequisites: None.

GCU122 **3 credits** **3 periods**
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.

GCU141 **3 credits** **3 periods**
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.

GCU221 **3 credits** **3 periods**
Arizona Geography

The historical to modern development of Arizona. The interplay between the physical, cultural, and economic factors affecting Arizona today. Prerequisites: None.

German (GER)

GER101  **GER1101** **4 credits** **4 periods**
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.

GER102  **GER1102** **4 credits** **4 periods**
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: A grade of C or better in GER101, or GER101AA, or permission of Department or Division. Completion of prerequisites within the last three years is required.

GER201  **GER2201** **4 credits** **4 periods**
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: A grade of C or better in GER102, or GER102AA, or two years of high school German, or permission of Department or Division. Completion of prerequisites within the last three years is required.

GER202  **GER2202** **4 credits** **4 periods**
Intermediate German II

Continued development of German language skills and continued study of the German culture. Prerequisites: A grade of C or better in GER201 or permission of Department or Division. Completion of prerequisites within the last three years is required.

GER298 **1-3 credits**
Special Projects
 See page 229.


Geology (GLG)

GLG101  **GLG1101** **3 credits** **3 periods**
Introduction to Geology I - Physical Lecture

Introduction to Earth's materials, surface and internal geologic processes, plate tectonics and geologic time. Prerequisites: None.

GLG102 **3 credits** **3 periods**
Introduction to Geology II - Historical Lecture

The origin and history of the Earth, its dynamic geographic and climatic changes. Evolution and sequence of life recorded in the fossil record; tectonic evolution of major continents through time. Prerequisites: None.

GLG103  **GLG1101** **1 credit** **3 periods**
Introduction to Geology I - Physical Lab

Includes practical experience in rock and mineral identification, topographic maps, and applied problems in geology. Prerequisites: None. Course Notes: May accompany GLG101.

GLG104 **1 credit** **3 periods**
Introduction to Geology II - Historical Lab

The study of minerals, rocks, fossils, geologic maps and structures.

Prerequisites: None. Course Notes: May accompany GLG102.

GLG105 **4 credit** **6 periods**
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.

GLG110 **3 credits** **3 periods**
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 earthquakes, volcanoes, floods and landslides. Examines environmental impact and use of mineral and energy resources. Prerequisites: None.

GLG111 **1 credit** **3 periods**
Geological Disasters and the Environment Lab

Introduction to geological processes and concepts. Application of basic geologic knowledge to evaluate, interpret and propose solutions for a variety of current and past geology-related environmental disasters and hazards. Prerequisites: None. Course Notes: May accompany GLG110.

GLG230AA **1 credit** **5 periods**
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. Prerequisites: None. GLG103 suggested but not required. Course Notes: GLG230AA may be repeated for a total of four (4) credit hours.

GLG230AA **1 credit** **5 periods**
GLG230AB **2 credits** **10 periods**
GLG230AC **3 credits** **15 periods**

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. Prerequisites: None. GLG103 suggested but not required. Course Notes: GLG230AA may be repeated for a total of four (4) credit hours. GLG230AB may be repeated for a total of eight (8) credit hours. GLG230AC may be repeated for a total of twelve (12) credit hours.

GLG231AB **1 credit** **1 period**
Special Topics in Geology

Exploration of important topics in geology. Specific topic varies. Prerequisites: None. Course Notes: GLG231AB may be repeated for a total of four (4) credit hours.

Physical Geography (GPH)

Geography courses focus on the interrelationships between the earth and the humans who live on it. Physical geography (GPH) courses examine the relationships among the geographically variable components of the earth and their relation to the environmental problems facing contemporary society. All of these courses transfer to state universities.

GPH111² 3 credits 3 periods
Introduction to Physical Geography Lecture

Earth's physical processes and impacts on human environments via the atmosphere, biosphere, lithosphere and hydrosphere. Topics include severe weather, climate change, biomes and ecosystems, landform processes; mountain building and erosion by rivers, glaciers, waves and wind. Prerequisites: None.

GPH112² 1 credit 3 periods
Introduction to Physical Geography Lab

Earth's physical processes and impacts on the human environment via the atmosphere, biosphere, lithosphere and hydrosphere. Practical experiences include earth-sun relationships, weather, climate, biomes, landform processes; mountain building and erosion by rivers, glaciers, waves and wind, topographic maps. Prerequisites: A grade of C or better in GPH111 or Corequisites: GPH111.

GPH113² 4 credits 6 periods
Introduction to Physical Geography

Earth's physical processes and impacts on human environments via the atmosphere, biosphere, lithosphere and hydrosphere. Topics and practical experiences include severe weather, climate change, biomes and ecosystems, landform processes; mountain building and erosion by rivers, glaciers, waves and wind, topographic maps. Prerequisites: None.

GPH211 4 credits 6 periods
Landform Processes

Geographic characteristics of landforms and earth surface processes emphasizing erosion, transportation, deposition and implications for human management of the environment. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent..

GPH212 3 credits 3 periods
Introduction to Meteorology I

Atmospheric processes and elements. General and local circulation, heat exchange and atmospheric moisture. Prerequisites: None.

GPH213 3 credits 3 periods
Climate and Weather

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. Course Notes: General Education Designation: Natural Sciences (General) - [SG] in combination with: GPH215. Prerequisites: None.

GPH214 1 credit 3 periods
Introduction to Meteorology Laboratory I

Basic meteorological and climatological measurements. Prerequisites: None. Corequisites: GPH212.

GPH215 1 credit 3 periods
Climate and Weather Laboratory

A mathematical, statistical, and spatial analysis of climatological phenomena. Course Notes: General Education Designation: Natural Sciences (General) - [SG] in combination with: GPH213. Prerequisites: None. Corequisites: GPH213.

General Technology (GTC)

GTC107 3 credits 3 periods
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. Prerequisites: None.

GTC127 3 credits 4 periods
Beginning Woodworking

Introduction to woodworking fundamentals and applications. Familiarization with the basic woodworking tools emphasizing the safe and proper use of woodworking hand tools and stationary and portable power tools. Class projects develop a working project plan, identify material needs, cost analysis, basic construction of the project, and basic finishing techniques. Prerequisites: None.

GTC128 3 credits 4 periods
Intermediate Woodworking

Further development and application of basic woodworking skills. Complex projects with emphasis on planning and calculating and buying needed materials. Introduction of jointery, complex fitting, more advanced finishing, and wood carving. Prerequisites: A grade of C or better in GTC127 or previous woodworking experience.

GTC144 3 credits 5 periods
Introduction to Cabinetmaking

Techniques and projects to produce complex cabinet projects. Includes project planning, working from plans, material cost analysis, and advanced finishing techniques. Prerequisites: A grade of C or better in GTC130 and permission of Instructor.

GTC145 3 credits 5 periods
Advanced Cabinetmaking

Further exploration of advanced woodworking techniques on complex projects. Prerequisites: A grade of C or better in GTC144 and permission of instructor.

Health Core Curriculum (HCC)

HCC109 .5 credits .5 periods
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 automatic, external defibrillation and resuscitation equipment. Prerequisites: None.

HCC130 3 credits 3 periods
Fundamentals in Health Care Delivery

Overview of current and recent development of 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

¹ Final Term Summer 2019, ² Effective Term Fall 2019

communication skills which facilitate inter-professional 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.

HCC145 **3 credits** **3 periods**
Medical Terminology for HealthCare Professionals

Medical terminology used in health care, with special care populations and in special services. Body systems approach to terms related to structures, functions, diseases, procedures, and diagnostic tests. Building and analyzing terms using word parts. Medical abbreviations and symbols and term spelling. Prerequisites: None.

HCC145AA **1 credit** **1 period**
Medical Terminology for HealthCare Professionals 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 selected terms using basic word parts. Selected medical abbreviations and symbols and term spelling. Prerequisites: None.

HCC145AB **1 credit** **1 period**
Medical Terminology for Health Care Professionals II

Selected 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 selected terms using standard word parts. Selected abbreviations and symbols and term spelling. Prerequisites: A grade of C or better in HCC145AA.

HCC145AC **1 credit** **1 period**
Medical Terminology for Health Care Professionals III

Medical terminology used with special care populations and in special services. Includes obstetric, pediatric, mental health, diagnostic imaging, oncology, and surgery terms. Use of special care populations and special services word parts and term spelling. Prerequisites: A grade of C or better in HCC145AA and HCC145AB or HCC146.

Health Care Related (HCR)

HCR210 **3 credits** **3 periods**
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: A grade of C or better in ENG102 or ENG108 or permission of Instructor.

HCR220 **3 credits** **3 periods**
Introduction to Nursing and Health Care Systems

Introduction to the social, political, and economic contexts of the nursing profession and health care systems in the United States. Prerequisites: A grade of C or better in ENG102 or ENG108 or permission of Instructor.

HCR230 **3 credits** **3 periods**
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.

HCR240 **4 credits** **4 periods**
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: A grade of C or better in BIO202 or BIO205, or permission of Instructor.

HCR240AA **2 credits** **2 periods**
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: A grade of C or better in BIO202 or BIO205 or permission of Instructor. Corequisites: HCR240AB or permission of Instructor.

HCR240AB **2 credits** **2 periods**
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: A grade of C or better in BIO202 or BIO205 or permission of Instructor. Corequisites: HCR240AA or permission of Instructor.

Health Science (HES)

HES100 **3 credits** **3 periods**
Healthful Living

Health and wellness and their application to an optimal life style. Explores current topics of interest such as stress management, nutrition, fitness, and environmental health. Evaluates common risk factors associated with modern lifestyles. Prerequisites: None.

HES106 **.5 credits** **.5 periods**
Cardiopulmonary Resuscitation (CPR)/Automated External Defibrillator (AED)

Basic overview of Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED). Covers choking procedures and the importance, guidelines, and techniques for performing CPR and utilizing an AED. Prerequisites: None.

HES107 **.5 credits** **.5 periods**
Community First Aid

Basic first aid course for the layperson. Training with the assessments and skills that be performed with minimal equipment in common home or workplace emergencies until emergency medical personnel arrive. Prerequisites: None.

HES154 **3 credits** **3 periods**
First Aid/Cardiopulmonary Resuscitation

Cardiopulmonary Resuscitation (CPR) 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 situation. Prerequisites: None.

HES201 3 credits 3 periods

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.

HES210 3 credits 3 periods

Cultural Aspects of Health and Illness

Examines how culture influences health and illness, health care practices, barriers to health care, interactions with health care professionals, and health disparities in the U.S.

HES271 3 credits 3 periods

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.

HES273 2 credits 2 periods

Athletic Training: Advanced Wrapping and Taping Techniques

Expands and enhances practical uses of basic taping and wrapping skills. Hands-on experience in the use of braces, athletic taping, and elastic wraps to care for athletic injuries. Prerequisites: A grade of C or better in HES271 or permission of instructor.

HES275 3 credits 4 periods

Rehabilitation and Therapeutic Interventions in Sports Medicine

Exploration of current trends in the basic and advanced methodologies used in the rehabilitation of athletic injuries. Incorporates demonstrations of injury-appropriate strength and fitness training and therapeutic exercise techniques. Prerequisites: A grade of C or better in HES271.

HES298 1-3 credits

Special Projects

See page 229.

History (HIS)

HIS100 3 credits 3 periods

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.

HIS101 3 credits 3 periods


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.

HIS102 3 credits 3 periods

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.

HIS103  **HIS1131** 3 credits 3 periods
United States History to 1865

The political, economic, and social development of the United States from the Pre-Columbian period through the end of the Civil War (1865). Prerequisites: None.

HIS104  **HIS1132** 3 credits 3 periods
United States History 1865 to Present

The political, economic, and social development of United States from 1865 to the present time. Prerequisites: None.

HIS105 3 credits 3 periods
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.

HIS107 3 credits 3 periods
Selected Issues in United States History

Survey of selected major issues in history of United States from early times to present. Prerequisites: None.

HIS108 3 credits 3 periods
United States History 1945 to the Present

Survey of American history from 1945 to the present. Focuses on the political, social, economic and cultural history of the United States from the end of World War II to the present time. Includes domestic developments and foreign policy. Prerequisites: None.

HIS109 3 credits 3 periods
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 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.

HIS111 3 credits 3 periods
World History 1500 to the Present

Survey of the economic, social, cultural, and political elements of world history from 1500 to the present. Prerequisites: None.

HIS145 3 credits 3 periods
History of Mexico

Survey of the political, economic, and social forces which have shaped the development of Mexico from pre-Columbian times to the present. Prerequisites: None.

HIS201 3 credits 3 periods
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.

HIS203 3 credits 3 periods

African-American History to 1865

History and cultural heritage of African-Americans from their beginnings in Ancient Africa through the experience of chattel slavery in the Americas to their eventual emancipation and participation in the American Civil War. Prerequisites: None.

HIS204 **3 credits** **3 periods**

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.

HIS273 **3 credits** **3 periods**

U.S. Experience in Vietnam, 1945 - 1975

Survey of the U.S. experience in Vietnam, 1945-1975, in view of political, economic, and social forces of the Cold War. Prerequisites: None.

HIS275 **3 credits** **3 periods**

Russia: Kievan Rus to the New Cold War

Survey of the principal political, military, economic, social and cultural development in Russia from Ivan the Great to the present, including a focus on the period when Russia was part of the Soviet Union, 1917-1991. Prerequisites: None.

HIS277 **3 credits** **3 periods**

The Modern Middle East

Survey of the political, religious and economic development of the Middle East since 1500. Emphasis on the decline of the Moslem empire(s), the resurgence of contemporary Pan-Arabism, the Palestinian-Israeli question, jihadism, fundamentalist terrorism, the Taliban and Al Qaeda, and the impact of oil production on the region and the rest of the world. Prerequisites: None.

Hotel Restaurant Management (HRM)

HRM145 **3 credits** **3 periods**

Events Management

Introduction to organizing special events from concept through completion, including planning, coordination, marketing, financing and risk management. Overview of the critical stages and functions involved in staging and managing special events including meetings, conferences, entertainment, expositions, conventions and sporting events. Prerequisites: None.

Healthcare Technology Management (HTM)

HTM150 **3 credits** **3 periods**

Introduction to Healthcare IT and Systems

Introduction to current and emerging Healthcare IT systems with particular emphasis on healthcare information and data, governance, information systems and technologies, and industry challenges in a value-added healthcare environment. Prerequisites: A grade of C or better in CIS105 or permission of Instructor.

HTM200 **3 credits** **4 periods**

Healthcare IT Software Infrastructure: Interoperability, Security and mHealth

Application of industry-specific IT skills to entry-level Healthcare

IT software development projects, with particular skills emphasis on high-growth areas such as interoperability, security and Mobile Health (mHealth). Admission to either CCL or AAS program in Healthcare Technology Systems required for permission to enroll. Application includes verification that student has met program prerequisites. Prerequisites: A grade of C or better in [(CIS133AA and CIS133BA¹ and CIS133CA¹ or CIS133DA¹] and CIS150AB and HTM150 and permission of Program Director.

HTM250 **3 credits** **4 periods**

Healthcare IT Systems Development Life Cycle (SDLC)

Introduction to the Systems Development Life Cycle (SDLC) methodologies and tools currently used on healthcare Information Technology (IT) projects, with particular emphasis on software development. Experience with application development and testing tools in a project-based lab setting. Prerequisites or Corequisites: CIS224 and HTM200.

HTM270 **3 credits** **4 periods**

Healthcare IT Systems Capstone

Culminating application of the skills, knowledge, communication and critical thinking skills from the Healthcare Technology Systems program to address industry-specific challenges. Includes investigation and application of current and emerging healthcare technologies. Prerequisites: A grade of C or better in HTM250.

Humanities (HUM)

Humanities courses present major artistic, literary, and musical achievements in world culture. They show how these milestones are interrelated and reflect their historical, philosophical, and social contexts. Emphasis is on linking human creative expression to roots in various global cultures to discover what makes us human.

HUM250, HUM251, and HUM260 are interdisciplinary courses and may be team taught by members of the Art, English, Music, and Philosophy departments.

All HUM courses meet the general education Humanities, Arts and Design (HU) requirement for the college's associate degrees, and all HUM courses transfer. HUM250 and HUM251 can also be used for the Literacy and Critical Inquiry (L) requirement for the associate degrees. A student who completes both HUM250 and HUM251 will have met the 6 hour HU requirement. At ASU the course fulfills either Humanities/Fine Arts (HU) or Literacy and Critical Inquiry (L) as well as Historical Awareness (H) requirements. HUM260 transfers to Arizona State University as both Humanities (HU) and Cultural Awareness (C).

HUM108 **3 credits** **3 periods**

Contemporary Humanities

An exploration of human expression in contemporary arts and sciences. Prerequisites: None.

HUM190AA **1 credit** **1 period**

HUM190AB **1 credit** **1 period**

HUM190AC **1 credit** **1 period**

Honors Forum

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-social 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.

HUM201 **3 credits** **3 periods**

Humanities: Universal Themes

Study of worldviews in a variety of historical and contemporary world cultures, including analysis of origin and creation myths, artistic expression, spirituality, and the natural environment. Prerequisites: None.

HUM205 **3 credits** **3 periods**

Introduction to Cinema

Survey of the history and development of the art of motion pictures, including criticism of aesthetic and technical elements. Prerequisites: None.

HUM206 **3 credits** **3 periods**

Introduction to Television Arts

History and development of electronic media and its impact on popular arts. Prerequisites: None.

HUM210 **3 credits** **3 periods**

Contemporary Cinema

A study of contemporary films, directors, and critics with emphasis on evaluating film as an art form. Prerequisites: None.

HUM213 **3 credits** **3 periods**

Hispanic Film

Analysis of Hispanic film as art form and as social commentary. Prerequisites: None.

HUM245 **3 credits** **3 periods**

Introduction to Holocaust Studies

Introduction to essential information about the Holocaust. Provides theological, social and political background to establish contexts of anti-Semitism, especially in 19th and 20th centuries, with particular attention to National Socialist ideologies. Ghetto and camp life, including resistance, are explored. Emphasis is on texts of the Holocaust, including historical documents, participant testimonies, fiction, creative non-fiction, and poetry, much of which involves theological and moral debate. Includes analysis of supplementary visual material and some performing arts. Prerequisites: None. CRE101, or CRE111¹, or equivalent as indicated by appropriate reading placement test score recommended but not required.

HUM250 **3 credits** **3 periods**

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: A grade of C or better in ENG101.

HUM251 **3 credits** **3 periods**

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: A grade of C or better in ENG101.

HUM292 **3 credits** **3 periods**

The Art Of Storytelling

Explore the art and origin of storytelling. Provide a variety of story-

telling techniques, styles and exercises to enhance the delivery of telling stories. Assist in the integration and application of storytelling to the learning environment in the classroom. Prerequisites: None.

International Business (IBS)

IBS101 **3 credits** **3 periods**

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.

IBS109 **3 credits** **3 periods**

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.

Information Studies (IFS)

Information Studies (IFS) courses are designed to prepare MCCC students to take their place in the workforce. In today's information rich society, "knowledge workers" are in high demand.

IFS201 may be used to fulfill the Literacy and Critical Inquiry [L] requirement for associate degrees.

Transferability: IFS10 transfers to state universities. Transferability may vary based on university and four year degree programs.

IFS110 **3 credits** **3 periods**

Critical Research for College Success

Access, evaluate, and incorporate sources appropriately into academic projects. Course Notes: IFS110 may be repeated for a total of four credit hours. Prerequisites: None.

IFS112 **3 credits** **3 periods**

College Research Foundations

Development of research skills and competencies essential for college success including accessing, evaluating, and incorporating information sources into academic projects. Examination of information ecosystems, online presence, and the implications of one's information seeking behaviors. Prerequisites: None.

IFS201 **3 credits** **3 periods**

Information in a Post-Truth World

Development of critical thinking skills in using information. Exploration of how information can be used as a tool or a weapon. Explanation of the role of information as a consumer and creator. Recognition of the impact of culture and worldview on how information is understood, created, and disseminated. Prerequisites: A grade of C or better in ENG101 or ENG107.

IFS210 **3 credits** **3 periods**

Research in a Global Society

A comparative study focused on access to digital information in a global environment. Explore the global culture developing around the Internet and the impact of local, national and global cultures as well as economic and social factors related to the flow of information in a global society. Examine emerging technologies to produce and distribute information across cultures in a global

¹ Final Term Summer 2019, ² Effective Term Fall 2019

society in an ethical manner. Prerequisites: None. Course Notes: IFS210 may be repeated for a total of six (6) credit hours.

Insurance (INS)

INS100 Insurance Industry Profession 3 credits 3 periods

Introduction to the insurance industry profession and environment. Includes identification of personal career goals, effective workplace behaviors and professionalism in the workplace in addition to strategies for problem solving and conflict management. Also covers the importance of integrity and ethical behavior in the insurance industry. Prerequisites: None.

INS140 Review for the Property and Casualty Insurance Agent Licensing Exam 1 credit 1 period

Preparation for the Property and Casualty Insurance Producer licensing exam required by the State of Arizona Department of Insurance for licensure as a Property/Casualty Insurance Agent. Covers the basic principles and legal parameters of property and casualty insurance including homeowners, auto, and business policies. Designed for students with no prior experience in the insurance field as well as those seeking to expand their licensing authority with the State of Arizona. Prerequisites: None. Course Notes: Licensure in Arizona as a Property and Casualty Insurance Producer requires fingerprinting and a criminal background check as well as a satisfactory score on the official licensing exam. This course includes neither the state exam nor any aspect of criminal background check. INS140 may be repeated for credit.

INS200 Principles of Property and Liability Insurance 3 credits 3 periods

Basic principles of insurance. Introduction to insurance contracts. Overview of company functions and operations including ratemaking, underwriting, claims, adjusting, and marketing. Prerequisites: None.

INS200 Principles of Property and Liability Insurance 3 credits 3 periods

Basic principles of insurance. Introduction to insurance contracts. Overview of company functions and operations including ratemaking, underwriting, claims, adjusting, and marketing. Prerequisites: None.

INS205 Personal Insurance 3 credits 3 periods

Analysis of personal loss exposures and personal insurance coverages including homeowner's, other dwelling coverages, personal liability, auto, life, health, and government programs. Prerequisites: A grade of C or better in INS200 or permission of Instructor.

INS210 Commercial Insurance 3 credits 3 periods

Analysis of commercial coverages including property, business income, inland marine, ocean marine, crime, boiler, general liability, auto, and worker's compensation. Analysis of loss exposures and explanation of coverage parts. Prerequisites: A grade of C or better in INS200 or permission of Instructor.

Interior Design (INT)

INT115 Historical Architecture and Furniture 3 credits 6 periods

Historical survey of the development of furniture, interiors, and architecture from antiquity to the 19th Century. Prerequisites: None.

Information Technology Security (ITS)

ITS110 Information Security Fundamentals 3 credits 4 periods

Fundamental concepts of information technology security. Topics include authentication methods, access control, cryptography, Public Key Infrastructure (PKI), network attack and defense methods, hardening of operating systems and network devices, securing remote access and wireless technologies and securing infrastructures and topologies. Emphasis on hands-on labs in both the Windows and Linux environments. Builds on thorough understanding of Transmission Control Protocol/Internet Protocol (TCP/IP) and security concepts and Microsoft (MS) Windows and Linux Administration. Prerequisites: A grade of C or better in CIS126DA, or CIS126DL, or permission of Program Director. Prerequisites or Corequisites: Any MST150++ course.

ITS120 Legal, Ethical and Regulatory Issues 3 credits 3 periods

Exploration of legal and ethical issues unique to information security. Analysis of professional ethical codes and their application to information security practitioners. Federal and state laws as they relate to information security. Prerequisites: A grade of C or better in ITS110 or permission of Instructor.

ITS130 Operating System Security 3 credits 4 periods

In-depth examination of operating system security including Transmission Control Protocol/ Data Encryption Standard (DES), Triple Data Encryption Standard (3DES), Advanced Encryption Standard (AES), Pretty Good Privacy (PGP), and other encryption technologies (TCP/IP), Internet Protocol Security (IPSec) and Cisco Internetwork Operating System (IOS), Microsoft Windows, Linux and Mac OSX Security. Procedures to defend networks against attacks and recovery from network disasters. Web server security. Emphasis on hands-on labs in both the Windows and Linux environments. Builds on thorough understanding of Transmission Control Protocol/Internet Protocol (TCP/IP) and security concepts and MS Windows and Linux Administration. Prerequisites: A grade of C or better in ITS110 or permission of Instructor

ITS140 Network Security 3 credits 4 periods

Examination of techniques used to defend network security. Design and implementation of devices including firewalls and Intrusion Detection Systems (IDSs) and Virtual Private Networks (VPNs). Risk analysis and security policies methodologies. Emphasis on hands-on labs in both the Windows and Linux environments. Builds on thorough understanding of Transmission Control Protocol/Internet Protocol (TCP/IP) and security concepts and MS Windows and Linux Administration. Prerequisites: A grade of C or better in (ITS110 and ITS130) or permission of Instructor.

ITS240  **3 credits** **4 periods**
Ethical Hacking and Network Defense

Preparation for the EC-Council Certified Ethical Hacking examination. In-depth exploration of how to effectively protect computer networks from risks ranging from malicious infiltration to cyber-warfare. Includes examination of ethical hacking, relevant tools and methodologies, and its importance to network security. Resources to identify new computer network vulnerabilities and counter security strategies will be discussed as well as an overview of relevant computer crime laws and penalties. Prerequisites: A grade of C or better in ITS110, or CNT205, or CIS270, or CIS271DB, or CIS272DB, or permission of Instructor.

ITS291  **4 credits** **5 periods**
Computer Forensics Foundations

Development of foundational computer forensic skills. Introduction to preserving, identifying, extracting, interpreting, and documenting computer data as part of a forensically sound analysis. Examination of the physical and logical structure of hard drives. Study of the logical structure of Windows-based file systems and common applications. Introduction to the logical structure of Unix/Linux-based file systems and common applications of commercial forensic tools. Prerequisites: A grade of C or better in BPC170 and ITS110 or permission of Instructor.

ITS292  **4 credits** **5 periods**
Advanced Computer Forensics

Advanced computer forensics analysis techniques with commercial tools. Introduction to open-source forensic tools. Emphasis on data recovery from complex applications and media types. Study of the logical structure of Unix/Linux-based file systems. Advanced search techniques. Analysis of unallocated space, compound files, and NTFS artifacts. Prerequisites: A grade of C or better in ITS291 or permission of Instructor. Course Notes: ITS292 may be repeated for a total of two (2) credits.

Japanese (JPN)

JPN101  **JPN1101** **5 credits** **6 periods**
Elementary Japanese I

Basic grammar, pronunciation, and vocabulary of Japanese. Study of Japanese culture. Development of speaking, listening, reading and writing skills. Prerequisites: None.

JPN102  **JPN1102** **5 credits** **6 periods**
Elementary Japanese II

Continued study of basic grammar, pronunciation and vocabulary of Japanese. Study of the Japanese culture. Intensive practice in oral communication and development of reading and writing skills. Prerequisites: A grade of C or better in JPN101 or permission of Department or Division. Completion of prerequisites within the last three years is required.

JPN115  **3 credits** **3 periods**
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.

JPN116  **3 credits** **3 periods**
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: A grade of C or better in JPN115. Completion of prerequisites within the last three years is required.

JPN201  **JPN2201** **5 credits** **6 periods**
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: A grade of C or better in JPN102 or permission of Department or Division. Completion of prerequisites within the last three years is required.

JPN202  **JPN2202** **5 credits** **6 periods**
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: A grade of C or better in JPN201 or permission of Department or Division. Completion of prerequisites within the last three years is required.

JPN298 **1-3 credits**

Special Projects
 See page 229.

Journalism (JRN)

JRN125  **3 credits** **3 periods**

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.

JRN133  **3 credits** **3 periods**
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 suggested but not required.

JRN201  **JRN2201** **3 credits** **5 periods**
News Writing

Writing and producing news for the media. Associated Press editing style, writing skills, and organizational structure for news. Prerequisites: A grade of C or better in ENG101 or ENG107.

JRN203  **3 credits** **3 periods**
Writing for Online Media

Writing using the modes and resources available on the Internet. Use of information and resources available on the internet in writing, as well as writing for the Internet itself. Prerequisites: Eligibility for ENG101 or ENG107 or permission of Instructor.

JRN205 **3 credits** **3 periods**
Copyediting

Specific skills and techniques of copyediting. Understanding of editing skills to enhance a writer's abilities whether one's own or someone else's. Critically evaluate word usage and meaning to achieve the 3 Cs of writing clarity, completeness and conciseness. Prerequisites: A grade of C or better in ENG101 or permission of instructor.

JRN212 **3 credits** **5 periods**
Broadcast Writing

Writing techniques for basic broadcast scripts: promotions, commercials, public service announcements, news leads, news stories, audio and video, sports, weather, traffic checks, five-minute newscasts, reports, using broadcast style rules. Prerequisites: A grade of C or better in ENG101.

JRN215 **3 credits** **5 periods**
News Production

Writing, editing, and publishing the student newspaper on multiple platforms. Emphasis may vary according to student goals. Prerequisites: Prerequisites: A grade of C or better in JRN201 or [(ENG101 or ENG107) and permission of Program Director or Instructor]. Course Notes: JRN215 may be repeated for a total of nine (9) credit hours.

JRN225 **3 credits** **3 periods**
Photojournalism

Reporting the news as a photojournalist, with emphasis on the development and creation of news photographs. Experience in shooting, editing and transmitting digital photos using professional photo editing and design software. Prerequisites: None.

JRN234 **3 credits** **3 periods**
Feature Writing

Emphasis on crafting stylized human interest stories for publications. Includes research, interviewing, writing techniques, editing and professional concerns. Includes best practices for writing features for traditional and digital media. Prerequisites: A grade of C or better in ENG101, or ENG107, or permission of Instructor.

JRN235 **3 credits** **5 periods**
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: A grade of C or better in BPC128, JRN133, JRN201, JRN215, MCO120 and MKT101.

JRN290 **1 credit** **1 period**
Publications Portfolio

This course is organized around the development of a portfolio of published stories for submission to a jury of professional journalists, active and retired, that supports the district's occupational journalism certificate. Passing requires approval from two-thirds of the jury. Prerequisites: None

JRN298 **1-3 credits**
Special Projects
See page 229.

Law Enforcement Operations (LEO)

LEO102 **17 credits** **30 periods**
Peace Officer Certification I

Training program for limited authority peace officers, leading to certification by the Arizona Peace Officer Standards and Training Board (AzPOST) - The statutory agency for certifying peace officers - all person with arrest powers - in Arizona.) Includes: introduction to law enforcement, law and legal matters, patrol procedures, traffic control, and police proficiency skills. Prerequisites: Student must comply with AzPOST employment standards for peace officers.

LEO202 **13 credits** **22.5 periods**
Peace Officer Certification II

A continuation of the basic, entry-level training program leading to full authority peace officer certification as required by the Arizona Peace Officer Standards and Training Board I (AzPOST). Subjects to include: Patrol Procedure, Accident Investigation, Records and Report Writing, Community Relations, Criminal Investigations, and Officer Survival. Prerequisites: Grade of C or better in AJS/LEO102 or AzPOST Limited Authority Peace Officer certification.

LEO264 **3 credits** **3 periods**
Law Enforcement Instructor Certification

Designed for criminal justice trainers. The adult learner, developing a course, characteristics of effective instruction, evaluation methods. Prerequisites: None.

LEO281AA **1 credit** **1 period**
Criminal Investigations Certification I

Overview of information, strategies, techniques, and resources available to detectives investigating property crimes, sex crimes, forged documents, and death investigations. Prerequisites: Certified law enforcement personnel.

LEO281AB **1 credit** **1 period**
Criminal Investigations Certification II

Review of laws regarding search and seizure. Updated information regarding new laws as they apply to search and seizure. Prerequisites: Certified law enforcement personnel.

LEO281AC **1 credit** **1 period**
Criminal Investigations Certification III

The legal framework for admissible confessions and other information gathered through interviews and interrogations. Prepares law enforcement personnel for obtaining confessions and other incriminating information from suspects used in court. Prerequisites: Certified law enforcement personnel.

LEO281AD **1 credit** **1 period**
Criminal Investigations Certification IV

Emphasizes the necessity for good reports in criminal investigations. Characteristics of pre-report preparation, preparing the body of the report, and assembling the case report. Process of handling submission of a case report, processing turndowns, and furthers. Prerequisites: Certified law enforcement personnel.

LEO281AE **.5 credits** **.5 periods**
Criminal Investigations Certification V

Provides the criminal investigator with a working knowledge to properly prepare case documents for submittal to the attorney and to prepare for trial. Prerequisites: Certified law enforcement personnel.

LEO281AF .5 credits .5 periods
Criminal Investigations Certification VI

Various types of electronic evidence and the procedures required to be submitted to the court for prosecution. Prerequisites: Certified peace officer or permission of the instructor.

LEO281AG 1 credit 1 period
Criminal Investigations Certification VII

Utilizes the skills acquired in criminal investigation certification courses. Practical application of crime scene processing, search warrant application, collection and preservation of evidence, diagramming, supplemental reports, analysis, and case presentation. Prerequisites: A grade of C or better in AJS/LEO281AA, AJS/LEO281AB, AJS/LEO281AC, AJS/LEO281AD, AJS/LEO281AE, and AJS/LEO281AF.

LEO286 5 credits 5 periods
Law Enforcement Firearm Instructor

A "train the trainer" course for police firearm instructors. Covers instructional techniques for the pistol, revolver, and shotgun. Prerequisites: AzPost (Peace Officer Standard and Training) Certified Police General Instructor or permission of department.

LEO286AA 5 credits 5 periods
Law Enforcement Patrol Rifle Instructor

Techniques on proper manipulation and marksmanship skills needed by a patrol officer/deputy in the use of the patrol rifle, and techniques of teaching those skills to other officers/deputies. Prerequisites: AzPOST (Peace Officer Standard and Training) certified law enforcement firearms instructor, or permission of instructor.

LEO289AH .5 credits .5 periods
Negotiation Techniques for 911 Operators

Crisis negotiating for emergency telephone operators. How to communicate in a critical situation such as a barricaded or suicidal subject. Prerequisites: None.

Mathematics (MAT)

MAT081 4 credits 4 periods
Basic Arithmetic

Primary emphasis on conceptual understanding of and solving problems involving whole numbers, integers, mathematical operations, decimals, decimal operations, fractions, percentages, angles and geometric figures. Use of systems of measure, similarity, proportionality and the Pythagorean theorem. Focus on mathematical language, connections, patterns and reasoning, and additive and multiplicative reasoning.

Prerequisites: None². Course Notes: Student may receive credit for only one of the following: (MAT051 and MAT052 and MAT053), OR MAT081, OR MAT082, OR MAT085².)

Prerequisites¹: Satisfactory score on district placement exam.

MAT082 3 credits 3 periods
Basic Arithmetic

Primary emphasis on conceptual understanding of and solving problems involving whole numbers, integers, mathematical operations, decimals, decimal operations, fractions, percentages, angles and geometric figures. Use of systems of measure,

similarity, proportionality and the Pythagorean theorem. Focus on mathematical language, connections, patterns and reasoning, and additive and multiplicative reasoning.

Prerequisites: None². Course Notes: Student may receive credit for only one of the following: (MAT051 and MAT052 and MAT053), OR MAT081, OR MAT082, OR MAT085².)

Prerequisites¹: Satisfactory score on district placement exam.

MAT090 5 credits 5 periods

Introductory Algebra

Emphasis on meanings related to variable, equality, inequality, equivalence. The use of additive and multiplicative reasoning in solving linear equations and inequalities in one variable. Validation of solution(s) through a reasonable mathematical defense. Transfer and apply knowledge through a process of sense making and reasonableness in mathematical problems and practical application situations. Recognize patterns and organize data to represent situations where output is related to input. Understand the concept of function and be able to represent functions in multiple ways, including tables, algebraic rules, graphs and contextual situations, and make connections among these representations. Read, represent, and interpret linear function relationships numerically, analytically, graphically and verbally and connect the different representations. Model and solve real world problems involving constant rate of change.

Prerequisites²: A grade of C or better in each of the following courses: (MAT051 and MAT052 and MAT053), OR a grade of C or better in MAT08+, OR an appropriate district placement. Course Notes²: MAT090 students may receive credit for only one of the following: (MAT055 and MAT056 and MAT057), OR MAT090, OR MAT091, OR MAT092, OR MAT095, OR MAT096.)

Prerequisites¹: An appropriate diagnostic score, or a grade of C or better in each of the following courses: MAT051, MAT052, and MAT053 OR (an appropriate mathematics placement score, or a grade of C or better for MAT081 or MAT082). Course Notes¹: Student may receive credit for only one of the following: MAT055 and MAT056 and MAT057, or MAT090, or MAT091, or MAT092.

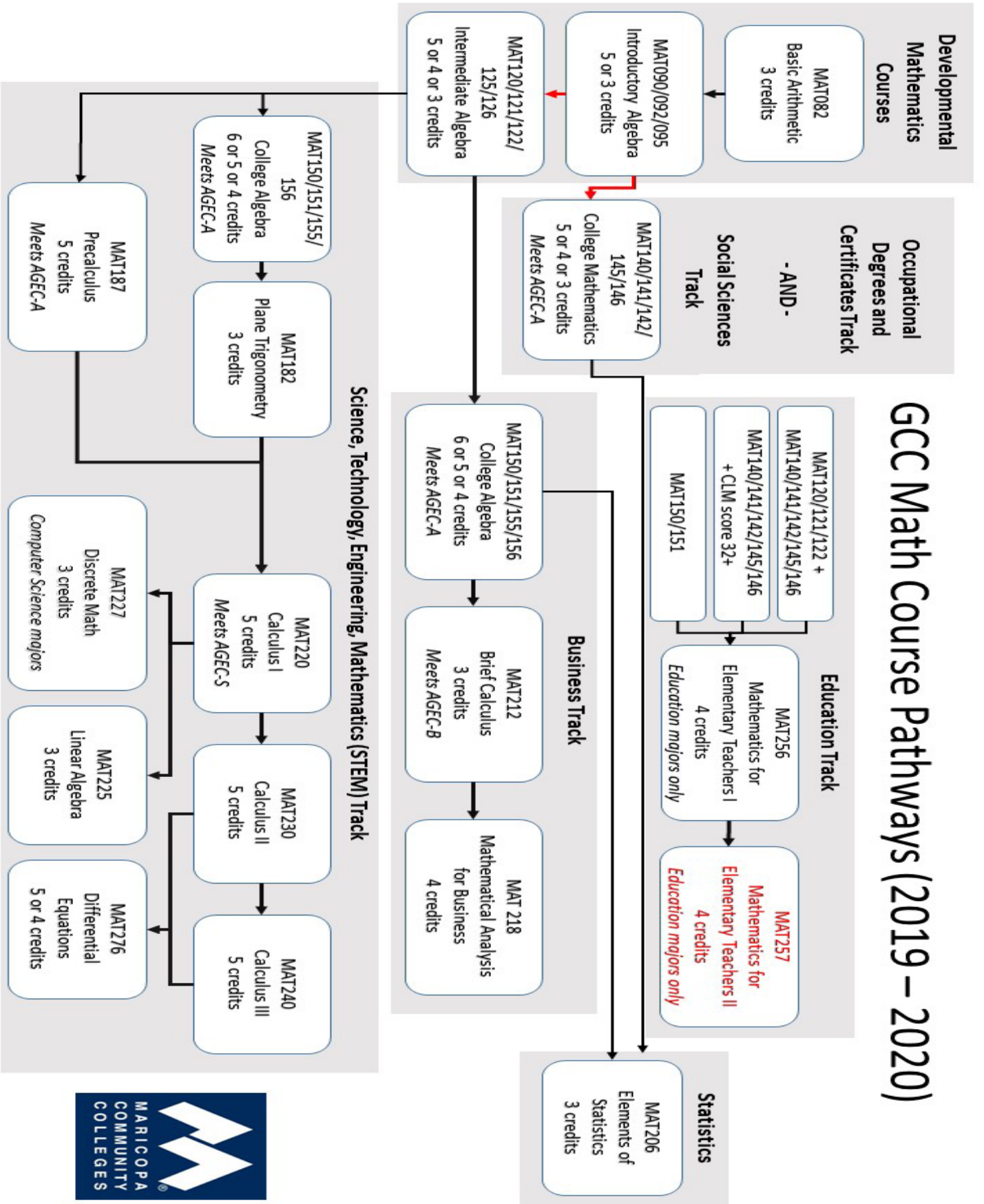
MAT092 3 credits 3 periods
Introductory Algebra

Emphasis on meanings related to variable, equality, inequality, equivalence. The use of additive and multiplicative reasoning in solving linear equations and inequalities in one variable. Validation of solution(s) through a reasonable mathematical defense. Transfer and apply knowledge through a process of sense making and reasonableness in mathematical problems and practical application situations. Recognize patterns and organize data to represent situations where output is related to input. Understand the concept of function and be able to represent functions in multiple ways, including tables, algebraic rules, graphs and contextual situations, and make connections among these representations. Read, represent, and interpret linear function relationships numerically, analytically, graphically and verbally and connect the different representations. Model and solve real world problems involving constant rate of change.

Prerequisites²: A grade of C or better in each of the following

¹ Final Term Summer 2019, ² Effective Term Fall 2019

GCC Math Course Pathways (2019 – 2020)



courses: (MAT051 and MAT052 and MAT053), OR a grade of C or better in MAT08+, OR an appropriate district placement. Course Notes²: MAT092 students may receive credit for only one of the following: (MAT055 and MAT056 and MAT057), OR MAT090, OR MAT091, OR MAT092, OR MAT095, OR MAT096.)

Prerequisites¹: An appropriate diagnostic score, or a grade of C or better in each of the following courses: MAT051, MAT052, and MAT053 OR (an appropriate mathematics placement score, or a grade of C or better for MAT081 or MAT082). Course Notes¹: Student may receive credit for only one of the following: MAT055 and MAT056 and MAT057, or MAT090, or MAT091, or MAT092.

MAT108 **2 credits** **2 periods**
Tutored Mathematics

Structured tutorial assistance and math study skills to help students achieve success in a mathematics course in which they are concurrently enrolled. Mathematics study skills emphasized.

Prerequisites: None. Corequisites²: MAT15+, OR any lower numbered MAT class, OR permission of Department/Division Chair. Course Notes: MAT108 may be repeated for a total of ten (10) credits.

Prerequisites: None. Corequisites¹: MAT082 or MAT090 or MAT091 or MAT092 or MAT120 or MAT121 or MAT122 or MAT140 or MAT141 or MAT142 or MAT150 or MAT151 or MAT152 or permission of Department Chair.

MAT120 **5 credits** **5 periods**
Intermediate Algebra

Analysis of rational, radical, quadratic and exponential equations, functions and applications; graphs of radical, quadratic and exponential functions; operations on polynomial, rational, and radical expressions.

Prerequisites²: A grade of C or better in each of the following courses: (MAT055 and MAT056 and MAT057), OR a grade of C or better in MAT09+, OR an appropriate district placement. Course Notes²: MAT120 students may receive credit for only one of the following: MAT120, OR MAT121, OR MAT122 OR MAT126.)

Prerequisites¹: An appropriate mathematics placement score, OR a grade of C or better for MAT090, or MAT091, or MAT092, OR (an appropriate diagnostic score, or a grade of C or better in each of the following courses: MAT055, MAT056, and MAT057). Course Notes¹: Students may receive credit for only one of the following: MAT120, MAT121, or MAT122.

MAT121 **4 credits** **4 periods**
Intermediate Algebra

Analysis of rational, radical, quadratic and exponential equations, functions and applications; graphs of radical, quadratic and exponential functions; operations on polynomial, rational, and radical expressions.

Prerequisites²: A grade of C or better in each of the following courses: (MAT055 and MAT056 and MAT057), OR a grade of C or better in MAT09+, OR an appropriate district placement. Course Notes²: MAT121 students may receive credit for only one of the following: MAT120, OR MAT121, OR MAT122 OR MAT126.)

Prerequisites¹: An appropriate mathematics placement score, OR

a grade of C or better for MAT090, or MAT091, or MAT092, OR (an appropriate diagnostic score, or a grade of C or better in each of the following courses: MAT055, MAT056, and MAT057). Course Notes¹: Students may receive credit for only one of the following: MAT120, MAT121, or MAT122.

MAT122 **3 credits** **3 periods**
Intermediate Algebra

Analysis of rational, radical, quadratic and exponential equations, functions and applications; graphs of radical, quadratic and exponential functions; operations on polynomial, rational, and radical expressions.

Prerequisites²: A grade of B or better in each of the following courses: (MAT055 and MAT056 and MAT057), OR a grade of B or better in MAT09+, OR an appropriate district placement. Course Notes²: MAT122 students may receive credit for only one of the following: MAT120, OR MAT121, OR MAT122 OR MAT126.)

Prerequisites¹: An appropriate mathematics placement score, OR a grade of "B" or better for MAT090, or MAT091, or MAT092, OR (an appropriate diagnostic score, or a grade of "B" or better in each of the following courses: MAT055, MAT056, and MAT057). Course Notes¹: Students may receive credit for only one of the following: MAT120, MAT121, or MAT122.

MAT140  **MAT1142** **5 credits** **5 periods**
College Mathematics²


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: A grade of C or better in each of the following courses: (MAT055 and MAT056 and MAT057), OR a grade of C or better in MAT085 or MAT09+, OR an appropriate district placement. Course Notes: MAT140 students may receive credit for only one of the following: MAT140, OR MAT141, OR MAT142, OR MAT145, OR MAT146.

MAT141  **MAT1142** **4 credits** **4 periods**
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.

Prerequisites²: A grade of C or better in each of the following courses: (MAT055 and MAT056 and MAT057), OR a grade of C or better in MAT085 or MAT09+, OR an appropriate district placement. Course Notes²: MAT141 students may receive credit for only one of the following: MAT140, OR MAT141, OR MAT142, OR MAT145, OR MAT146.

Prerequisites¹: An appropriate district placement, or a grade of C or better in MAT055 and MAT056 and MAT057, or MAT085, or MAT09+. Course Notes¹: Students may receive credit for only one of the following: MAT140, MAT141, or MAT142.

MAT142  **MAT1142** **3 credits** **3 periods**
College Mathematics

¹ Final Term Summer 2019, ² Effective Term Fall 2019

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.

Prerequisites²: A grade of C or better in each of the following courses: (MAT055 and MAT056 and MAT057), OR a grade of C or better in MAT085 or MAT09+, OR an appropriate district placement. Course Notes²: MAT142 students may receive credit for only one of the following: MAT140, OR MAT141, OR MAT142, OR MAT145, OR MAT146.

Prerequisites¹: An appropriate district placement, or a grade of C or better in MAT055 and MAT056 and MAT057, or MAT085, or MAT09+. Course Notes¹: Students may receive credit for only one of the following: MAT140, MAT141, or MAT142.

MAT145  **MAT1142** **5 credits** **5 periods**
College Mathematics with Review

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.

Prerequisites²: A grade of C or better in each of the following courses: (MAT051, MAT052, and MAT053), OR a grade of C or better in MAT08+ or MAT09+, OR an appropriate district placement, OR permission of Department or Division Chair. Course Notes²: MAT145 students may receive credit for only one of the following: MAT140, OR MAT141, OR MAT142, OR MAT145, OR MAT146. This course is designed for students that do not qualify for MAT140 or MAT141 or MAT142, but intend to complete MAT14+ College Mathematics for their degree path. Review of MAT08+ Basic Arithmetic and MAT09+ Introductory Algebra as needed.

Prerequisites¹: An appropriate mathematics placement or a grade of C or better in (MAT055, MAT056, and MAT057), or MAT085, or MAT090, or MAT091, or MAT092, or MAT095, or MAT096, or permission of Department or Division Chair. Course Notes¹: Students may receive credit for only one of the following: MAT140, MAT141, MAT142, MAT145, or MAT146. This course is designed for students that do not qualify for MAT140 or MAT141 or MAT142, but intend to complete MAT14+ College Mathematics for their degree path. Review of MAT08+ Basic Arithmetic and MAT09+ Introductory Algebra as needed.

MAT150  **MAT1151** **5 credits** **5 periods**
College Algebra/Functions¹

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, using multiple methods including matrices, modeling and solving real world problems, and defining and illustrating sequences and series.

Prerequisites²: A grade of C or better in MAT12+, OR an appropriate district placement. Course Notes²: MAT150 students may receive credit for only one of the following: MAT150, OR MAT151, OR MAT152, OR MAT155, OR MAT156, OR MAT187.

Prerequisites¹: A grade of C or better in MAT120, or MAT121, or MAT122, or satisfactory score on District placement exam. Course Notes¹: May receive credit for only one of the following: MAT150, MAT151, MAT152, or MAT187. General Education Designation: Mathematics - [MA] in combination with: MAT182.

MAT151  **MAT1151** **4 credits** **4 periods**
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, using multiple methods including matrices, modeling and solving real world problems, and defining and illustrating sequences and series.

Prerequisites²: A grade of C or better in MAT12+, OR an appropriate district placement. Course Notes²: MAT151 students may receive credit for only one of the following: MAT150, OR MAT151, OR MAT152, OR MAT155, OR MAT156, OR MAT187.

Prerequisites¹: A grade of C or better in MAT120, or MAT121, or MAT122, or satisfactory score on District placement exam. Course Notes¹: May receive credit for only one of the following: MAT150, MAT151, MAT152, or MAT187. General Education Designation: Mathematics - [MA] in combination with: MAT182.

MAT152  **MAT1151** **3 credits** **3 periods**
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, using multiple methods including matrices, modeling and solving real world problems, and defining and illustrating sequences and series.

Prerequisites²: A grade of B or better in MAT12+, OR an appropriate district placement. Course Notes²: MAT152 students may receive credit for only one of the following: MAT150, OR MAT151, OR MAT152, OR MAT155, OR MAT156, OR MAT187.

Prerequisites¹: A grade of B or better in MAT120, or MAT121, or MAT122, or satisfactory score on a placement test. Course Notes¹: May receive credit for only one of the following: MAT150, MAT151, MAT152, or MAT187.

MAT156  **MAT1151** **6 credits** **6 periods**
College Algebra/Functions with Review

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, using multiple methods including matrices, modeling and solving real world problems, and defining and illustrating sequences and series.

Prerequisites²: A grade of C or better in each of the following: (MAT055, MAT056, and MAT057), OR a grade of C or better in MAT09+, OR an appropriate district placement for MAT120 or MAT121 or MAT122, OR permission of Department or Division Chair. Course Notes²: MAT156 students may receive credit for only one of the following: MAT150, OR MAT151, OR MAT152, OR

MAT155, OR MAT156, OR MAT187. This course is designed for students that do not qualify for MAT150 or MAT151 or MAT152, but intended to complete MAT15+ College Algebra for their degree path. Review of MAT12+ Intermediate Algebra as needed.

Prerequisites¹: A grade of C or better in (MAT055, MAT056, and MAT057), or MAT090, or MAT091, or MAT092, or MAT095, or MAT096, or MAT126, or an appropriate mathematics placement for MAT120, or MAT121, or MAT122. Course Notes¹: May receive credit for only one of the following: MAT150, MAT151, MAT152, MAT155, MAT156, or MAT187. Review of MAT12+ Intermediate Algebra as needed.

MAT182  **MAT2212** **3 credits** **3 periods**
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.

Prerequisites²: A grade of C or better in MAT15+, OR an appropriate district placement. Corequisites: MAT15+. Course Notes²: MAT182 students may receive credit for only one of the following: MAT182 or MAT187.

Prerequisites¹: 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. Course Notes¹: Students may receive credit for only one of the following: MAT182 or MAT187.

MAT187  **MAT1187** **5 credits** **5 periods**
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, MAT151, MAT152, or MAT187.

Prerequisites²: A Grade of B or better in MAT12+, OR an appropriate district placement. Course Notes²: Strongly recommended that students have some knowledge of trigonometry. The combination of MAT15+ and MAT182 is equivalent to taking MAT187. Therefore, students should either take MAT15+ AND MAT182 OR just MAT187. Students may receive credit for only one of the following: The combination of MAT15+ and MAT182 OR just MAT187.

Prerequisites¹: Grade of B or better in MAT120, or MAT121, or MAT122, or equivalent, or satisfactory score on a placement test.

MAT206  **MAT1160** **3 credits** **3 periods**
Elements of Statistics

Basic concepts and applications of statistics, including data description, estimation and hypothesis tests. Prerequisites: A grade of C or better in MAT14+, or MAT15+, or MAT187, or equivalent, or satisfactory District placement, or permission of Department or Division Chair.

MAT212  **MAT2212** **3 credits** **3 periods**
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 MAT187, or appropriate Math placement test score. Course Notes: Students may receive credit for only one of the following: MAT212 or MAT213.

MAT213  **MAT2212** **4 credits** **4 periods**
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 MAT187, or appropriate Math placement test score. Course Notes: Students may receive credit for only one of the following: MAT212 or MAT213.

MAT218 **4 credits** **4 periods**
Mathematical Analysis for Business

An introduction to the mathematics required for the study of business. Includes multivariable optimization, Lagrange multipliers, linear programming, linear algebra, probability, random variables, discrete and continuous distributions. Prerequisites: Grade of C or better in MAT212 or MAT213.

MAT220  **MAT2220** **5 credits** **5 periods**
Calculus with Analytic Geometry I

Limits, continuity, differential and integral calculus of functions of one variable. Prerequisites: Grade of C or better in [MAT182 and (MAT150, MAT151 or MAT152)], or MAT187, or appropriate Math placement test score. Course Notes: Students may receive credit for only one of the following: MAT220 or MAT221.

MAT221  **MAT2220** **4 credits** **4 periods**
Calculus with Analytic Geometry I

Limits, continuity, differential and integral calculus of functions of one variable. Prerequisites: Grade of C or better in [MAT182 and (MAT150, MAT151 or MAT152)], or MAT187, or appropriate Math placement test score. Course Notes: Students may receive credit for only one of the following: MAT220 or MAT221

MAT225 **3 credits** **3 periods**
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.

MAT227  **MAT2227** **3 credits** **3 periods**
Discrete Mathematical Structures²

Course emphasizes discrete mathematics connections to computer science by exposing students to foundational concepts of set theory, logic, counting, induction, proof techniques, graph theory, and algorithms. Prerequisites: A grade of C or better in MAT212, or MAT213, or MAT220, or MAT221, or permission of

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Department or Division Chair.

MAT230  **MAT2230** **5 credits** **5 periods**
Calculus with Analytic Geometry II

Techniques of integration for both proper and improper integrals with applications to the physical and social sciences, elements of analytic geometry, and the analysis of sequences and series. Prerequisites: Grade of C or better in MAT220 or MAT221 or equivalent. Course Notes: Students may receive credit for only one of the following: MAT230 or MAT231.

MAT231  **MAT2230** **4 credits** **4 periods**
Calculus with Analytic Geometry II

Techniques of integration for both proper and improper integrals with applications to the physical and social sciences, elements of analytic geometry, and the analysis of sequences and series. Prerequisites: Grade of C or better in MAT220 or MAT221 or equivalent. Course Notes: Student may receive credit for only one of the following: MAT230 or MAT231.

MAT240 **5 credits** **5 periods**
Calculus with Analytic Geometry III

Multivariate calculus including vectors, vector-valued functions, partial differentiation, multiple integration, and an introduction to vector fields. Prerequisites: Grade of C or better in MAT230 or MAT231. Course Notes: Students may receive credit for only one of the following: MAT240 or MAT241.

MAT256 **4 credits** **4 periods**
Investigating Quantity: Number, Operations and Numeration Systems

Explore number, numeration systems and operations on numbers. Techniques of problem solving with an emphasis on exploring a variety of strategies. Use a variety of visualization techniques to develop a conceptual understanding of these topics. Prerequisites: Prerequisites: A grade of C or better in (MAT150 or MAT151 or MAT152 or higher), OR A grade of C or better in [(MAT120 or MAT121 or MAT122) AND (MAT140 or MAT141 or MAT142 or higher)], OR A grade of C or better in [(MAT140 or MAT141 or MAT142) AND satisfactory score on District placement exam to permit enrollment in (MAT150 or MAT151 or MAT152 or higher)]. Course Notes: MAT256 is designed to meet requirements for prospective elementary education teachers.

MAT257 **4 credits** **4 periods**
Investigating Geometry, Probability and Statistics

Explores geometry, measurement, probability and statistics. Uses visualization, technologies, problem solving, reasoning and proof to develop a conceptual understanding of these topics. Prerequisites: A grade of C or better in MAT256 or permission of Instructor. Course Notes: MAT257 is designed to meet the requirements for prospective elementary education teachers.

MAT276 **4 credits** **4 periods**
Modern Differential Equations

Introduces differential equations, theoretical and practical solution techniques with applications. Problem-solving using MATLAB. Prerequisites: Grade of C or better in MAT230 or MAT231 or permission of Department or Division.

MAT295 **1 credit** **1 period**
Special Topics in Mathematics

Conceptual and computational aspects of a special topic in modern mathematics. Prerequisites: Permission of Instructor.

Mass Communications (MCO)

MCO120 **3 credits** **3 periods**
Media and Society

Study of historical and contemporary roles of media and its pervasiveness in society as it relates to culture, politics and education. Prerequisites: A grade of C or better in ENG101 or ENG107.

MCO220 **3 credits** **3 periods**
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: A grade of C or better in ENG101, or ENG107, or equivalent.

Management (MGT)

MGT101 **3 credits** **3 periods**
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.

MGT157 **3 credits** **5 periods**
Introduction to Statistical Analysis of Clinical and Bioscience Data for Managers

Introduction to basic concepts and applications of statistics, including data description, estimation probability as techniques for managing, collecting, summarizing and interpreting data. Includes the use of statistical computer software (e.g., SAS) used for the management, analysis and reporting of clinical and bioscience informatics data. Prerequisites: None.

MGT175 **3 credits** **3 periods**
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.

MGT179 **3 credits** **3 periods**
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.

MGT180 **3 credits** **3 periods**
Retail Management

The role of management in retailing and retail performance. Challenges and processes of retail management across various institutions.

MGT229 **3 credits** **3 periods**
Management and Leadership I

Covers management concepts and applications for business, industry, and government organizations. Prerequisites: None.

MGT251 **3 credits** **3 periods**
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 organizations. Prerequisites: None. MGT101 or MGT175 or MGT229 suggested, but not required.

MGT253 **3 credits** **3 periods**
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.

MGT276 **3 credits** **3 periods**
Personnel/Human Resources Management

Human resource planning, staffing, training, compensating, and appraising employees in labor management relationships MGT101, or MGT175, or MGT229 suggested but not required. Prerequisites: None. MGT101 or MGT175 or MGT229 suggested but not required

MGT298 **1 credit****Special Projects**

See page 229.

Music: History/Literature (MHL)**MHL140** **3 credits** **3 periods**
Survey of Music History

Study of composers, compositions, styles, and periods in music history. Prerequisites: None.

MHL143 **3 credits** **3 periods**
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.

MHL145 **3 credits** **3 periods**
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.

MHL153 **3 credits** **3 periods**
Rock Music and Culture

History of Rock music and how cultural, social, political, and economic conditions have shaped its evolution. Prerequisites: None.

MHL155 **3 credits** **3 periods**
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

MHL241 **3 credits** **3 periods**
Music History and Literature to 1750

In-depth study of music history from the primitive era through the Baroque period. Prerequisites or Corequisites: A grade of C or better in MTC155 and MTC156, or permission of instructor.

MHL242 **3 credits** **3 periods**
Music History and Literature 1750 to Present

In-depth study of music history from the Classical period through the Contemporary period. Prerequisites: A grade of C or better in MHL241 or permission of instructor.

Marketing (MKT)**MKT101** **3 credits** **3 periods**
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.

MKT110 **3 credits** **3 periods**
Marketing and Social Networking

Theory and practice in the use of social media in marketing. Topics may include a history of social media, preparation for social marketing, the power of collective influence, and how to engage with social media. Reviews social mediums, social networks, platforms and other marketing tools used to create a social media campaigns. Prerequisites: None.

MKT111 **3 credits** **4 periods**
Applied Marketing and Social Networking

Examination of the strategic use of digital and social media marketing platforms and tools for global communication and networking, including analysis of various digital and social media platforms and tools for developing brands, creating professional networks and creating engaging content. Hands-on use of social media platforms and tools to conduct research, develop strategies for creating, integrating, and evaluating social media marketing campaigns, and development of metrics to measure effectiveness. Prerequisites: A grade of C or better in MKT110.

MKT263 **3 credits** **3 periods**
Advertising Principles

Introduces the advertising function within business, including media study, creative strategies, and advertising campaigns. Prerequisites: None. MKT271 recommended, but not required.

MKT267 **3 credits** **3 periods**
Principles of Sales

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.

MKT268 **3 credits** **3 periods**
Merchandising

Surveys structure and operation of retail organizations. Emphasizes merchandising to include price, location, time promotion and quantity. Prerequisites: None. MKT271 suggested, but not required.

¹ Final Term Summer 2019, ² Effective Term Fall 2019

MKT271 **3 credits** **3 periods**
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.

Multimedia Technology (MMT)

MMT185 **3 credits** **6 periods**
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: A grade of C or better in ADA184 ART184 MMT184 or ADA184AC ART184AC or permission of Instructor.

MMT190 **3 credits** **6 periods**
Art of Web Site Design
 Introduction to design production for websites. Layout, typography and presentation style for HTML (Hyper Text Markup Language). Design of mock-ups using digital design software to produce artistic form and content for the Web using Hyper Text Markup Language (HTML), digital text, and graphics. Discussion of color, proportion, typography and Web-specific design principles. Emphasizes design of cross-browser compatible interfaces that optimize usability, accessibility and browser interoperability. Prerequisites: A grade of C or better in ART100, or permission of Instructor. CIS133DA¹ recommended.

MMT216 **3 credits** **6 periods**
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; and writing RFP's (Request For Proposal). Prerequisites: None.

Microsoft Technology (MST)

MST140 **3 credits** **4 periods**
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 CIS121AB) suggested but not required.

MST141 **3 credits** **4 periods**
Enterprise Desktop Support Technician
 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. Prerequisites: A grade of C or better in (CIS102 or any CIS102++ course) and CIS105, or permission of Instructor. Prerequisites: A grade of C or better in any MST150++ course or Corequisites: any MST150++ course or permission of Instructor. Course Notes: MST141 is preparation for the Microsoft Certified IT Professional: Enterprise Desktop Support Technician 7 (MCITP)

certification examination, 70-685.

MST150EI **3 credits** **4 periods**
Configuring Windows 8
 In-depth exploration of how to effectively install and configure Windows 8. Includes features of Windows 8, virtualization with Hyper-V, network connectivity, access to resources, monitor and maintain Windows clients and backup and recovery. Designed to prepare students for the Microsoft Windows 8 certification examination (70-687). Prerequisites: A grade of C or better in MST140, or CNT140++, or permission of Instructor.

MST150SV **3 credits** **4 periods**
Microsoft Windows 7 Configuration
 Knowledge and skills necessary to perform installation and day-to-day administration and support of the Microsoft Windows 7 operating system. Preparation for the Microsoft certification examination. Prerequisites: None. CIS190, or CNT140AA, or MST140 suggested but not required.

MST150WT **3 credits** **4 periods**
Installing and Configuring Microsoft Windows 10
 In-depth exploration of how to effectively install and configure Windows 10. Includes features of Windows 10, virtualization improvements, network connectivity, access to resources, monitor and maintain Windows clients and backup and recovery. Designed to prepare students for the Microsoft Windows 10 certification examination. Prerequisites: None. CIS190, or CNT140AA, or MST140 suggested but not required.

MST155DA **4 credits** **5 periods**
Windows Server Network Infrastructure Configuration
 Information and skills necessary to design a Microsoft Windows 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: AA grade of C or better in MST150, or any MST150++ course, or permission of Instructor.

MST155DB **4 credits** **5 periods**
Configuring Advanced Windows Server Services
 In-depth exploration of how to effectively install and configure Windows Server. Designed to prepare students for the Microsoft Configuring Advanced Windows Server Services examination (70-412). Prerequisites: MST158++ or permission of Instructor. Course Notes: Recommend that prerequisite course completed was for the same version of Windows server as will be taught in this course.

MST155DC **4 credits** **5 periods**
Installation, Storage, and Compute with Windows Server
 This course focuses primarily on the installation, storage, and compute features and their functionality that is available within Windows Server. As Information Technology pushes towards more cloud based solutions and makes our classic approach obsolete, this course will help students prepare for a career within an Information Technology enterprise and help distinguish themselves in today's competitive job market. This course covers various topics like Windows Server installation, Hyper-V deployments and storage options in relation to this new cloud based reality. Prerequisites: A grade of C or better in MST150++ or permission of Instructor.

MST157DA 4 credits 5 periods Active Directory Windows Server Configuration Information and skills necessary to install, configure and administer Active Directory service. Covers tasks required to create users and groups, and to implement Group Policies which provide centralized management of users and computers. Prerequisites: Any MST course or permission of Instructor. Course Notes: MST157DA is a preparation for the Microsoft 70-640 professional certification test.	MTC103 1 credit 2 periods 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. Course Notes: MTC103 may be repeated for a total of two (2) credit hours.
MST157DB 4 credits 5 periods Administering Windows Server In-depth exploration of how to effectively manage Windows Server. Designed to prepare students for the Administering Microsoft Windows Server examination (70-411). Prerequisite: Prerequisite: MST158++ or permission of Instructor. Course Notes: Recommend that prerequisite course completed was for the same version of Windows server as will be taught in this course.	MTC105 3 credits 3 periods 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: A grade of C or better in MTC100 or MTC101 or permission of instructor. Corequisites: MTC106.
MST158DA 4 credits 5 periods Windows Server Administration Knowledge and skills necessary to install, configure, customize, optimize, network, integrate, and troubleshoot Windows Server. Prerequisites: A grade of C or better in (MST155 or any MST155++ course) and (MST157 or any MST157++ course), or permission of Instructor.	MTC106 1 credit 2 periods Aural Perception I The development of listening and performing skills through dictation, sight singing and keyboard harmony. Prerequisites: None. Corequisites: MTC105.
MST158DB 4 credits 5 periods Installing and Configuring Windows Server In-depth exploration of how to effectively install and configure Windows Server. Includes roles and features of Server, virtualization with Hyper-V, core network services, Active Directory, and Group Policy. Designed to prepare students for the corresponding Microsoft Windows Server Installation and Configuration examination (70-410). Prerequisites: A grade of C or better in (MST140 or CNT140++) and MST150++, or permission of Instructor.	MTC113 1 credit 1 period Songwriting Techniques Introduction to pop melody writing and harmonic settings. Development of short ideas into complete songs with the use of contrast, variation, and repetition. Consideration of the pros and cons of writing songs with a partner or small group. Basic note reading and/or music theory is advisable. MTC113 may be repeated for credit. Prerequisites: None.
MST280CA 3 credits 4 periods Current Topics in Microsoft Computing Critical inquiry of current topics in Microsoft Technology computing. Application of Microsoft Technology trends to solve problems and/or investigate issues. Prerequisites: Permission of Instructor.	MTC120 3 credits 5 periods Introduction to Sound Design for Film and Video Basic principles of recording and mixing sound for film and video. Includes voice over, automatic dialog replacement (ADR), foley, ambience, special effects and music. Emphasis on analog and digital recording techniques in the field as well as in a controlled environment. Prerequisites: A grade of C or better in (TCM100 and TCM136) or permission of Instructor.
<u>Music: Theory/Composition (MTC)</u>	
MTC100 2 credits 3 periods Fundamentals of Music Introduction to music notation and theory. Emphasis on fundamental concepts, including meter, rhythm, scales, keys, intervals and triads. Designed for the nonmusic major, but may be advised for music majors. Prerequisites: None.	MTC122 3 credits 3 periods 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: A grade of C or better in MTC100 or MTC101.
MTC101 3 credits 3 periods 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.	MTC155 3 credits 3 periods Music Theory II A continuation of Music Theory I with emphasis on harmony and part-writing procedures. Prerequisites: A grade of C or better in MTC105. Corequisites: MTC156.
	MTC156 1 credit 2 periods Aural Perception II A continuation of Aural Perception I, including harmonic practices. Prerequisites: None. Corequisites: MTC155.
	MTC180 3 credits 4 periods Computer Literacy for Musicians Instruction in basic computer literacy, including generic applications and music-specific programs with hands-on experience.

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Ability to read music notation required. Prerequisites A grade of C or better in MTC101 (or MTC105, or Corequisites: MTC105².) or permission of Instructor.

MTC191 **3 credits** **4 periods**
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.

MTC192 **3 credits** **4 periods**
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: A grade of C or better in MTC191.

MTC193 **3 credits** **4 periods**
Computer-Based Sound Synthesis

Principles of sound synthesis using computer-based methods. Synthesis methods include subtractive, additive, frequency modulation, sample and synthesis, and hybrid. Emphasis on synthesis techniques for use in electronic music. Prerequisites: A grade of C or better in MTC191 or permission of Instructor.

MTC205  **MUS2222** **3 credits** **3 periods**
Music Theory III

The study of chromatic harmony and melody, modulation techniques and expanded chords. The analysis of formal structure. Prerequisites: A grade of C or better in MTC155. Corequisites: MTC206.

MTC206  **MUS2222** **1 credit** **2 periods**
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.

MTC220 **3 credits** **5 periods**
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: A grade of C or better in MTC/TCM120 or permission of Instructor.

MTC240 **3 credits** **.6 periods**
Composition

Introduction to the basics of music composition, stressing techniques and procedures for developing original ideas. May be repeated for a total of twelve (12) credit hours. Prerequisites: A grade of C or better in (MTC105 and MTC106, or equivalent), and permission of instructor.

MTC255  **MUS2223** **3 credits** **3 periods**
Music Theory IV

A continuation of Music Theory III, including 20th century theories and techniques. Prerequisites: A grade of C or better in MTC205. Corequisites: MTC256.

MTC256  **MUS2223** **1 credit** **2 periods**
Aural Perception IV

A continuation of Aural Perception III, including extended chords. Prerequisites: None. Corequisites: MTC255.

MTC291 **3 credits** **4 periods**
Electronic Music III

Continued study of the production of music using electronic processes. Emphasis on more complex configurations and their applications in live performance or studio use. Prerequisites: A grade of C or better in MTC192.

Music: Commercial/Business (MUC)

MUC109 **3 credits** **3 periods**
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.

MUC110 **3 credits** **3 periods**
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.

MUC111 **3 credits** **5 periods**
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: A grade of C or better in MUC195, MUC195AA, or TCM/VPT105.

MUC112 **3 credits** **5 periods**
Digital Audio Workstation II (DAW II)

Uses of Pro Tools mixing and automation in conjunction with editing and recording utilizing the Digidesign Digi 001. Includes Macintosh computer operation, troubleshooting, and file management. Prerequisites: A grade of C or better in MTC191 or TCM/VPT105. Prerequisites or Corequisites: MUC111.

MUC122 **3 credits** **5 periods**
Sound Design I

Introduction to Sound Design and Audio Post-Production for Multimedia. Includes creating and editing Sound Effects, ADR, Foley, Music, and Ambience, for multiple mediums such as Film, TV, Video Gaming, Theatre, and Dance. Emphasis on computer assisted production using Digital Audio Workstations and sound design techniques using industry-standard equipment. Prerequisites: A grade of C or better in MTC191 or TCM/VPT105. Prerequisites or Corequisites: MUC111 or permission of Instructor.

MUC135 **3 credits** **3 periods**
Introduction to Disc Jockey Techniques

Development of beginning level live-performance disc jockey techniques. Emphasis on understanding the construction of industry-formatted dance songs, cueing, segueing/mixing methods, the relationship of beats per minute to segueing, and programming songs to entertain a live audience. Covers the history of the

live performance DJ and strategies for soliciting employment in the field. Prerequisites: None. Course Notes: MUC135 may be repeated for a total of six (6) credits.

MUC145 **2 credits** **2 periods**
Recording Studio Business Operations

Operation, scope, roles and responsibilities in the commercial music production process. Focuses on the business aspects and daily management of the professional recording studio. Includes strategies for project management, client service, marketing, equipment acquisition, staffing and employment. Operation, scope, roles and responsibilities in the commercial music production process. Focuses on the business aspects and daily management of the professional recording studio. Includes strategies for project management, client service, marketing, equipment acquisition, staffing and employment. Prerequisites: None.

MUC180 **3 credits** **3 periods**
Computer Literacy for the Music Business

Basic computer literacy, including business applications used in the Music Industry, with hands-on experience. Prerequisites: A grade of C or better in MUC109, or permission of Instructor or Department or Division Chair.

MUC194 **3 credits** **3 periods**
Introduction to Audio Mixing Techniques

Approaches in final mixing for different musical genres. Develop critical listening skills, and applying these techniques to students' projects. Professional-type facilities and equipment available for student use. Prerequisites: A grade of C or better in MUC112 and MUC195 or permission of Instructor.

MUC195 **3 credits** **5 periods**
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.

MUC195AA **3 credits** **5 periods**
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.

MUC196 **3 credits** **5 periods**
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: A grade of C or better in MUC195 or MUC195AA

MUC196AA **3 credits** **5 periods**
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: A grade of C or better in MUC195 or MUC195AA.

MUC197 **3 credits** **3 periods**

Live Sound Reinforcement I

Basic principles of live sound engineering. Emphasis on signal flow, acoustic, sound reinforcement set-ups and installation, signal processing, microphone selections and placement. Includes setting up sound systems and mixing live music. Prerequisites: None.

MUC198 **3 credits** **3 periods**

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: A grade of C or better in MUC197.

MUC210 **3 credits** **3 periods**

Advanced Industry Topics: Concert Promotion and Training

Operation, scope, and career opportunities in the music business. Focuses on advanced aspects of concert promotion, touring and festival production. Areas of focus include marketing, planning, operations, talent buying, and budgeting for profitable and successful music-performance stage shows. Prerequisites: A grade of C or better in MUC109, or permission of Instructor or Department or Division Chair.

MUC211 **3 credits** **3 periods**

Advanced Industry Topics:

Artist Management and Development

Operation, scope, and career opportunities in the music business. Focus on advanced aspects of artist management and development. Include roles and responsibilities of an Artist Manager, the nature and structure of the relationship between an Artist and Artist Manager, and the development of business, and career management techniques for Artist Managers. Prerequisites: A grade of C or better in MUC109, or permission of Instructor or Department or Division Chair.

MUC215 **1 credit** **1 period**

Music Industry Seminar: Innovation in Music Technology

Seminar in Music Industry technology with an emphasis on current product and service innovations. Emphasis on marketing and promotional uses of new technology. MUC215 may be repeated for credit. Prerequisites: None.

MUC222 **3 credits** **5 periods**

Sound Design II

Intermediate level Sound Design and Audio Post-Production for Multimedia. Topics include: creating and editing Sound Effects, Automated Dialogue Replacement, Foley, Music, and Ambience for multiple mediums such as Film, TV, Video Gaming, Theatre, and Dance. Emphasis on computer assisted production using Digital Audio Workstations and acoustic forces. Prerequisites: A grade of C or better in (MUC122 or MTC/TCM120), or permission of Instructor.

MUC294 **1 credit** **1 period**

Portfolio for Music

Includes developing a portfolio that demonstrates music related skills and marketing of songs, recordings, and musical performances. Prerequisites: MUC293.

MUC240 **4 credits** **5 periods**
Creative Music Production

Operation, scope, roles and responsibilities in the commercial music production process. Focuses on creative aspects of commercial music production, including song selection, realization of artistic vision, studio selection, musician and vocal staff selection, coaching for optimal performance, analyzing song structure and sound quality and trouble-shooting problems in the overall artistic impression of the finished music product. Lab work includes creation and execution of a finished professional-quality music production. Prerequisites: A grade of C or better in [(MTC101 and MTC103) or (MTC105 and MTC106)], and (MTC192, MUC112, and MUC295), or permission of Instructor.

MUC241 **3 credits** **3 periods**
Business Principles of Music Production

Operation, scope, roles and responsibilities in the commercial music production process. Focuses on business aspects of commercial music production, including project management, budgeting, production personnel, deal structures, revenue sources, copyright, publishing percentages and career strategies. Prerequisites: A grade of C or better in (MUC109 and MUC110) or permission of Instructor.

MUC290AA **1 credit** **1 period**
Music Business Internship

Music Business Internship work experience. Perform a variety of activities, to fulfill the routines and responsibilities of the department or business where the internship is served. Eighty (80) hours of designated work per credit. Prerequisites: Permission of Department or Division. Course Notes: MUC290AA may be repeated for a total of twelve (12) credit hours.

MUC292 **3 credits** **6 periods**
Sound Design III

Sound Design Production for Multimedia: includes Sound Effects, Music Composition/Arranging, and Studio Recording Production for one or more mediums such as Film, TV, Gaming, Theatre, and Dance. Emphasis on computer assisted production using Digital Audio Workstations and acoustic forces. Structured to provide an atmosphere of team research and study paralleled by professional expertise and guidance. Professional-type facilities and equipment available for student use. Prerequisites: A grade of C or better in (MTC192, MTC/TCM220, MUC112, MUC196, and MUC222), or permission of Instructor.

MUC293 **1 credit** **1 period**
Self Promotion for Music

Career goal development. Includes self-presentation and communication skills, keeping files and records, and developing self-promotional materials. Prerequisites: None.

MUC295 **3 credits** **6 periods**
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: A grade of C or better in MUC196 and (MUC111 or permission of Instructor).

MUC297AA **1 credit** **1 period**
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: Permission of department.

MUC297AB **2 credits** **2 periods**
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: A grade of C or better in MUC110.

MUC298AC **1-3 credits**
Special Projects

See page 229.

Music: Education (MUE)

MUE109² **1 credit** **3 periods**
MUE137¹ **2 credits** **3 periods**

Brass Methods I

Practical class with emphasis on techniques of playing and teaching brass instruments including embouchure, breath control, tone, and literature. Prerequisites: None.

MUE209² **1 credit** **3 periods**
MUE138¹ **2 credits** **3 periods**

Brass Methods II

Continuation of Brass Methods I with additional focus on skills including ensemble performance, transposition, increasing range and solo literature. Prerequisites: A grade of C or better in MUE109 (MUE137¹) or permission of instructor.

MUE240² **1 credit** **3 periods**
Introduction to Choral Methods

Overview of techniques, methods, materials, style characteristics, and repertoire used in directing choral music at the secondary level including simulated teaching, conducting, and the demonstration of vocal and choral performance practices. Prerequisites: None.

MUE111² **1 credit** **3 periods**
MUE169¹ **2 credits** **3 periods**

Guitar Methods

Practical class with emphasis on both classical and popular techniques, methods, materials, solo/ensemble literature and repertoire used in all levels of guitar. Instructional approaches to the guitar as both a harmonizing instrument and in an ensemble setting. Prerequisites: None.

MUE108² **1 credit** **3 periods**
MUE235¹ **2 credits** **3 periods**

Percussion Methods 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.

MUE208² **1 credit** **3 periods**
MUE236¹ **2 credits** **3 periods**

Percussion Methods II

Continuation of Percussion Methods I with additional emphasis on ensemble techniques and representative literature. Prerequisites: A grade of C or better in MUE235 (MUE235¹) or permission of instructor.

MUE110² 1 credit 3 periods
MUE135¹ 2 credits 3 periods

Strings Methods I

Practical class with emphasis on techniques of playing and teaching string instruments including tone control and literature. Prerequisites: None.

MUE136¹ 2 credits 3 periods
Strings Methods II

Continuation of String Methods I with additional focus on skills including fingering and bowing techniques, and solo/ensemble literature. Prerequisites: A grade of C or better in MUE135 or permission of Instructor.

MUE250² 1 credit 3 periods
MUE250¹ 2 credits 3 periods

Vocal Pedagogy/Voice Methods

Study of the anatomy, physiology, and acoustics of singing as applied to healthy vocal function and the teaching of singing. Topics include: overview of techniques, materials, and literature used in teaching singing. Prerequisites: None.

MUE107² 1 credit 3 periods
MUE237¹ 2 credits 3 periods

Woodwinds Methods I

Practical class with emphasis on techniques of playing and teaching woodwind instruments including embouchure, breath control, tone, mouthpiece selection, and literature. Prerequisites: None.

MUE207² 1 credit 3 periods
MUE238¹ 2 credits 3 periods

Woodwinds Methods II

Continuation of Woodwinds Methods I with additional emphasis on skills including ensemble performance, transposition, increasing range and literature. Prerequisites: A grade of C or better in MUE207 (MUE237¹) or permission of instructor.

Music: Performance (MUP)

MUP101 Private Instruction* 1 credit Prerequisites: None

MUP151 Private Instruction* 1 credit Prerequisites: MUP101

MUP201 Private Instruction* 1 credit Prerequisites: MUP151

MUP251 Private Instruction* 1 credit Prerequisites: MUP201

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. *(one 30-minute lesson per week) Note: See Music Department faculty for correct section number and private instructor.

MUP102 Private Instruction* 2 credits Prerequisites: None

MUP152 Private Instruction* 2 credits Prerequisites: MUP102

MUP202 Private Instruction* 2 credits Prerequisites: MUP152

MUP252 Private Instruction* 2 credits Prerequisites: MUP202

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. *(one 60-minute lesson per week) Note: See Music Department faculty for correct section number and private instructor.

MUP123AB .5 credits .5 periods
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. Course Notes: MUP123AB may be repeated for credit.

MUP123AC .5 credits .5 periods
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. Course Notes: MUP123AC may be repeated for credit.

MUP130² 1 credit 3 periods
MUP130¹ 2 credits 3 periods

Beginning Group Piano

Basic introduction to playing piano through music reading, chords, rhythmic, and written activities. Designed for those with little or no piano experience. Prerequisites: None.

MUP131² 1 credit 3 periods
MUP131¹ 2 credits 3 periods

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.

MUP132² 1 credit 3 periods
MUP132¹ 2 credits 3 periods

Class Piano II

Continuation of Piano I with emphasis on elementary piano techniques including major and minor scales, transposition, improvisation, and sight reading. Prerequisites: A grade of C or better in MUP131 or permission of instructor.

MUP133² 1 credit 3 periods
MUP133¹ 2 credits 3 periods

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.

MUP134² 1 credit 3 periods
MUP134¹ 2 credits 3 periods

Class Voice II

Continuation of Class Voice I including the elements of stage presence and diction. Prerequisites: A grade of C or better in MUP133 or permission of instructor.

MUP150 1 credit 3 periods

¹ Final Term Summer 2019, ² Effective Term Fall 2019

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. Prerequisites: None. Course Notes: MUP150 may be repeated for credit.

MUP153² 1 credit 5 periods
MUP153¹ 2 credits 5 periods

Concert Choir

A mixed choir designed to emphasize choral techniques and performance of all styles of choral literature. Public performances are scheduled each semester. Course Notes: Auditions may be required. MUP153 may be repeated for credit. Prerequisites: None.

MUP154AA 1 credit 3 periods
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. Course Notes: MUP154AA may be repeated for credit.

MUP161 1 credit 3 periods
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.

MUP162² 1 credit 5 periods
MUP162¹ 2 credits 5 periods

Band

A class designed to emphasize instrumental techniques and the preparation of all styles of band literature. Public performances are scheduled during the year. Course Notes: MUP162 may be repeated for credit. Auditions may be required. Prerequisites: None.

MUP163 1 credit 3 periods
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.

MUP164 2 credits 3 periods
Jazz Improvisation I

Theoretical and performance skills in many styles of jazz improvisation. Course Notes: MUP164 may be repeated for a total of six (6) credit hours. Prerequisites: None.

MUP165 2 credits 3 periods
Jazz Improvisation II

Intermediate theoretical and performance skills in many styles of jazz improvisation. Course Notes: MUP165 may be repeated for a total of six (6) credit hours. Prerequisites: A grade of C or better in MUP164 or permission of Instructor.

MUP181 1 credit 2 periods
Chamber Music Ensembles

Practical and performance experience in instrumental, vocal, and mixed ensembles. May be repeated for credit. Prerequisites: None.

MUP182 1 credit 3 periods

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.

MUP190 1 credit 3 periods
Percussion Ensemble

Practical and performance experience in various percussion styles. Percussion literature from a diverse number of world musical traditions. Western European art music, various African traditions, Indian music, Japanese music, Indonesian music, Mexican, Central, and South American music, and percussion compositions from the American Experimental Tradition rehearsed and performed. Concerts presented throughout the semester. Percussion techniques are studied and refined as they relate to the literature performed. Emphasis placed on reading and listening skills, increased aesthetic discrimination. Informed performance practice and skills on all percussion instruments and traditions. Prerequisites: None.

MUP127² 1 credit 3 periods
MUP225¹ 2 credits 3 periods

Class Guitar I

Emphasis on note-reading and folk-style harmonic accompaniment. Includes finger-style laying. Stresses development of efficient practicing techniques and proper sitting and hand positions. Prerequisites: None.

MUP128² 1 credit 3 periods
MUP226 2 credits 3 periods

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: A grade of C or better in MUP225 or permission of instructor.

MUP227² 1 credit 3 periods
MUP227¹ 2 credits 3 periods

Class Guitar III

Additional fingerboard positions. Ensemble techniques and performance. Prerequisites: A grade of C or better in MUP226 or permission of instructor.

MUP228² 1 credit 3 periods
MUP228¹ 2 credits 3 periods

Class Guitar IV

Advanced fingerboard positions. Duet and trio performances. Advanced ensemble techniques. Prerequisites: A grade of C or better in MUP227 or permission of instructor. Course Notes: MUP228 may be repeated for credit.

MUP231² 1 credit 3 periods
MUP231¹ 2 credits 3 periods

Class Piano III

Development of intermediate piano techniques including selected solo literature, transposition of harmonic patterns, and secondary dominants. Prerequisites: A grade of C or better in MUP132 or permission of instructor.

MUP232² 1 credit 3 periods
MUP232¹ 2 credits 3 periods

Class Piano IV

Continuation of Piano III including modulation techniques, improvisation of piano accompaniments, advanced chromatic harmony, and sight reading of advanced literature. Prerequisites: A grade of C or better in MUP231 or permission of instructor.

MUP233² 1 credit 3 periods

MUP233¹ 2 credits 3 periods

Class Voice III

Interpretive singing through a closer examination of coloring, tone production, dynamics, and tempo indications. Prerequisites: A grade of C or better in MUP134.

MUP234² 1 credit 3 periods

MUP234¹ 2 credits 3 periods

Class Voice IV

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: A grade of C or better in MUP233 or permission of instructor. Course Notes: MUP234 may be repeated for credit.

MUP250AA 1 credit 2 periods

Survey of Diction for Singers (English)

Introduction to the use of phonetics in the study of English song literature. Prerequisites: None.

MUP250AD 1 credit 2 periods

Survey of Diction for Singers (French)

Introduction to the use of phonetics in the study of French song literature. Prerequisites: None.

Nursing: Continuing Education (NCE)

Glendale Community College's Nursing Department offers short courses for graduate nurses to update their skills and increase their knowledge. Current non-credit courses include NCLEX Review, Basic and Advanced Critical Care. New courses are created based on community interest. For more information, contact the Nursing Department at 623.845.3210.

NCE150 1 credit 1 period

Basic Certified Nursing Assistant

Prepares the advanced placement nursing assistant student for the Certified Nursing Assistant (CNA) certification or Licensed Nursing Assistant (LNA) examination. The student will care for clients across the wellness/illness continuum within the scope of practice of the CNA/LNA. Includes basic problem solving processes specific to meeting the basic and holistic needs of clients, therapeutic communication skills, as well as interventions to ensure the needs and safety of the client. Licensing is the exclusive responsibility of the Arizona State Board of Nursing. Prerequisites: One year full-time employment OR two years part-time employment of direct patient care within the past five years OR students who have successfully completed course work that included direct patient care experiences in allied health, medicine or nursing in the past five years, OR permission of the Division Chairperson. Corequisites: NCE151.

NCE151 1 credit 3 periods

Basic Certified Nursing Assistant Lab

Prepares the advanced placement nursing assistant student for the

Certified Nursing Assistant (CNA) certification or Licensed Nursing Assistant (LNA) examination. The student will care for clients across the wellness/illness continuum within the scope of practice of the CNA/LNA. Demonstration of problem solving, professional behavior, therapeutic communication skills, and maintenance of a safe environment. Demonstration of caring behaviors and ensuring environmental safety for the client. Provides opportunity for the advanced placement student to show proficiency in the performance of basic nursing assistant skills and procedures through laboratory activities and participation in the care of clients. Licensing is the exclusive responsibility of the Arizona State Board of Nursing. Prerequisites: One year full-time employment OR two years part-time employment of direct patient care within the past five years OR students who have successfully completed course work that included direct patient care experiences in allied health, medicine or nursing in the past five years, OR permission of the Division Chairperson. Corequisites: NCE150.

NCE203 .5 credits .5 periods

Interpretation of Laboratory Diagnostic Examinations

Utilization of laboratory diagnostic examination results for evaluation of patient conditions. Normal results for selected body fluids. Abnormal results related to pathophysiological conditions of adults. Incorporation of results of examinations to assess, modify, and evaluate therapy for patients with specific conditions. Prerequisites: Registered Nurse or Licensed Practical Nurse, Nursing students, or permission of instructor.

NCE214MI .5 credits .5 periods

Math and Medications for Intermediate Nursing Students

Focus on basic mathematical concepts to calculate metric- apothecary conversion, dosage problems, intravenous flow rates using the ratio/proportion and dimensional analysis methods. These calculations will focus application to acute care, long-term care, and pediatric specialty areas. Prerequisites: Current student in Nursing program or permission of Department or Division.

NCE214MO .5 credits .5 periods

Math/Methods For Beginning Nursing Students

Focus on basic mathematical concepts to calculate metric- apothecary conversion, dosage problems and intravenous flow rates. Includes calculation problems with oral, parenteral, and reconstitution medications. Emphasis on the ratio/proportion and dimensional analysis problem solving methods. Prerequisite: Current student in Associate Degree Nursing program, or permission of Instructor.

NCE249AA 1 credit 1 period

Critical Care: Cardiac

Foundation in basic critical care for nurses who are new or interested in entering the critical care environment. Including anatomy, physiology, and pharmacology. Disease management for the cardiac system. Prerequisites: Current license as Registered Nurse or Practical Nurse, or recent graduate of an accredited nursing program, or permission of the instructor.

NCE249AB 1 credit 1 period

Critical Care: Respiratory

Foundation in basic critical care for nurses who are new or interested in entering the critical care environment. Including anatomy, physiology, and pharmacology. Disease management for the respiratory system. Prerequisites: Current license as Registered

¹ Final Term Summer 2019, ² Effective Term Fall 2019

Nurse or Practical Nurse, or recent graduate of an accredited nursing program, or permission of the instructor.

NCE249AC **1 credit** **1 period**

Critical Care: Neurologic

Foundation in basic critical care for nurses who are new or interested in entering the critical care environment. Including anatomy, physiology, and pharmacology. Disease management for the neurologic system. Prerequisites: Current license as Registered Nurse or Practical Nurse, or recent graduate of an accredited nursing program, or permission of the instructor.

NCE249AD **.5 credits** **.5 periods**

Critical Care: Endocrine and Renal

Foundation in basic critical care for nurses who are new or interested in entering the critical care environment. Including anatomy, physiology, and pharmacology. Disease management for the endocrine and renal systems. Prerequisites: Current license as Registered Nurse or Practical Nurse, or recent graduate of an accredited nursing program, or permission of the instructor.

NCE249AE **.5 credits** **.5 periods**

Critical Care: Gastrointestinal

Foundation in basic critical care for nurses who are new or interested in entering the critical care environment. Including anatomy, physiology, and pharmacology. Disease management for the gastrointestinal system. Prerequisites: Current license as Registered Nurse or Practical Nurse, or recent graduate of an accredited nursing program, or permission of the instructor.

Networking Technology (NET)

NET183AA **2 credits** **3 periods**

Operating Systems/PC

Designed to develop an understanding of operating systems and their interaction with hardware, software, networking, security, troubleshooting, IP addressing, user interfaces and operating system installation. The course is intended to help prepare students for entry-level industry certifications. Prerequisites: None. BPC101AA recommended for those students unfamiliar with basic computer operations. *This course is only offered in the Spring semester.*

NET220 **2 credits** **4 periods**

Health Information Networking

Designed to equip students with knowledge and skills applicable to entry-level careers in healthcare networking. Using Cisco hardware and software, aims to develop an in-depth understanding of the critical principles and practices required in this specialized field. Prerequisites: A grade of C or better in CNT170, or CNT170AA, or Certified Cisco Networking Associate (CCNA) certification, or permission of Instructor.

NET271 **3 credits** **4 periods**

Microcomputer Maintenance I: A+ Prep

Technical aspects of the microcomputer, including system setup (hardware and software) and basic maintenance and troubleshooting. Emphasis on basic troubleshooting, use of tools, hardware components and hardware/software interfacing as stand alone systems and in a networked environment. Prerequisites: A grade of C or better in NET183AA or CIS121AB or CIS126AA or

permission of instructor.

NET275 **2 credits** **3 periods**

CompTIA Exam Prep

Focuses on reviewing key concepts, practicing skills and preparing to successfully demonstrate existing knowledge on CompTIA certification exams. The course is designed to provide an overview of exam topics, study and test-taking strategies. It also will include structured study time, group discussions, and the use of practice exams to assess test readiness. Course Notes: Students should be finishing a CompTIA class, looking for CompTIA certificate renewal, or have industry or other prior training in CompTIA topics and concepts. NET275 may be repeated for a total of six (6) credit hours. Prerequisites: AA grade of C or better in BPC170 or BPC270 or NET271 or permission of the Instructor.

New Media Studies (NMS)

NMS160 **3 credits** **3 periods**

Electronic Newsroom

Introduction to the professions, organizations, and media occupations within sports management. Examines professional and not-for-profit organizations, career opportunities in collegiate and community sports organizations, and career opportunities in the traditional and non-traditional media arenas. Includes resume writing, cover letters, career choices, interviews, and job searching strategies for sports management organizations. Prerequisites: None.

Nursing Science: Basic (NUR)

NUR104AB **1 credit** **1 period**

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. Prerequisites: None. Corequisites: Concurrent enrollment in the Nursing program or permission of Department Chair. Course Notes: Course offered as Credit (P) No credit (Z) basis. NUR104AB may be repeated for a total of eight (8) credit hours.

NUR152 **9 credits** **19 periods**

Nursing Theory and Science I

Introduction of Nurse of the Future competencies as a foundational framework for development of the professional nurse. Basic care concepts and the nursing process are utilized to meet the needs of adult and older adult patients. Prerequisites: Admission into the Nursing Program.

NUR158 **6 credits** **10 periods**

Nurse Assisting

Introduction to the role of the nursing assistant for clients across the wellness/illness continuum within the nurse assisting scope of practice. Includes basic problem solving processes specific to meeting the basic and holistic needs of clients, therapeutic communication skills essential for the nursing assistant, interventions to ensure the needs and safety of the client, specific types of diseases, conditions and alterations in behavior of the client, and principles of nutrition and fluid balance. Focus is on special needs of the elder client in the acute and long-term care settings, and basic emergency care skills and procedures. Provides opportunity for the

development of clinical competency in the performance of selected nurse assisting skills and procedures through participation in the care of clients. Prerequisites: (A grade of C or better in RDG100 or higher RDG reading course or eligibility for CRE101 as indicated by appropriate reading placement test score, or HESI-A2 exam English Composite score of 75% or higher) AND (a grade of C or better in MAT082, or eligibility for MAT090 or higher as indicated by appropriate math placement test score, or HESI-A2 exam Math score of 75% or higher). Must provide current Level One DPS Fingerprint Clearance Card, meet pass status on MCCD Background Check, and submit required health and safety documentation.

NUR172 **9 credits** **16 periods**
Nursing Theory and Science II

Utilization of Nurse of the Future competencies to develop knowledge, skills, and attitudes to provide safe, quality patient care across the wellness-illness continuum in selected medical-surgical and mental health patients. Prerequisites: A grade of C or better in (BIO202 and NUR152) or permission of Nursing Department Chair.

NUR187 **1.5 credits** **1.5 periods**
Pharmacology and Medication Administration II

Overview of selected drug classifications and categories. Emphasis on principles of drug metabolism and effects, interactions and adverse reactions, and nursing implications for safe practice. Requires application of previous knowledge of physical, biological, and social sciences. Prerequisites: Permission of Nursing Department/Division Chair.

NUR191 **3 credits** **5 periods**
Practical Nursing Transition

Overview of the role of the practical nurse in care of clients. Includes nursing standards and scope of practice of the practical nurse. Emphasis on nursing care related to pediatric and care of the well childbearing client and childbearing family. Focus on the role of practical nurse in providing care through interventions consistent with established nursing care plans. Prerequisites: A grade of C or better in NUR171 or permission of Nursing Department Chair.

NUR192 **3 credits** **5 periods**
Practical Nursing Transition

Overview of the role of the practical nurse in care of clients. Includes nursing standards and scope of practice of the practical nurse. Emphasis on nursing care related to pediatric and care of the well childbearing client and childbearing family. Focus on the role of practical nurse in providing care through interventions consistent with established nursing care plans. Prerequisites: A grade of C or better in NUR172 or permission of Nursing Department Chair.

NUR252 **9 credits** **16 periods**
Nursing Theory and Science III

Application of critical thinking strategies related to holistic care of the newborn and childbearing patients. Integration of concepts related to holistic care of adults and older adult patients with selected acute and chronic alterations in health. Integration of professional nursing standards in role development. Utilization of previous knowledge of physical, biologic, psycho-social sciences, and the cultural, spiritual aspects of nursing care. Integration of concepts of nutrition, pharmacology, communication, health promotion, and pathophysiology into nursing care. Prerequisites: A grade of C or better in (CRE101 and NUR172 and PSY101) or

permission of Nursing Department Chair.

NUR283 **9 credits** **16 periods**
Nursing Theory and Science IV

Applies Nurse of the Future competencies to practice and manage care for the child/family unit and adults requiring complex care throughout the wellness/illness continuum, and prepare for transition from student to professional nurse. Prerequisites: A grade of C or better in (BIO205 and NUR252) or permission of Nursing Department Chair.

NUR291 **6 credits** **6 periods**
Nursing Clinical Capstone

Synthesis of the nursing process to facilitate role transition from student to graduate nurse within a preceptorship experience. Development of nurse leadership and management roles. Prerequisites: A grade of C or better in NUR271 or permission of Nursing Department Chairperson.

Office Automation Systems (OAS)

OAS101 **3 credits** **5 periods**
Computer Typing I: Keyboarding and Formatting

Keyboard mastery; letters, tables, and reports; office production; and manuscripts. Prerequisites: None.

OAS101AA **1 credit** **1.7 periods**
Computer Typing I: Keyboard Mastery

Incorporates correct touch typing principles. Prerequisites: None.

OAS101AB **1 credit** **1.7 periods**
Computer Typing I: Letters, Tables and Reports

Letter, table, and report formatting. Prerequisites: A grade of C or better in OAS101AA or permission of department/division.

OAS101AC **1 credit** **1.7 periods**
Computer Typing I: Production and Manuscript

Simple office projects and manuscripts. Prerequisites: A grade of C or better in OAS101AB or permission of department/division.

OAS103AA **1 credit** **1.7 periods**
Computer Typing: Skill Building I

Individual progression on speed/accuracy drills. Prerequisites: Ability to touch type 25 words per minute or permission of department/division.

OAS103AB **1 credit** **1.7 periods**
Computer Typing: Skill Building II

Progression on speed/accuracy drills. Prerequisites: A grade of C or better in OAS103AA or permission of department/division.

OAS108 **3 credits** **3 periods**
Business English

Comprehensive coverage of correct use of English grammar including spelling, punctuation, capitalization, and number style mechanics in a business context. Prerequisites: None.

OAS118 **1 credit** **1.7 periods**
10-Key By Touch

Touch system of numeric keys on ten-key pads. Prerequisites: None.

OAS120 **3 credits** **3 periods**
Financial Record Keeping
 Computerized application of concepts and procedures of office record keeping; includes finance and personnel records, inventory systems, banking procedures and cash control; decision-making process for solving financial problems. Prerequisites: None.

OAS298 **1-3 credits**
Special Projects
 See page 229.

Physical Education:
Activity Courses (PED)

Students are offered activity courses with a wide variety of choice including lifetime leisure experiences.

PED101, 103 **.5-1 credit** **1-2 periods**
Physical Activities: Basic
 Individual, dual, or team sports activities at the basic level. PED101 and PED103 may be repeated for credit. Prerequisites: None.

PED102 **1 credit** **2 periods**
Physical Activities: Intermediate
 Individual, dual, or team sports activities at the intermediate level. PED102 may be repeated for credit. Prerequisites: None. Prior experience recommended.


Physical Education:
Fitness Center Courses (PED)

Not all courses transfer. Please check with your advisor before enrolling.


PED115 **2 credits** **4 periods**
Lifetime Fitness
 Increase personal fitness, strength, and vitality. Current principles of cardiovascular exercise, weight training, flexibility, and balance exercises applicable to lifetime fitness goals. Personalized fitness plans developed and implemented with support of highly trained fitness professionals. Techniques to make sessions more effective and enjoyable. Prerequisites: None. Course Notes: PED115 may be repeated for a total of eight (8) credit hours.

PED117 **2 credits** **4 periods**
Weight Training for Wellness
 Strength training and muscular fitness activity to help develop a lifetime of regular exercise and muscular strength maintenance. Development of full body strength and stability of the body's core musculature, translating to increased power, balance, and functional movement ability including assessment of current strength and goal-specific program design to increase strength and muscular fitness. Prerequisites: None. Course Notes: PED117 may be repeated for a maximum of eight credits.


Philosophy (PHI)

PHI101  **PHI1101** **3 credits** **3 periods**
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.

PHI103  **PHI1103** **3 credits** **3 periods**
Introduction to Logic
 Informal logic, logical fallacies, elementary symbolic logic, analysis of argument forms, and construction of proofs for validity. Prerequisites: A grade of C or better in ENG101 or ENG107 or equivalent.

PHI104 **3 credits** **3 periods**
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.

PHI105  **PHI1105** **3 credits** **3 periods**
Introduction to Ethics
 A survey of ethical theory in Western Philosophy, including the major normative theories and selected metaethical theories. Prerequisites: None.

PHI212 **3 credits** **3 periods**
Contemporary Moral Issues
 Philosophical consideration of such moral issues as civil disobedience, preferential treatment, abortion, privacy, sexual morality, and poverty and hunger. Prerequisites: None.

PHI213 **3 credits** **3 periods**
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.

PHI216 **3 credits** **3 periods**
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: None.

PHI218 **3 credits** **3 periods**
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: A grade of C or better in ENG101 or ENG107 or permission of Instructor. Course Notes: Course may contain adult content. All students under 18 years are required to have a signed parental consent form on file, which is on the back of the "Students Under The Age of 18" Enrollment Form.

PHI224 **3 credits** **3 periods**
Political Philosophy
 Predominant figures and theories in Euroamerican political philosophy from Plato to contemporary social/political philos-

ophers. Prerequisites: A grade of C or better in ENG101, or ENG107, or permission of Instructor.

PHI244 **3 credits** **3 periods**
Philosophy of Religion
 Religious language, the existence of God, miracles, and human destiny. Prerequisites: None.


Physical Science (PHS)


PHS110 **4 credits** **6 periods**
Fundamentals of Physical Science
 Survey of the principles of physics and chemistry. Prerequisites: Grade of C or better in MAT090, or MAT091, or MAT092, or MAT093, or equivalent, or satisfactory score on Math placement exam.

Physics (PHY)

PHY101 **4 credits** **6 periods**
Introduction to Physics
 A survey of physics emphasizing applications of physics to modern life. Prerequisites: A grade of C or better in MAT090, or MAT091, or MAT092, or equivalent, or satisfactory score on Math placement exam.

Course Notes: Students may receive credit for only one of the following: PHY101 or PHY101AA.

PHY111  **PHY1111** **4 credits** **6 periods**
General Physics I
 Includes motion, energy, and properties of matter. Prerequisites: MAT182 or MAT187 or MAT220 or MAT221 or eligibility for MAT220 as indicated by appropriate placement test score or one year high school Trigonometry with a grade of C or better or permission of Department or Division. Course Notes: PHY111 is recommended for preprofessional and suggested for certain other majors. Students may receive credit for only one of the following: PHY111 or PHY111AA.

PHY112  **PHY1112** **4 credits** **6 periods**
General Physics II
 Includes electricity, electromagnetism, and modern physics. Prerequisites: A grade of C or better in PHY111.

PHY115 **5 credits** **7 periods**
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: A grade of C or better in MAT220 or MAT221 or permission of Department or Division. Corequisites: MAT230 or MAT231. One year High School physics or PHY111 and PHY112 is strongly recommended.


PHY116 **5 credits** **7 periods**
University Physics II
 Principles of electricity, magnetism, waves, and optics. Required for Engineering majors. Prerequisites: A grade of C or better in PHY115 and (MAT230 or MAT231). Corequisites: MAT241.

PHY241 **4 credits** **6 period**
University Physics III: Thermodynamics, Optics, and Wave Phenomena
 Heat, entropy, and laws of thermodynamics; wave propagation; geometrical and physical optics; introduction to special relativity. Prerequisites: A grade of C or better in PHY131.


PHY298 **1-3 credits**
Special Projects
 See page 229.


Political Science (POS)

POS100 **3 credits** **3 periods**
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.

POS110  **POS1110** **3 credits** **3 periods**
American National Government
 Study of the historical backgrounds, governing principles, and institutions of the national government of the United States. Prerequisites: None.

POS115 **3 credits** **3 periods**
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: A grade of C or better in ENG101 or ENG107 or equivalent.

POS120  **POS1120** **3 credits** **3 periods**
World Politics
 Introduction to principles and issues relating to the study of international relations. Evaluation of the political, economic, national, and transnational rationale for international interactions. Prerequisites: None.

POS140  **POS2204** **3 credits** **3 periods**
Comparative Government
 Overview and evaluation of the sub-field of comparative politics. Covers various national governments from around the world: their structure, system, method of governance. Examines methods of assessing these governments. Prerequisites: None.

POS210 **3 credits** **3 periods**
Political Ideologies
 An exploration of the diversity of textual, historical, and cultural traditions of the political thought that has shaped the human experience. Prerequisites: A grade of C or better in RDG100 or eligibility for CRE101 as indicated by appropriate reading placement test score and a grade of C or better in ENG091 or eligibility for ENG101 as indicated by appropriate writing placement test score.

POS220 **3 credits** **3 periods**
U.S. and Arizona Constitution
 Examination of the United States Constitution and the constitution and government of the State of Arizona. Prerequisites: None

¹ Final Term Summer 2019, ² Effective Term Fall 2019


POS221 **1 credit 1 period**
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.

POS222 **2 credits 2 periods**
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.

POS223 **3 credits 3 periods**
Civil Rights and Liberties
 The historic background and current status of major civil rights and civil liberties issues in the United States. Prerequisites: (A grade of C or better in RDG100 or eligibility for CRE101 as indicated by appropriate reading placement test score) and (a grade of C or better in ENG091 or eligibility for ENG101 as indicated by appropriate writing placement test score).

POS285 **3 credits 3 periods**
Political Issues and Public Policy
 Introduction to public policy, how policy is made, and how public policy decisions are affected. Prerequisites: None.

Psychology (PSY)

PSY101  **PSY1101 3 credits 3 periods**
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. Note: PSY101 has no official prerequisites. However, since the course involves a substantial amount of reading, it is strongly recommended that you have college level English, reading and verbal comprehension skills.

PSY132 **3 credits 3 periods**
Psychology and Culture
 Presents current knowledge about human diversity in behavior and culture using examples from a variety of contexts within western and global societies. Highlights topics in cross-cultural psychology, such as intergroup relations, diverse cognitive styles, ethnocentrism, gender, personality, emotion, language, communication, work and health. The role of enculturation throughout the lifespan will be explored to increase awareness of how behavioral and cognitive principles affect interactions in a multicultural world. Prerequisites: None.

PSY143 **3 credits 3 periods**
Lesbian, Gay, Bisexual, and Transgendered Studies
 Introduction to the study of lesbian, gay, bisexual, and transgendered individuals. Includes psychological, developmental, social, biological, historical and cultural aspects. Review of research literature regarding the etiology and assessment of sexual orientation, prejudice, and discrimination, and family issues. Current issues in lesbian/gay/bisexual/transgendered studies. Prerequisites: None.

PSY156 **3 credits 3 periods**
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.

PSY157 **3 credits 3 periods**
African/Black Psychology
 Historical overview of the development of Black Psychology and the African-American "frame of reference." Includes topics such as family, psychological assessment, mental health, male/female relationships, personality and community development as well as educational, ethical and contemporary issues. Critical examination of psycho-cultural forces which have helped to shape and determine the unique thought, styles, behavior of African-Americans and to gain a greater appreciation of the theories, research, writings, and activities of Black Psychologists. Prerequisites: None.

PSY215 **3 credits 3 periods**
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.

PSY230 **3 credits 3 periods**
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.

PSY231 **1 credit 2 periods**
Laboratory for Statistics
 Applications of inferential and descriptive statistics to computers in the field of psychology. Prerequisites: None. Corequisites: PSY230.

PSY235 **1 credit 2 periods**
Psychology of Gender
 To assess historical and psychological perspectives on women and men and to evaluate contemporary viewpoints regarding the psychology of women and men. Prerequisites: PSY101 with a grade of C or better or permission of Instructor.

PSY240 **3 credits 3 periods**
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.

PSY241 **3 credits 3 periods**
Understanding and Changing Behavior
 Theory and methods for observing, analyzing, and modifying

behavior. Prerequisite or Corequisites: PSY101 or permission of Instructor. Course Notes: Taking PSY101 as a prerequisite is recommended.

PSY242 **3 credit** **4 periods**
Understanding and Changing Behavior Lab

Advanced course designed to enable students to apply the principles of applied behavior analysis (ABA) in a supervised lab setting. Incorporates case studies and hands-on employment of best practices. Also includes practice with behavioral research design and implementation. Reviews current research in areas including, but not limited to, schedules of reinforcement, functional behavior assessment, stimulus discrimination and generalization. Course should be taken if applying for certification as a Registered Behavior Technician (RBT). Prerequisites: A grade of C or better in PSY241. Course Notes: Supervision hours by a Board Certified Behavior Analyst required for certification will be available in this course.

PSY243 **3 credits** **3 periods**
The Psychology of Developmental Disabilities

The interrelationships among the physical, intellectual, social, and psychological aspects of developmental disabilities (DD). Various service approaches, policies, and programs designed to foster an adequate adjustment for individuals with DD and their families. Values and beliefs relating to persons with developmental disabilities. Prerequisites or Corequisites: A grade of C or better in PSY101.

PSY244 **1 credit** **1 period**
Internship in Psychology

Experience in working in a wide variety of settings including but not limited to schools, non-profit agencies, advocacy agencies and other governmental agencies. 80 hours of designated volunteer or paid work. Prerequisites or Corequisites: A grade of C or better in any two 200-level PSY courses and permission of Instructor. At least one of the 200-level PSY course must be taken in prior semester. Course Notes: PSY244 may be repeated for a total of two (2) credit hours.

PSY249 **2 credits** **2 periods**
Special Topics: Developmental Disabilities

Explore special topics related to services and supports for individuals with developmental disabilities. Topics include concepts relevant to those pursuing careers in or employed in human service organizations or schools serving children and/or adults with developmental disabilities and their families. Prerequisites or Corequisites: A grade of C or better in PSY243.

PSY250 **3 credits** **3 periods**
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.

PSY262 **3 credits** **3 periods**
Positive Psychology

Overview and application of psychological principles based on strengths and resilience of human beings as opposed to

dysfunction and symptoms of mental disorders. Topics include happiness, relationships, resilience, optimism, well-being, and brain research explaining positive emotions. Prerequisites: PSY101 with a grade of C or better, or permission of Instructor.

PSY266 **3 credits** **3 periods**
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.

PSY267 **3 credits** **3 periods**
Introduction to Forensic Psychology

Overview of the practice of psychology in the law, by the law, and of the law. Focuses on the complementary functions and distinctions between psychology and the legal justice system. Topics include, but are not limited to, criminal investigations, risk and level of danger, competency, interrogations, confessions, assessment, eyewitness testimony, child custody, and domestic violence. Prerequisites: A grade of C or better in PSY101.

PSY275 **4 credits** **4 periods**
Biological Psychology

Biological foundations of sensation, perception, motivation, emotion, cognition and psychopathology. Designed for students in the life sciences. Prerequisites: PSY101 with a grade of C or better or permission of Instructor.

PSY277 **3 credits** **3 periods**
Psychology of Human Sexuality

Survey of psychological and physiological aspects of human sexual behavior. Emphasis placed on the integration of the cognitive, emotional, and behavioral factors in sexual functioning. Prerequisites: A grade of C or better in PSY101. Course Notes: PSY277 course may contain adult content. All students under the age of 18 are required to have a signed parental consent form on file, which is on the back of the Under the Age of 18 Enrollment Form.

PSY280 **3 credits** **3 periods**
Industrial/Organizational Psychology

The application of psychological principles to business and industry practices including organizational structure, leadership, personnel, employee stress and conflict, workplace conditions and job performance. Prerequisites: PSY101 with a grade of C or better, or permission of Instructor.

PSY290AB  **PSY2290** **4 credits** **6 periods**
Research Methods

Planning, execution, analysis, and written reporting of psychological research using American Psychological Association guidelines (APA). Surveys the literature, procedures, and instruments in representative areas of psychological research. Prerequisites: A grade of C or better in ENG101, ENG107. Prerequisites or Corequisites: PSY230 with a grade of C or better, or permission of Instructor.

¹ Final Term Summer 2019, ² Effective Term Fall 2019

PSY298
Special Projects
 See page 229.

1-3 credits

Instructor.

Real Estate (REA)

REA179 **3 credits** **3 periods**
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.

REA180 **3 credits** **3 periods**
Real Estate Principles II

Advanced work in real estate 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: A grade of C or better in REA179 or permission of instructor.

REA290AH **.5 credits** **.5 periods**
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. Prerequisites: None.

Reading (RDG)

RDG008 **3 credits** **3 periods**
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; and diacritical markings. Prerequisites: Reading placement score (CELSA).

RDG071 **3 credits** **3 periods**
Basic Reading

Provide opportunities for practice and application of basic reading skills. Includes phonic analysis, word recognition, structural analysis, use of context clues, and use of dictionary, reinforced through practical application. Development of vocabulary required for success in content area courses. Emphasis on literal comprehension and development of inferential interpretation. Prerequisites: Appropriate reading placement test score, or grade of C or better in ESL/RDG046, or permission of Instructor. Course Notes: Recommended for all students with limited reading experiences.

RDG081 **3 credits** **3 periods**
Reading Improvement

Designed to improve basic reading skills. Includes word recognition, interdisciplinary vocabulary development, recognizing patterns of organization, interpreting inference. Reviews interpreting graphic materials. Emphasis on identifying main ideas and related details. Prerequisites: Appropriate reading placement test score, or grade of C or better in RDG071, or permission of

RDG095 **6 credits** **6 periods**
Intensive Foundations for College Reading

Accelerated format to improve basic reading skills, study skills, and information literacy skills including vocabulary development, main idea identification, patterns of organization recognition, and comprehension improvement. Prerequisites: Appropriate reading placement test score, or a grade of B or better in RDG071, or permission of Instructor. Course Notes: RDG095 is an accelerated and intensive learning program for students and meets the requirements for RDG081 and RDG100 in one semester.

RDG100 **3 credits** **3 periods**
Successful College Reading

Emphasis on reading study strategies for any introductory class in any subject area. Introduction to Learning Management System (LMS), how to successfully read course textbooks and assessments, how to navigate information technology and development of academic vocabulary. Prerequisites: A grade of C or better in RDG081 or appropriate reading placement score or permission of Instructor. Corequisites: Any 100-level course in another content area or permission of Instructor. Course Notes: RDG100 satisfies RDG091 requirement. RDG100 may be repeated for a total of twelve (12) credit hours.

RDG111 **3 credits** **3 periods**
Successful College Reading for Cultural or Social Sciences

Emphasis on reading study strategies for an introductory class in the Cultural and Social Sciences. Introduction to Learning Management System (LMS), how to successfully read course textbook and assessments and development of academic vocabulary. Prerequisites: A grade of C or better in RDG081 or appropriate reading placement score or permission of Instructor. Corequisites: Any 100-level course in Cultural Science or Social Science area or permission of Instructor. Course Notes: RDG111 satisfies RDG091 requirement.

RDG112 **3 credits** **3 periods**
Successful College Reading for Life Sciences, Mathematics, Physical Sciences or Technology

Emphasis on reading study strategies for an introductory class in the Life Science, Mathematics, Physical Sciences, or Technology. Introduction to Learning Management System (LMS), how to successfully read course textbook and assessments and development of academic vocabulary. Prerequisites: A grade of C or better in RDG081 or appropriate reading placement score or permission of Instructor. Corequisites: Any 100-level class in the Life Sciences or Mathematics or Physical Sciences or Technology or permission of Instructor. Course Notes: RDG112 satisfies RDG091 requirement.

RDG113 **3 credits** **3 periods**
Successful College Reading for Communication, Humanities or Behavioral Science

Emphasis on reading study strategies for an introductory class in the Communication, Humanities, or Behavioral Science. Introduction to Learning Management System (LMS), how to successfully read course textbook and assessments and development of academic vocabulary. Prerequisites: A grade of C or better in RDG081 or appropriate reading placement score or permission of

selection and use, cooking and fire building, camp programs, backpacking, and safety. Prerequisites: None.

REC250 **3 credits** **3 periods**
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.

Small Business Management (SBS)

SBS200 **2 credits** **2 periods**
Small Business Operations

In-depth analysis of and individual plan development for the "day-to-day" problems encountered in the operation of a small business. Includes the development of an individual business operations plan including finance, purchasing, production scheduling, maintenance, shipping/receiving, personnel management and insurance/risk management requirements. Investigation of daily problems related to inventory control and business expansion. Prerequisites: None.

SBS202 **1 credit** **1 period**
Small Business Bookkeeping and Tax Preparation

Introduces accounting and record-keeping with emphasis on practical use of financial data 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 preparation for small business owners. Designed for the non-financially oriented owner/manager of a small business. Prerequisites: None.

SBS203 **1 credit** **1 period**
Financing and Cash Management for a Small Business

Planning for and meeting the financial needs of the small business including cash flow planning, identification of financial needs and sources, equity and debt financing, and preparation of loan packages. Participants complete a financial plan for their individual company, with emphasis on cost controls, sales revenue projection, expense allocation, and inventory cost control. Day-to-day operational budgeting also included. Prerequisites: None.

SBS204 **2 credits** **2 periods**
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.

SBS211 **1 credit** **1 period**
Small Business Computer Applications

Hands-on opportunity for the small business owner to test several

current computer application programs. Emphasizes practical applications, hardware and software purchasing decision criteria, and technological developments. Prerequisites: None.

SBS213 **1 credit** **1 period**
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 their employee team. Includes segment on hiring, new employee orientation, training, benefits, and developing future staffing needs assessment. Prerequisites: None.

SBS214 **1 credit** **1 period**
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.

SBS215 **1 credit** **1 period**
Managing Stress in Small Business

Explores the common causes of stress related to the operation of a small business. Includes discussion of the physiological and psychological effects of stress, and specific methods for dealing with the small business owner or manager stresses in business and personal life. Prerequisites: None.

SBS216 **2 credit** **2 periods**
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. SBS216 may be repeated for a total of eight (8) credit hours. Prerequisites: A grade of C or better in SBS200 and SBS204 or permission of Instructor

SBS217 **1 credit** **1 period**
Starting/Managing a Home Business

Analysis of the successful operation of a home-based business. Includes study of economic feasibility, practicality, and adjustments for the family. Analysis of the advantages/disadvantages of operating a home based business, versus a "store-front" business. Review of current trends in home business opportunities and franchises. Descriptions of home businesses that have succeeded in local, national, and international markets. Prerequisites: None.

SBS218 **1 credit** **1 period**
Establishing an Import/Export Business

Basic marketing and management techniques for exporting and importing. Includes researching viability of an import/export business, marketing an export or securing a product for import, and implementing the transaction. Prerequisites: None.

SBS220 **2 credits** **2 periods**
Internet Marketing for Small Business

Focuses on “e-Commerce”-doing business on the Internet and planning a website. Topics include: how the Internet can help growth and success of business; examples of successful marketing on the Internet; availability of Internet services; necessary hardware and software for marketing on the Internet; determining products/services appropriate for Internet marketing; budget constraints and on-going operations of the Internet site. Prerequisites: None.

SBS230 **2 credits** **2 periods**
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.

SBS298 **1-3 credits**
Special Projects
 See page 229.

Society and Business (SBU)

SBU200 **3 credits** **3 periods**
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.

Sustainability Career and Technical (SCT)

SCT100 **3 credits** **3 periods**
Introduction to Sustainable Built Environments

Study of the built environment and implications on human health, the natural environment, and society. Understanding of strategies that achieve sustainable design. Exploration of positive and negative sustainable product attributes. Emphasis on Leadership in Energy and Environmental Design (LEED). SCT100 will not complete the requirements to sit for the LEED Accredited Professional examinations. Additional study is necessary to successfully pass the LEED Green Associates examination. Prerequisites: None.

Studies in Language and Culture (SLC)

SLC201 **3 credits** **3 periods**
Introduction to Linguistics

Introduction to the study of language. Study of the nature and diversity of world languages, linguistic structures and functions of language, language variation, pragmatics and the learning/acquisition of first and second languages. Prerequisites: None.

Sign Language (SLG)

The courses offered at GCC are designed to teach the concepts and skills of American Sign Language (ASL). Students engaged in social work, counseling, health services, education, and related fields will find these courses useful. The courses listed here are

required in the Interpreter for the Deaf Curriculum at Phoenix College. This can be either a two-year Associate in Applied Science degree or a Certificate of Completion in Interpreter for Deaf. Credits in General Education requirements may be taken on this campus toward the completion of the above programs, including ENG101, First-Year Composition; COM100, Introduction to Human Communication; CRE101, College Critical Reading; and MAT102, Mathematical Concepts/Applications.

Two years of ASL satisfies the foreign language requirement for most universities. Check with a GCC advisor to make certain your transfer institution allows you to meet the foreign language requirement with ASL courses.

Students planning to complete the Interpreters' program should consult with Phoenix College advisors prior to registering for courses.

SLG101 **4 credits** **4 periods**
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.

SLG102 **4 credits** **4 periods**
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 or Division. Completion of prerequisites within the last three years is required.

SLG110 **2 credits** **2 periods**
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: A grade of C or better in SLG101, or permission of Department or Division. Completion of prerequisites within the last three years is required.

SLG201 **4 credits** **4 periods**
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 or Division. Suggested but not required ENG101 or ENG107, and CRE101, or CRE111¹, or Reading ASSET exemption. Completion of prerequisites within the last 3 years is required.

SLG202 **4 credits** **4 periods**
American Sign Language IV

¹ Final Term Summer 2019, ² Effective Term Fall 2019

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: A grade of C or better in SLG201 with a grade of C or better or permission of Department or Division. Suggested but not required ENG101 or ENG107, SLG200, and CRE101, or CRE111¹, or Reading test exemption. Completed prerequisites within the last 3 years are required.

SLG212 **3 credits** **3 periods**
Deaf Culture

Linguistic, social, educational, and political issues in deaf culture. Values and group identity issues as related to heritage and literature. Special emphasis on the cultural and philosophical attitudes shared with other minority groups. Prerequisites: SLG202, or permission of Department or Division. Completion of prerequisites within the last three years is required.

Sociology (SOC)

SOC101  **SOC1101** **3 credits** **3 periods**
Introduction to Sociology

The systematic study of social behavior and human groups, particularly the influence of culture, socialization, social structure, stratification, social institutions, differentiation by region, race, ethnicity, sex/gender, age, class, and socio/cultural change upon people's attitudes and behaviors. Prerequisites: None.

SOC110 **3 credits** **3 periods**
Drugs and Society

Provides a sociological understanding of drug use and policy. Examines social-cultural factors contributing to use and abuse and effects of commonly used drugs on the individual and society. Reviews current theories and research relating to drug use. Introduces extensive coverage of various methods and statistics for measuring drug use. Explores prevention, intervention, and treatment. Examines public policies concerning drug related issues. Prerequisites: None.

SOC130 **3 credits** **3 periods**
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 sexuality in contemporary society. This course contains mature adult content. Prerequisites: None. Course Notes: SOC130 course may contain adult content. All students under the age of 18 are required to have a signed parental consent form on file, which is on the back of the Under the Age of 18 Enrollment Form.

SOC140 **3 credits** **3 periods**
Racial and Ethnic Minorities

Examines how the social construction of race shapes social interaction and social institutions. Explores the consequences of power, privilege and oppression among major ethnic and racial groups in the United States. Prerequisites: None.

SOC180 **3 credits** **3 periods**

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.

SOC212 **3 credits** **3 periods**
Gender and Society

A sociological analysis 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 roles and a reduction of gender role stereotypes and the implications of these changes. Prerequisites: None.

SOC241  **SOC2215** **3 credits** **3 periods**
Race and Ethnic Relations

Examines how the social construction of race shapes social interaction and social institutions. Explores the consequences of power, privilege and oppression among major ethnic and racial groups in the United States. Prerequisites: None.

SOC245 **3 credits** **3 periods**
Social Deviance

A sociological analysis of social deviance including a review of theories, individual and social implications of deviant labeling, and relevant aspects of social control. Prerequisites: None.

SOC251  **SOC2250** **3 credits** **3 periods**
Social Problems

A systematic and in-depth survey of selected social problems and inequalities from a sociological perspective, including what is known about the problem, recent trends, their causes and consequences, individual and societal responses to them, and possible remedies or policies that could address these issues. Issues to be examined may include issues in health care, dependencies, crime/violence, inequalities in race/class/gender/region/age, family, education, work, the economy, population migration/immigration, the environment, war and global insecurity. Prerequisites: None.

SOC298 **1-3 credits**

Special Projects

See page 229.

Spanish (SPA)

SPA101  **SPA1101** **4 credits** **4 periods**
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.

SPA102  **SPA1102** **4 credits** **4 periods**
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: (A grade of

C or better in SPA101 or SPA101AA), or permission of Department or Division. Completion of prerequisites within the last three years is required.

SPA103  **SPA2202** **4 credits** **4 periods**
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 permission of Department or Division

SPA104 **4 credits** **4 periods**
Elementary Spanish for Spanish Speakers II

Continued review of grammatical problems in speaking and writing and reading in Spanish. Prerequisites: A grade of C or better in SPA103 or permission of Department or Division. Completion of prerequisites within the last three years is required.

SPA115 **3 credits** **3 periods**
Beginning Spanish Conversation I

Basic pronunciation, vocabulary, sentence structures, and cultural awareness, necessary to develop speaking and listening skills in Spanish. Prerequisites: None.

SPA116 **3 credits** **3 periods**
Beginning Spanish Conversation II

Continued study of basic pronunciation, vocabulary, sentence structures, and a cultural awareness necessary to develop speaking and listening skills in Spanish. Prerequisites: A grade of C or better in SPA115, or SPA115AA, or permission of Department or Division. Completion of prerequisites within the last three years is required.

SPA117 **3 credits** **3 periods**
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.

SPA169 **4 credits** **6 periods**
Law Enforcement Spanish II

Conversational and written Spanish. Intermediate sentence structure, and vocabulary practice that is law enforcement specific; develop intermediate level speaking, listening, reading and writing ability in common job related situations. Course taught in Spanish. Prerequisites: SPA109 and satisfactory score on Pre-Test for Intensive Law Enforcement Spanish.

SPA201  **SPA2201** **4 credits** **4 periods**
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: A grade of C or better in SPA102, or SPA102AA, or SPA111, or permission of Department or Division. Completion of prerequisites within the last three years is required.

SPA202  **SPA2202** **4 credits** **4 periods**
Intermediate Spanish II

Review of grammar, continued development of Spanish language skills with continued study of the Spanish-speaking cultures. Prerequisites: A grade of C or better in SPA201, or permission of Department or Division. Completion of prerequisites within the last three years is required.

SPA203 **4 credits** **4 periods**
Spanish for Spanish-Speaking Students I

Designed for Spanish-speaking students. Emphasis on written composition, grammar review, punctuation and spelling, literature and conversation. SPA203 may be taken in lieu of SPA201. Prerequisites: Permission of instructor or Department Chair

SPA204 **4 credits** **4 periods**
Spanish for Spanish-Speaking Students II

Designed for Spanish-speaking students. Advanced study of Spanish grammar, composition, literature, and conversation. SPA204 may be taken in lieu of SPA202. Prerequisites: A grade of C or better in SPA203, or SPA201, or permission of Department or Division. Completion of prerequisites within the last three years is required.

SPA241 **3 credits** **3 periods**
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: A grade of C or better in SPA202 or permission of Department or Division. Completion of prerequisites within the last three years is required.

SPA242 **3 credits** **3 periods**
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. Prerequisites: A grade of C or better in SPA241, or permission of Department or Division. Completion of prerequisites within the last three years is required. Course Notes: All coursework, class participation, oral and written reports are in Spanish.

SPA265 **3 credits** **3 periods**
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: A grade of C or better in SPA202 or permission of Department or Division. Completion of prerequisites within the last three years is required.

SPA298 **1-3 credits**
Special Projects
 See page 229.

Special Projects

The following course is available under any prefix listed in this catalog. Interested students should consult with the appropriate faculty member.

* 298

1-3 credits

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.

- *Prefix will be determined by departmental designation.

Spanish Humanities (SPH)

SPH245 3 credits 3 periods

Hispanic Heritage 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.

Sustainability/Social Sciences and Humanities (SSH)

SSH111 3 credits 3 periods

Sustainable Cities

Introduction to the field of sustainability and exploration of the practices leading to the development of sustainable cities. Explores the concept of sustainable development of cities within local, regional, and global contexts. Prerequisites: None

SSH298AA 1 credit 1 period

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.

Storytelling (STO)

STO289AC 1 credit 1 period

Using Storytelling in Healing Settings

The application of storytelling and storytelling activities in healing settings. Prerequisites: None.

Sustainability/Natural Sciences (SUS)

SUS100 3 credits 3 periods

Introduction to Sustainability

Introduction to the basic concepts of sustainability. Includes challenges of land, ocean, and resource management as well as

the built environment. Also covers connections between global, local and personal sustainability challenges and responses at each level. Prerequisites: None.

SUS110 4 credits 6 periods

Sustainable World

Introduction to the field of sustainability and exploration of the interaction between human and natural global systems. Framework for analyzing and investigating the global challenges such as land use change, competition for water and other natural resources, and renewable energy concerns and crises. Prerequisites: None.

Social Work (SWU)

SWU171 3 credits 3 periods

Introduction to Social Welfare

Analysis of contemporary social welfare services and professional social work. Prerequisites: A grade of C or better in SWU171, or permission of Department or Division or Corequisites: SWU171.

SWU291 3 credits 3 periods

Social Service Delivery Systems

Purposes, structures, and delivery systems of human service agencies. Includes 40 hours of volunteer experience in local human service agencies. Prerequisites: A grade of C or better in SWU171, or permission of Department or Division or Corequisites: SWU171.

SWU295 3 credits 3 periods

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. SWU171 suggested but not required.

Telecommunications (TCM)

TCM105 3 credits 2 periods

Studio Production

Multiple camera studio production for corporate, film, cable, and broadcast applications. Basic single and multi-camera production techniques, talent and camera blocking, set design, scriptwriting; shooting; lighting, audio and video recording; production crew team member experience, pre-production planning and budgeting and decision-making. Prerequisites: None.

TCM111 3 credits 3 periods

Screenwriting I

Provides an introduction to screenwriting for feature films. Prerequisites: None.

TCM111AA 3 credits 3 periods

Scripting for the Media

Provides an overview of screenwriting for short documentaries, training films, advertising commercials and infomercials. Prerequisites: None.

TCM114 3 credits 5 periods

Audio Production

Audio in media production including location, studio and Sound Room for corporate, cable and broadcast applications. Microphones and audio recording equipment: audio production

techniques using a Shot Gun Boom microphone while in the field; audio recording in the sound room; multi-track recording and layback; audio editing using a non-linear computer program; music libraries; sound effects; video tape editing in audio post-production. Prerequisites: A grade of C or better in TCM/VPT105 or TCM/VPT108.

TCM117 **3 credits** **5 periods**
Introduction to Cinematography

Introductory workshop focusing on basic film and video camera operation and lighting. Emphasis on the role of the cinematographer, basic camera operation and lens selection, introduction to cinematic storytelling to include interpreting the script, basic lighting techniques, exposure meters, film stocks, and planning for the editing style. Prerequisites: A grade of C or better in TCM100, or TCM/VPT105, or permission of Instructor.

TCM121 **3 credits** **3 periods**
Story Theory for Film, Television and Media

Introduction to story theory and structure as it applies to screenwriting for feature films, television programs (one-hour dramas and sitcoms) and related media. Prerequisites: None.

TCM134 **3 credits** **4 periods**
Pre-Production for Motion Picture and Television

Introduction to elements of pre-production for motion picture and television. Focuses on aesthetics, scriptwriting, budgeting, and selecting cast and crew. Features pre-production meetings to establish style, location, art design, shot sheet/story board, sound design, shooting schedule and film stock/video tapes. Pre-production of one film project and one video project required. Working as crew on one class shoot required. Prerequisites: A grade of C or better in TCM100, or TCM/VPT105, or permission of Department or Division.

TCM135 **3 credits** **3 periods**
Production for Motion Picture and Television

Introduction to elements of production for motion picture and television. Focuses on directing, crew responsibilities, camera operation, lenses, lighting and sound recording. Production of one film shoot and one video shoot required. Prerequisites: A grade of C or better in TCM134, or permission of Department or Division.

TCM136 **3 credits** **3 periods**
Post-Production for Motion Picture and Television

Introduction to elements of post-production for motion picture and television. Focuses on editing, titles, sound design and marketing strategies. Post-production and marketing of one film and one video required. Prerequisites: A grade of C or better in TCM135 or permission of Department or Division.

TCM151 **3 credits** **4 periods**
Broadcast Production

Introduction to multi-camera television production in studio and on location. Emphasizes teamwork and group production through a variety of program types. Prerequisites: A grade of C or better in TCM100, or TCM/VPT105, or permission of Instructor.

TCM211 **3 credits** **3 periods**
Screenwriting II

Workshop in screenwriting for feature films and television. Prerequisites: A grade of C or better in TCM111 or permission of

instructor.

TCM230 **4 credits** **4 periods**
Motion Picture Directing

Theory and practice in directing the motion picture. Includes overview of the roles and responsibilities of the film director, examples of film directing, and practice sessions in analyzing a script, creating a scene, working with actors, conducting rehearsals, planning the camera movements and overseeing elements of a production. Prerequisites: A grade of C or better in (MTC/TCM120, TCM117, TCM121, and TCM241) or permission of Instructor. Course Notes: TCM230 may be repeated for a total of eight credit hours.

TCM250 **4 credits** **6 periods**
Documentaries for Social Change

Study of and practical application in social documentary film production. Focuses on diverse voices and styles of social documentaries, philosophical issues faced by the filmmaker, technical considerations, and business elements required for financial and commercial success of the social documentary. Prerequisites: A grade of C or better in TCM136 or permission of Instructor.

TCM260 **3 credits** **4 periods**
Film/Video Producing and Financing

Guides the independent film/video producer through basic business aspects of production. Examines methods of setting up a production company, strategies for financing and distribution, and approaches to packaging a film/video project. Includes development of a prospectus on a specific film/video project. Prerequisites: None.

TCM275 **4 credits** **7 periods**
Advanced Portfolio Production

Advanced workshop in portfolio development for Producers, Directors, Cinematographers, Production Designers, Editors, and Screenwriters. Prerequisites: Permission of Instructor.

TCM298 **1-3 credits** **1-3 periods**
Special Projects
 See page 229

Theater (THE)

A wide variety of academic and production theatre arts courses are available. Students take these courses:

- To meet the general education Humanities/Fine Arts Requirements. All THE courses meet this requirement. According to their interests, students may select from courses which focus on the theatre, film, or television.

Open auditions are held for all productions. Any student registered in the college is eligible, whether or not the student is taking courses in theatre. However, THP201AA and AB are recommended. Several plays are staged each year. Students acting or working with major productions should arrange their schedules so they are free to rehearse evenings.

THE111 **3 credits** **3 periods**
Introduction to Theatre

A survey of theatre, including basic elements and principles

¹ Final Term Summer 2019, ² Effective Term Fall 2019

of production, styles, and/or historical perceptions of theatre, dramatic literature, and criticism. Prerequisites: None.

THE220  **THE220** **3 credits** **3 periods**
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: A grade of C or better in ENG101 or ENG107 or equivalent.

Theatre and Film (THF)

THF115 **3 credits** **3 periods**
Makeup for Stage and Screen

Purposes, materials, and techniques of makeup for stage and screen. Prerequisites: None.

THF205 **3 credits** **3 periods**
Introduction to Cinema

Survey of the history and development of the art of motion pictures, including criticism of aesthetic and technical elements. Prerequisites: None.

THF206 **3 credits** **3 periods**
Introduction to Television Arts

History and development of electronic media and its impact on popular arts. Prerequisites: None.

THF209 **3 credits** **4 periods**
Acting for the Camera

Special technical aspects of acting before a camera. Prerequisites: A grade of C or better in THP112 or permission of Instructor.

THF210 **3 credits** **3 periods**
Contemporary Cinema

A study of contemporary films, directors and critics with emphasis on evaluating film as an art form. Prerequisites: None.

THF215 **3 credits** **4 periods**
Advanced Makeup Techniques for Stage and Screen

Advanced character analysis and makeup design for stage and screen. Technical application of makeup for stage and screen. Prerequisites: A grade of C or better in THF115.

THF219 **3 credits** **4 periods**
Advanced Acting for the Camera

Focuses on special technical aspects of advanced acting before a camera. Prerequisites: A grade of C or better in THF209 or permission of Instructor.

Theater Performance/Production (THP)

THP112 **3 credits** **4 periods**
Acting I

Fundamental techniques and terminology of acting through physical and vocal expression, improvisation, and monologue and scene work. Emphasis on characterization. Prerequisites: None.

THP131 **3 credits** **4 periods**
Stage Movement

Movement skills for the actor to develop a flexible, expressive

physical instrument. Includes pantomime, physical isolation, and awareness exercises. Prerequisites: None.

THP201AA **1 credit** **2 periods**
Theatre Production I

Designed to give college credit to the cast and technical production crews of college theatre productions. Prerequisites: None. Course Notes: THP201AA may be repeated for a total of four (4) credit hours.

THP201AB **2 credits** **4 periods**
Theatre Production II

Designed to give college credit to the cast and technical production crews of college theatre productions. Prerequisites: None. Course Notes: THP201AB may be repeated for a total of four (4) credit hours.

THP2106 **3 credits** **4 periods**
Introduction to Costume Construction for Theatre

Introduction to basic principles used in costuming for theatre including the use of tools and techniques for costume construction, understanding of fabrics and materials, and a selected survey of historical fashion. Prerequisites: None.

THP212 **3 credits** **4 periods**
Acting II

Fundamental techniques of acting through script analysis, rehearsal, and performance. Prerequisites: A grade of C or better in THP112 or permission of Department or Division.

THP213 **3 credits** **5 periods**
Introduction to Technical Theatre

Procedures of technical theatre production and demonstration. Topics include design and construction of scenery, lighting, and properties. Prerequisites: None.

THP214 **3 credits** **4 periods**
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: A grade of C or better in THP112 or THE220, or permission of Instructor.

THP217 **3 credits** **4 periods**
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: None.

THP226 **3 credits** **4 periods**
Theatrical Design: Costuming

Basic techniques involved in researching and designing costumes for the stage. Prerequisites: None.

THP241 **3 credits** **3 periods**
Oral Interpretation of Literature

The study, analysis, and preparation for performance of prose, poetry, and dramatic literature. Preparation of material for public audiences. Prerequisites: A grade of C or better in ENG101 or ENG107.

THP241 Oral Interpretation of Literature The study, analysis, and preparation for performance of prose, poetry, and dramatic literature. Preparation of material for public audiences. Prerequisites: A grade of C or better in ENG101 or ENG107.	3 credits	3 periods	<u>Video Production Technology (VPT)</u>
THP268 Opportunities in Production Provides the continuing design student, dramaturge, stage management, technical director, and directing students with opportunities to expand the versatility of professional skills. Emphasis on relating their work to the total production process. Linking design ideas to production concept. Maintain dramaturge, stage manager, director documentation. Practical application of student work for portfolio development. Prerequisites: Permission of Department or Division	3 credits	6 periods	VPT105 Studio Production Multiple camera studio production for corporate, film, cable, and broadcast applications. Basic single and multi-camera production techniques, talent and camera blocking, set design, scriptwriting; shooting; lighting, audio and video recording; production crew team member experience, pre-production planning and budgeting and decision-making. Prerequisites: None.
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	VPT106 Digital Video Effects Basics of video-production including the use of colors, textures, and shapes in the preparation of graphics for video production. Graphics design using the rules of good design and techniques for interaction with Producer/Directors. Story boarding and animation techniques, character generation. Video special effects creation and design, logo and photo import into video productions. Prerequisites: A grade of C or better in TCM100, or TCM/VPT105, or permission of Instructor.
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: Permission of Department or Division.	3 credits	4 periods	VPT108 Video Production Video production technology corporate, cable, and broadcast applications. Basic production techniques in scriptwriting; single camera film style shooting; lighting, audio recording; and editing; post-production techniques, production personnel and their roles, budgeting and copyright issues. Prerequisites: None.
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: A grade of C or better in THP281 or permission of Department or Division.	3 credits	4 periods	VPT114 Audio Production Audio in media production including location, studio and Sound Room for corporate, cable and broadcast applications. Microphones and audio recording equipment: audio production techniques using a Shot Gun Boom microphone while in the field; audio recording in the sound room; multi-track recording and layback; audio editing using a non-linear computer program: music libraries: sound effects: video tape editing in audio post-production. Prerequisites: A grade of C or better in TCM/VPT105 or TCM/VPT108.
THP296WA 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 students academic or career goals (students present job may qualify) or permission of instructor. Corequisites: Must be concurrent 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	VPT204 Advanced Video Production Video signal manipulation, time base corrector set-up, waveform monitor and vector scope usage. Proper editing techniques using an A/B Roll linear and Non-Linear editor. Video field recording package set-up and usage, advanced continuity shooting, lighting. Techniques for replacing and sweetening audio on a video production. History, theory and design of a television commercial and marketing tape creation. Prerequisites: A grade of C or better in TCM/VPT108.
THP298 Special Projects See page 229.	1-3 credits	1-3 periods	VPT208 Production Company Management The coordination and supervision of the personnel involved in the production team; preparation of charge-back system; facility budgets in equipment, personnel, and operation; interaction with senior management. Prerequisites: None.
			VPT214AA VPT214AB
			1 credit 2 credits
			1 period 2 periods

¹ Final Term Summer 2019, ² Effective Term Fall 2019



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Academic Catalog

The annual publication which explains graduation policies, procedures, programs and course descriptions.

Advisor

A resource person able to help you plan your course of study and select appropriate courses. Also called program advisor or academic advisor.

Arizona General Education Curriculum Certificate (AGEC)

The Arizona General Education Curriculum Certificate (AGEC) is a 35 semester credit block of lower division general education courses for Arizona community college students transferring to public universities. The AGECE will transfer as a block to any Arizona public university without loss of credit and will fulfill all lower division general education requirements for the majors with which they articulate.

Associate Degree

A degree awarded for the completion of a minimum of 60 credits selected to meet specific requirements. The Associate in Arts (AA), Associate in Arts, Fine Arts (AAFA), Associate in Arts in Elementary Education (AAEE), Associate in Business (ABus) and Associate in Science (AS) emphasizes courses for transfer to four-year schools, the Associate of General Studies (AGS) allows more flexibility in course selection, and the Associate of Applied Science (AAS) emphasizes a particular occupational field.

Audit

To take a class for no credit. There are additional charges for auditing, see Tuition and Fee chart.

Bachelor Degree

A degree awarded by a four-year college. The B.A. or B.S. requires approximately 120 credits.

Counselor

A faculty member available to help you with personal, career, or school related concerns.

Course Equivalency Guide (CEG)

The CEG indicates how Arizona State University, Northern Arizona University and the University of Arizona accept transfer course work from the Arizona public institutions.

Credit Hour

The numerical unit of college credits earned for the satisfactory completion of a specific course. Also referred to as semester hours or units (e.g., 3 credit hours.)

Cumulative Grade Point Average (GPA)

This is a measure of student academic proficiency. It is calculated by multiplying each course credit hours by the points awarded for the grade earned. The sum is then divided by the total number of credit hours completed with A, B, C, D, F or Y grades. See the grade key for point information.

Electives

Courses a student can select in order to complete a program of study, sometimes with restrictions.

Federal Work Study

A form of financial aid based on need which provides the student with on campus paid employment while in school.

Student Handbook

The annual online publication which explains college policies, procedures, and student rights and responsibilities.

Grant

Student financial aid based on need.

Lower Division Courses

Freshman and Sophomore courses usually completed in the first two years of college.

Prerequisite

Specified conditions, requirements, or courses that must be completed before enrolling in a class.

Required Course

A course needed to complete a certificate or degree program.

Schedule Adjustment

The period during which a student can drop or add classes without penalty. The Schedule Adjustment period varies with the length of class.

Scholarship

Student financial aid based on academic achievement, need, or a combination of factors.

Semester

Traditionally half an academic year, about 16 weeks in length. Fall semester begins in August and Spring semester begins in January.

Syllabus

A course outline and information on classroom policies, test, dates and materials to be used in a class, usually given to students by the instructor at the first class meeting.

Transcript

A record of a student's course work and grades.

Transfer Credit

Credit earned at another college applied to a Glendale Community College program or credit earned at Glendale Community College to be applied to another college or university.

Upper Division Courses

Courses usually taken during junior and senior years at four-year institutions.

Maricopa County Community College**District Governing Board Members**

Linda Thor, Ed.D.service 2017-2020
 Laurin Hendrixservice 2017-2020
 Alejandra Mayaservice 2019-2020
 Jean McGrathservice 2015-2020
 Tom Nerini, Ed.D.service 2018-2020
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 Marie Sullivanservice 2018-2022
 Kathleen Winnservice 2019-2022

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 Paul A. Elsner, Ph.D.Chancellor Emeritus
 Karla Fisher Ph.D.Provost
 Elliott Hibbs Chief Operating Officer
 Brian Spicker Interim President and CEO,
 Maricopa Community Colleges Foundation
 Greg Peterson, Ed.D. President, Chandler-Gilbert
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 Paul Dale, Ed.D. President, Paradise Valley
 Larry Johnson, Jr., Ph.D.President, Phoenix
 Kate Smith, M.S. President, Rio Salado and
 Maricopa Corporate College
 Christina M. Haines, M.Ed. Interim President, Scottsdale
 Shari L. Olson, Ph.D.President, South Mountain

Glendale Community College**Administration**

Teresa Leyba Ruiz, Ed.D.President
 Phillip D. Randolph, Ed.D.President Emeritus
 John R. Waltrip, Ph.D.President Emeritus
 Monica Castañeda, M.Ed. Interim Vice President,
 Student Affairs
 Augustine Erpelding, M.Ed. Interim Vice President,
 Administrative Services and CIO
 Scott Schulz, M.S. Vice President,
 Academic Affairs
 Alka Arora Singh, Ph.D. Associate Vice President,
 Institutional Effectiveness
 Fernando Camou, Ph.D. Dean, Instruction
 Susan Campbell, Ph.D.Dean, Instruction
 Lorelei A Carvajal, Ed.D.Interim Dean, Instruction
 Yolanda Espinoza, M.Ed. Dean, Enrollment Services
 Charles F. Jeffery, M.A.Dean, Instruction

Glendale Community College Faculty

- Abraham, James T., Ph.D.**, Communication and World Languages, Spanish
- Acuna, Angela, M.A.**, Psychology
- Allen, Donna J., M.A.**, Social Science, History
- Alphaugh, Mary E., M.A.**, English/Reading/Journalism, English
- Alvarez, Lucrecia, Ph.D.**,
- Arbogast, Susan, Ph.D., M.S., R.N., C.N.E.**, Nursing
- Aubrey, Thomas, E. Rojo, D.B.H, M.Sc.-M.F.C.T.**, Counseling.
- Avila, Laura, M.S.**, Chair, Technology and Consumer Sciences, Nutrition
- Ayala, Derek, M.A.**, Philosophy, Religious Studies
- Baca, Tenisha, M.A., M.Ed.**, Communication and World Languages
- Baesler, Raymond M.S., M.Ed.**, Communication and World Languages, American Sign Language
- Baker, Jeffrey, M.F.A.**, English/Reading/Journalism
- Barajas, Aracely, M.C.**, Counseling.
- Basham, Judy, M.Ed.**, Technology and Consumer Sciences, Early Childhood
- Beattie, Mary Beth, M.A.**, English/Reading/Journalism, English
- Bencic, Martin, M.A.Ed.**, Business and Information Technology
- Berry, Beth, M.B.A.**, Business and Information Technology, Accounting, CIS
- Bird, Caryn, M.A.**, English/Reading/Journalism
- Blake, Robert E., Ph.D.**, Chemistry
- Blomberg, Michelle, B.F.A., M.Ed.**, Art and Humanities, Digital Media Arts
- Bolin McKelvey, Autumn, M.A.**, English/Reading/Journalism, English
- Boninger, David, Ph.D.**, Psychology
- Borrás, Guiomar A., Ph.D.**, Communication and World Languages, Spanish
- Bowland, Nicolas, M.Ed., B.C.B.A., L.B.A.**, Psychology
- Bright, Jason, M.S.**, Mathematics
- Brooks, Janet, M.L.S.**, Business and Information Technology
- Brown, Lisa, M.Ed.**, Mathematics
- Brown, Paul, M.Ed.**, Public Safety Sciences, Administration of Justice Studies
- Brown, Philip J., M.S.M.**, Business and Information Technology
- Brysacz, Lynn Mizzi., Ed.D., M.C.**, Counseling
- Bunker, Kari, R.N.C.-OB, M.S.N**, Nursing
- Burch, Kristina, M.A.**, Mathematics
- Burk, Nanci, Ph.D.**, Communication and World Languages, Communication
- Burns, Justin, M.A.**, English/Reading/Journalism,
- Calderone, Gary J., Ph.D.**, Physical Sciences, Geology
- Campbell, Susan, Ph.D.**, Technology and Consumer Sciences, CAD Technology, Interior Design
- Cantini, George, M.S., P.A.**, Public Safety Sciences, EMT
- Carleton, Janet, Ph.D.**, Philosophy and Religious Studies.
- Chagolla, Glenda, B.S.**, Technology and Consumer Sciences
- Chau, Phong, Ph.D.**, Mathematics
- Clark, Christina, M.A.**, Chemistry
- Clark, K. Lyle, A.A.S.**, Public Safety Sciences, Automotive Technology
- Clayden, Steve, Ph.D.**, Business and Information Technology
- Cleworth, Brandon, Ph.D.**, Art and Humanities
- Cojanu, Gabriela, Ed.D.**, Business and Information Technology, Management
- Conzelman, Karen, Ph.D.**, Chair, Biology
- Cook, Jayme, M.A., M.Ed.**, English/Reading/Journalism.
- Cost, David R., M.B.A.**, Business and Information Technology
- Coughlin, Chris E., Ph.D.**, Chair, Public Safety Sciences, EMT
- Coughlin, John, M.A., M.C.**, Social Sciences, History
- Covey, Jay A., M.A.**, Chair, Automotive Technology
- D'Mura, Janell, M.A.**, Mathematics
- da Costa Mello, Stephanie, M.A.T.E.S.L.**, English/Reading/Journalism, ESL
- Dallas, Bradford, M.S., M.Ed.**, Mathematics
- Dash, Sagarika, Ph.D.**, Biology
- Davis, Don**, Automotive Technology
- Dawkins, Beth, Ph.D.**, Mathematics

- DeCristofaro, Lawrence, M.B.A.**, Business and Information Technology
- Deiss, Douglas, Ph.D.**, Communication and World Languages, Communication
- DeLaney, Esmeralda, M.F.A., M.A.**, Art and Humanities, 3D Art
- Dellai, Cheryl K., M.S.**, Physical Sciences, Physics
- Desai, Jignasa, M.A.**, English/Reading/Journalism, Reading
- Desai, Therese, J.D.**, Social Sciences, Political Science
- Devenney, Kelly, M.E.**, Mathematics
- Dewey, Roxanna, M.Ed.**, English/Reading/Journalism, English
- Diebolt, Lisa A., Ph.D.**, Chemistry
- Dodrill, Laura, M.Ed.**, Counseling
- Dollar, Todd, Ph.D.**, Psychology
- Dragiewicz, Greg, B.S.**, Public Safety Sciences, Automotive Technology
- Drumtra, Derek, M.S.**, Fitness and Wellness, Exercise Science, Physical Education
- Duncan, Jennifer, M.F.A., M.A.**, English/Reading/Journalism, Journalism
- Eide, Christina, D.M.A.**, Performing Arts, Piano, Music Humanities
- Elrobeh, Dorothy D., M.L.S.**, Library Media Center
- Esler, Robert, D.M.A.**, Performing Arts, Electronic Music, Sound
- Eustice, Sheri, M.S.N.-Ed.**, Nursing
- Eyres, Beth, M.A.**, English/Reading/Journalism
- Farina, Casey, D.M.A.**, Art and Humanities, Digital Media Arts
- Feld, Kimberly, M.Ed.** Communication and World Languages, Communication
- Fernandez, Philip J., Ph.D.**, Biology
- Fitzgerald, Kevin L., M.Ed.**, Mathematics
- Forsmo, Sharon, M.F.A.**, Art and Humanities, 2D Art
- Frank, Timothy, Ph.D.**, Technology and Consumer Sciences
- Fried, Aaron, M.S.**, Fitness and Wellness
- Garcia, Fernando F., M.B.A.**, Technology and Consumer Sciences, Technology Systems
- Gautier, Pamela, M.L.I.S.**, Library Media Center
- Gergus, Erik W. A., Ph.D.**, Biology
- Gerkin, David, Ph.D.**, Counseling
- Gheorghita, Amalia, M.A.**, English/Reading/Journalism,
- Gibson, John J., M.S.**, Business and Information Technology
- Gleim, Brian, M.S.**, Physical Sciences, Astronomy
- Gordon, Bruce, Ph.D.**, Physics and Physical Science
- Gray, Julie, M.A., M.S.**, English/Reading/Journalism, English
- Gregg, George, M.A., M.Ed.**, Chemistry
- Grima, John, M.S.**, Mathematics
- Gustafson, Jennifer, M.S.**, Chemistry
- Gwinn, Emily, M.A., M.Ed.**, English/Reading/Journalism, English
- Hall, Pamela R., Ph.D.**, Art and Humanities, Art History
- Hall, Rachelle, M.P.A.**, Chair, Business and Information Technology
- Hayashi, Tomomi, M.A.**, English/Reading/Journalism, ESL
- Hernandez, Mia, M.A.**, Counseling
- Hill, Larissa, M.A.**, English/Reading/Journalism, English
- Hopson, Erika, M.S., M.Ed.**, Fitness and Wellness, Exercise Science, Physical Education, Health Science
- Hulihan, Charles J., M.M.**, Performing Arts, Music
- Humbert, William K., M.M.**, Performing Arts, Music
- Hynes, Jeffery, Ed.D.**, Public Safety Sciences, Administration of Justice
- Jackson, Michelle, M.A.**, Communication and World Languages, Communication
- Jacobus, Holly, M.A.**, English/Reading/Journalism, English
- Johnson, Charles, B.S.**, Public Safety Science, Emergency Medical Technician (EMT)
- Joraanstad, Pamela J., Ph.D.**, Chair, Communication and World Languages, Communication
- Jordan, M. Angela, B.S.**, Chair, Technology and Consumer Sciences
- Kadel, Steven D., M.S.**, Physical Sciences, Geology, Astronomy
- Karasek, Brian, M.Ed.**, Mathematics
- Karpinski, Susan, M.A.**, Psychology
- Kehowski, Walter A., Ph.D.**, Mathematics
- Kimani, Patrick M., Ph.D.**, Mathematics

- Kimball, William A., Ph.D.**, Mathematics
- Kostick, Randy, M.A.**, Mathematics
- Kriegel, Kevin, D.M.A.**, Performing Arts, Music
- Krout, Karl E., Ph.D.**, Biology
- Kruse, Jeffrey J., M.S.E.**, Mathematics
- Kurtz, Nathan K., M.S.**, Mathematics
- Landavaso, Joseph, A.A.S.**, Automotive Technology
- Lane, Jennifer, Ph.D.**, English/Reading/Journalism, English
- Lavigne, Trisha J., Psy.D.**, Psychology
- Leamaster, Reid, Ph.D.**, Social Sciences
- Lee, Wei-Jen, M.S.**, Chemistry
- Leedy, Debra, Ph.D.**, Chair, Chemistry
- Lewis, Ladonna, Ph.D.**, Psychology
- Lewis, Lisa A., Ph.D.**, Chair, Fitness and Wellness
- Lira, Ramon, M.Ed.**, English/Reading/Journalism, English
- Loss, Bonnie J., M.A.**, Art and Humanitie, Art History, Humanities
- Lucas, Stephanie, M.A.**, Art and Humanities, Digital Cinema Arts
- Lupu, Peter, M.A.**, Chair, Philosophy
- Luu, Ui, M.S.E.E.**, Technology and Consumer Sciences, Technology Systems
- Macleish, Kenneth J., M.S.**, Mathematics, Computer Science
- Malamuth, Tamara, Ph.D.**, Psychology
- Marley, Kurt, M.Ed.**, Mathematics
- Marrer, Gary D., M.B.A., M.Ed.**, Chair, Business and Information Technology
- Maton, Marjane, M.Ed.** Chair, Counseling
- Mayer, Susan, R.N., M.S.N., Ed.D.**, Chair, Nursing
- Mays, Helena "Rosie", M.S.**, Communication and World Languages, Communication
- McKennon, Edward, M.A.**, Library Media Center
- McKintosh, Andrew P., M.S.**, Mathematics
- Melita, Joseph A., Ph.D.**, Mathematics
- Menon, Rashmi M., M.A.**, English/Reading/Journalism, English
- Merrill, Heather H., M.Ed.**, Social Sciences, Education
- Michaelson, Matthew, M.S., M.Ed.**, Mathematics, Computer Science
- Mick, Angela K., D.C.**, Biology.
- Miller, Christian R., Ph.D.**, Chair, Mathematics
- Miller, David, M.A.**, Chair, English/Reading/Journalism, Humanities-CWL
- Mitio, Betsy, M.A.**, Mathematics, Computer Science
- Morrison, Julie Bauer, Ph.D.**, Chair, Psychology
- Moshrefzadeh, Shohreh, M.S.**, Technology and Consumer Sciences, Nutrition
- Muniz, Raul, J.D.**, Public Safety Sciences, Fire Science
- Murphy, Amanda, M.A.**, English/Reading/Journalism, ESL
- Neibarger, Lea M., M.Ed.**, Mathematics, Computer Science
- Nelson, David, M.F.A.**, English/Reading/Journalism, English
- Nelson, Pamela J., M.S.**, Physical Sciences, Geology
- Newman, Lynn, M.A.**, Physical Sciences, Geography
- Nichols, David**, Performing Arts, Music, Audio Production Technology
- Nicoloff, Ashley, M.S.**, Mathematics
- Nielson, Christopher D., M.A.**, English/Reading/Journalism, English
- Northcutt, Patricia, R.N., M.S.N.**, Nursing
- Nottingham, Douglas, D.M.A.**, Performing Arts, Music
- O'Brien, Sean, M.L.I.S.**, Library Media Center
- Ocano, Jillane, R.N., D.N.P., F.N.P.-B.C.**, Nursing
- Oreshack, Nancy, M.Ed.**, Social Sciences, Education
- Ortega, Cynthia, M.A.Ed.**, English/Reading/Journalism, Reading
- Pack, Miriam, M.A.**, Mathematics
- Pampel, Krysten, Ph.D.**, Mathematics
- Parker, Michele, M.A.**, Technology and Consumer Sciences, Child and Family Studies
- Parrish, Kimberly, Ph.D.**, Biology
- Patrick, L Alexander, Ph.D.**, Social Sciences
- Paul, Grace, R.N., M.S.N., M.Phil., C.N.E.**, Nursing
- Pell, Joann M., M.S.**, Fitness and Wellness
- Perez, Rainier, B.A.**, Public Safety Sciences, Fire Science

- Perrigo, Donna, M.Ed.**, English/Reading/Journalism, English
- Petrenco, Felicia, M.A.**, Mathematics
- Petry, Michelle, M.L.I.S.**, Library Media Center
- Pierre, Lisa, R.N., M.S.N.**, Nursing
- Polanski, Todd, N.R.P., B.A.**, Public Safety Sciences, EMT
- Pool, Deborah J., M.S.**, Nursing
- Quirós-Winemiller, Bélgica, Ph.D.**, Communication and World Languages, Spanish
- Radisich, Sasha, Ph.D.**, Social Sciences, Economics
- Raffaelle, David P., Ph.D.**, Chair, Physical Sciences
- Reavis, Robert H., Ph.D.**, Biology
- Reed, Karen, M.A.**, Library
- Regan, Brendan, M.F.A.**, Chair, Art and Humanities, Photography
- Reker, Martin, M.A.**, English/Reading/Journalism
- Resler, Mary, R.N., M.S.N.Ed.**, Nursing
- Rivas, Sergio, M.S.**, Mathematics
- Rivera, Frank A., M.S.**, Mathematics
- Roam, Sharenda, M.A., D.Min.**, Philosophy and Religious Studies
- Roderick, Phillip, M.A.**, English/Reading/Journalism, English
- Romero, L. Fernando, Ph.D.**, Psychology
- Romo, Paul J., M.Ed.**, Chair, Counseling.
- Saint-Amour, Jeanne, Ph.D.**, Philosophy and Religious Studies
- Saliba, Elizabeth, M.Ed., M.L.I.S.**, Library
- Sanders, James E., Ph.D.**, English/Reading/Journalism, English
- Sanger, Jeffrey, M.F.A.**, English/Reading/Journalism, Creative Writing
- Sawyer, Stephanie, M.S.**, Fitness and Wellness
- Schauer, Andrea, B.S.**, Performing Arts, Music, Jazz
- Schmidt, David, M.M.**, Performing Arts, Music, Jazz
- Schulz, Laurie, R.N., M.S.N.**, Nursing
- Schwarzwalter, Loren, Ph.D.**, Communication and World Languages, Communication
- Schwendiman, Angela L., Ph.D.**, Biology
- Seitz, David A., M.F.A.**, Performing Arts, Theatre
- Shineman, Kirt, M.A., M.F.A.**, Communication and World Languages
- Shipley, Clark, M.B.A., J.D.**, Business and Information Technology
- Shortridge, Richard D., J.D.**, Business and Information Technology
- Simkins, Ingrid, R.N., M.S.N., C.N.E.**, Nursing
- Sindel, Kelly, M.A.**, Communication and World Languages, Communication
- Slater, Florence, Ph.D.**, Biology
- Smith, Aubrei D., M.A.**, Social Sciences, History
- Smith, Donald S., D.M.A.**, Chair, Performing Arts, Music
- Smith, Kimberly, Ph.D.**, Chemistry
- Smith, Renee, M.L.I.S., M.S.**, Library Media Center
- Smith, Shannon, Ph.D.**, Technology and Consumer Science, Food and Nutrition
- So, Louise, M.A.**, Fitness and Wellness
- Sokol-Tinsley, Karina, Ph.D.**, Psychology
- Spencer, Lillian, Ph.D.**, Social Sciences, Anthropology
- Springer, Joseph W., Ph.D.**, Chemistry
- Stalzer, Mark A., R.N., M.S.N.**, Nursing
- Stephens, Brian, M.Ed.**, Mathematics
- Steward, Jason, Ph.D.**, Chemistry
- Stewart, Gaylen, M.F.A.**, Art and Humanities, 2D Art
- Stewart, William, B.S.**, Business and Information Technology
- Stroher, Scott, M.B.A.**, Business and Information Technology, General Business Studies
- Strong, Michael, Ph.D.**, Social Sciences, Geography
- Swensen, Kendra, M.B.A., M.Ed.**, Business and Information Technology, Marketing, Management
- Terasaki, Dean K., M.F.A.**, Art and Humanities, Photography
- Tiwald, Catherine, M.S.N.**, Nursing
- Torgerson, Amy, M.S.**, Counseling
- Torres, Frank, Jr., M.L.S.**, Chair, Library Media Center
- Tuohy, James, Ph.D.**, Biology
- Udpdike, Eric, Ph.D.**, Philosophy and Religious Studies

Vawter, Charles, III, M.B.A., Business and Information Technology

Vawter, Charles Jr., J.D., Ph.D., Business and Information Technology

Ventola, John L., M.A., English/Reading/Journalism, Creative Writing

Walk, Lori, M.Ed., Education/Reading/Journalism, Reading

Walls, Celeste, Ph.D., Communication and World Languages Communication

Walton, Sara, M.A., M.S., M.A., English/Reading/Journalism, Reading

Wangen, Sherry, M.Ed., English/Reading/Journalism, Reading

Waskow, Julie A., Ph.D., Philosophy and Religious Studies

Watkins, Laura, Ph.D., Mathematics

Watt, Keith, M.A., M.S., Physical Sciences, Astronomy

Watt, Sara, M.S., Physical Sciences, Astronomy

Weatherly, Gina, B.S., B.A., Technology and Consumer Sciences, Child and Family Studies, Early Education

Weber, Matthew, M.S., Mathematics

Wheeler, Betsey, M.A., M.Ed., English/Reading/Journalism, English

Wheeler, Dean, III, Ph.D., Chair, Social Sciences, Anthropology

White, Laura, M.A., English/Reading/Journalism, Creative Writing

Willeman, Mari, Ph.D., Psychology

Williams, Kimberly, M.A., M.F.A., English/Reading/Journalism, Creative Writing.

Williams, Melissa, M.S.N.Ed., Nursing, Pediatrics, Health Care Ethics

Witzke, Jackie, M.Ed., English/Reading/Journalism, English

Wood, Karrie, M.S., Physical Sciences, Geology

Worthy, Lisa, Ph.D. C.R.C., Psychology

Wyngaard, William, Ph.D., Business and Information Technology, Accounting

Yamak, Didem, Ph.D., Technology and Consumer Sciences, Engineering Science

Yee, Sharon, Ph.D., Social Sciences, Sociology

York, Justin J., Ph.D., Biology

Zhosan, Dmytro, Ph.D., Social Sciences, Macroeconomics

Glendale Community College Faculty Emeritus

(Faculty Emeritus distinction is awarded to individuals who retired from the position of Residential Faculty after twenty consecutive years of full-time service to the Maricopa County Community College District.)

Adank, Willard A. (1968-1992) Physics/Mathematics Faculty, Department Chair.

Antilla, Freddie L. (1983-2004) English Faculty.

Arnoldt, Carmela B. (1992-2013) English Faculty, Department Chair.

Austin, Mariam J. (1965-1986) Physical Education Faculty, Department Chair.

Barstack, Renee (1981-2017) English Faculty.

Baxter, Leroy E. (1966-1988) Music/Humanities Faculty, Department Chair.

Beene, D. Leon (1976-1999) History Faculty.

Beene, Holly McKinzie (1975-2009) Communication Faculty.

Bietto, Frank (1966-1987) Political Science/History Faculty.

Bilse, Don (28 years service) CAD Faculty, Dean of Students.

Bloss, Dale (1963-1988) Physical Education Faculty, Athletic Director and Department Chair.

Boerner, Janice K. (1963-1993) English Faculty, Department Chair.

Bowker, Robert (1986-2017) Biology Faculty.

Boyle, James H. (25 years service) Business and Information Technology Faculty.

Braasch, Vernon C. (1963-1985) Physical Education Faculty, Department Chair.

Brandt-Williams, Ann (1984-2009) Psychology Faculty, Department Chair.

Brazie, Thomas (1967-2000) English Faculty.

Brooker, Rodney (1987-2014) Business and Information Technology, Accounting Faculty.

Callahan, Ruth (1992-2014) English/Reading/Journalism Faculty.

Camp, Jane (1986-2009) English Faculty.

Campion, Maurice M. (1964-1988) Spanish Faculty.

Cary, Richard (1979-2001) Business Faculty.

Catalano, Renault (1967-1995) Technology Faculty, Department Chair.

- Cavin, William C.** (1966-1986) Biology Faculty, Department Chair.
- Celestian, Stanley** (1976-2006) Physical Sciences/Astronomy Faculty.
- Charvonia, Ronald** (1961-1988) Business Faculty.
- Chord, Paul** (1966-1988) English Faculty.
- Christian, Robert** (1990-2006) Communication Faculty.
- Clayton, Dorothy** (1966-1989) Physical Education Faculty.
- Cooper, Elizabeth H.** (1976-2005) Biology Faculty.
- Csontos, Louis** (21 years service) Chemistry Faculty, Department Chair.
- Cullinan, Andrea** (1973-2004) Nursing Faculty.
- Cullinan, Michael** (1990-2009) Math/Computer Science Faculty.
- Daugherty, James R.** (1988-2015) Biology Faculty.
- DeMarco, Lenna** (1989-2009) Dance Faculty.
- DePippo, Paul D.** (1976-2004) Social Sciences Faculty, Department Chair.
- DeSoto, Marla** (1992-2014) English/Reading/Journalism Faculty.
- Dias, Diana** (1998-2006) Business and Information Technology Faculty.
- Dotterer, William** (1966-2001) Business Faculty.
- Dudley, Anne** (1990-2015) Mathematics Faculty.
- Dutton, Mary Ann** (1960-1986) Choral Music Faculty.
- Dwyer, Diana** (1982-2009) Library Faculty, Department Chair.
- Eastin, Gene N.** (1963-1989) French/English Faculty, Department Chair.
- Ellis, Albert T.** (1964-1988) Biology/Botany Faculty, Department Chair.
- Esquer, Mario H.** (1977-2009) Technology and Consumer Science Faculty.
- Fischer, Mildred** (1969-1998) English Faculty.
- Fitzgerald, Frank** (1966-1989) Art Faculty, Department Chair.
- Foley, Thomas A.** (1995-2017) Mathematics Faculty
- Forney, Merrill** (23 years service) Physical Sciences Faculty.
- Fuenning, Richard M.** (23 years service) Physical Education Faculty.
- Galletti, Marie** (1975-1998) English/ESL Faculty.
- Gardner, Moffat** (1965-1985) Social Sciences Faculty.
- Gareshé, Gay** (1987-2014) Social Sciences Faculty.
- Gibbons, George R.** (1968-1988) Electronics/Drafting Faculty, Department Chair.
- Goff, Lyenatte** (1963-2004) Mathematics Faculty.
- Gordon, Ruby D.** (1967-1992) Nursing Faculty.
- Goto, Darlene M.** (1969-2007) Art Faculty.
- Griego, Manny** (1976-2005) Engineering Faculty, Department Chair.
- Griggs, John** (1971-2004) Foreign Languages/Communications Faculty, Department Chair.
- Gurule, Juan** (1989-2009) Counseling Faculty.
- Gyman, Vernon** (1968-2000) Mathematics Faculty.
- Haas, Patrick** (1984-2005) English Faculty.
- Hamilton, Mirta** (1979-2009) Art Faculty.
- Hansen, Vance W.** (1965-1991) English Faculty.
- Hardin, Carnella** (1979-2010) Business and Information Technology Faculty.
- Harris, C. Eugene** (21 years service) Music Faculty.
- Hartley, Jack A.** (1963-1986) English Faculty.
- Hawks, Margaret** (1967-2000) English Faculty, Department Chair.
- Herlihy, Harriet** (1960-1989) English Faculty, Department Chair.
- Higgins, Don** (1967-2001) Social Sciences Faculty, Department Chair.
- Hillis, Richard** (21 years service) Art Faculty.
- Hoff, Edward B.** (1963-1989) Mathematics Faculty, Department Chair.
- Hoffs, Marilyn J.** (1972-1996) Speech Communication/ Theatre Faculty, Department Chair.
- Holtfrech, Michael** (1988-2017) Mathematics Faculty, Department Chair
- Howey, Charlotte** (1989-2005) English/ESL/Spanish Faculty.
- Hubbard, N. LaRue** (23 years service) Business Faculty.
- Hubbard, Robert T.** (1966-2006) Philosophy Faculty, Department Chair.
- Jacobs, Elizabeth "BJ"** (1990-2014) Psychology Faculty.
- James, Gerald H.** (1967-1993) Mathematics Faculty.

- Jenkins, Carol** (1992-2017) Sociology Faculty
- Johanson, Leonard C.** (1965-1988) Art Faculty.
- Johnson, Frederica** (1988-2009) Reading Faculty.
- Johnston, Eileen** (2001-2014) Social Sciences Faculty, Department Chair.
- Jones, M. Louise** (1981-2010) Counseling Faculty.
- Kersting, Joseph M.** (1991-2017) Fitness and Wellness Faculty.
- Kidney, Charlotte** (over 22 years service) Physical Education Faculty, Department Chair.
- King, Dick** (1973-1998) Automotive Faculty, Department Chair.
- King, Owena A.** (1966-1989) Business Faculty.
- Klann, Walter** (1966-1998) Mathematics Faculty.
- Knopp, Nelda** (1966-1998) Physical Education Faculty.
- Knowles, Henry** (1965-1989) Speech Communication Faculty.
- Kong, Moonie** (1966-1987) Physical Education Faculty.
- Kurtz, Donald A.** (1965-1987) Business Faculty.
- Lange, Merle L.** (1966-1989) Counseling Faculty, Department Chair, Financial Aid Director.
- Langlois, Lyle R.** (1968-1989) Business Faculty.
- Lawrence, Barbara J.** (1967-1988) Reading/English Faculty, Department Chair.
- Leskovsky, Mary** (1986-2006) English Faculty, Honors Coordinator.
- Lorenzini, August** (1967-1985) Speech Communication/Film Faculty, Department Chair.
- Ludders, Virginia** (1989-2009) Theatre/Communication Faculty.
- Martin, Ethel A.** (1963-1989) Business Faculty.
- Matthews, Jack K.** (22 years service) Drafting Faculty, Department Chair.
- Matz, Harry** (1965-1989) Reading Faculty, Department Chair, Honors Coordinator.
- May, Mauricette** (1998-2009) French Faculty.
- McCarthy, Rita** (1988-2015) English/Reading/Journalism Faculty.
- McCoy, Leslie E.** (1967-1989) Electronics Faculty, Department Chair.
- McKinley, Michael** (1991) Biology Faculty.
- McWilliams, Mary Lou** (1968-1988) Counseling Faculty.
- Meeker, Joseph A.** (1985-2009) CAD/Drafting Faculty.
- Meixner, Sylvia S.** (1969-1992) Social Sciences/Sociology Faculty, Department Chair.
- Mikus, Andrew** (1963-1989) History Faculty, Department Chair.
- Milliner, Charles** (1969-2004) Business Faculty, Department Chair.
- Moloso, Phillip** (1966-2002) Librarian/Business/Mathematics Faculty, Department Chair.
- Montanus, Mark** (1965-1985) Business Faculty.
- Murray, Marilee** (1974-2000) Chemistry Faculty, Department Chair.
- Murry, Suzanne** (1982-2011) Business Faculty.
- Nelson, Bonnie** (1968-1999) Philosophy Faculty, Curriculum Design.
- Overson, Peter** (1964-1989) Theatre Faculty.
- Peters, Allan M.** (1965-1986) Physics Faculty, Department Chair.
- Pilch, Richard R.** (1967-1996) Physical Education Faculty.
- Pisciotta, Pete** (1967-1996) Mathematics/Physical Education Faculty, Athletic Director.
- Pitman, Fred** (1969-1997) Physics Faculty.
- Price, David** (1966-1988) Chemistry Faculty.
- Rassi, Martha** (1984-2005) Business Faculty.
- Reeder, Duane** (35 years service) Psychology Faculty.
- Rees, Richard** (1965-2006) Psychology Faculty.
- Roberson, Doyle L.** (1965-1989) Mathematics Faculty.
- Samuels, Carl** (1967-2004) Psychology Faculty
- Schafer, G.K. "Duke"** (1975-2007) Public Safety Sciences Faculty.
- Schiedat, Marilyn** (1976-2008) English Faculty.
- Schwalm, Karen T.** (1988-2008) English Faculty.
- Siefer, Nancy** (1987-2007) English Faculty.
- Shiple, Alvin D.** (1966-2001) Mathematics Faculty, Department Chair.
- Smart, John** (21 years service) Social Science/Economics Faculty.
- Smelser, Philip** (1963-2009) Philosophy Faculty, Department Chair.
- Smith, James A.** (1965-1989) Physical Education Faculty.

- Smith, Linda** (1986-2007) Social Sciences Faculty.
- Smith, Louis L.** (1963-1985) Reading Faculty, Department Chair.
- Staheli, W. Kent** (1966-1997) Physical Education Faculty, Department Chair.
- Staten, Jean** (1975-1996) Librarian, Dean of Instruction.
- Sylvester, Tim** (1991-2017) Business and IT Faculty.
- Thompson, J.R. (Bob)** (1968-2000) Geology Faculty, Department Chair.
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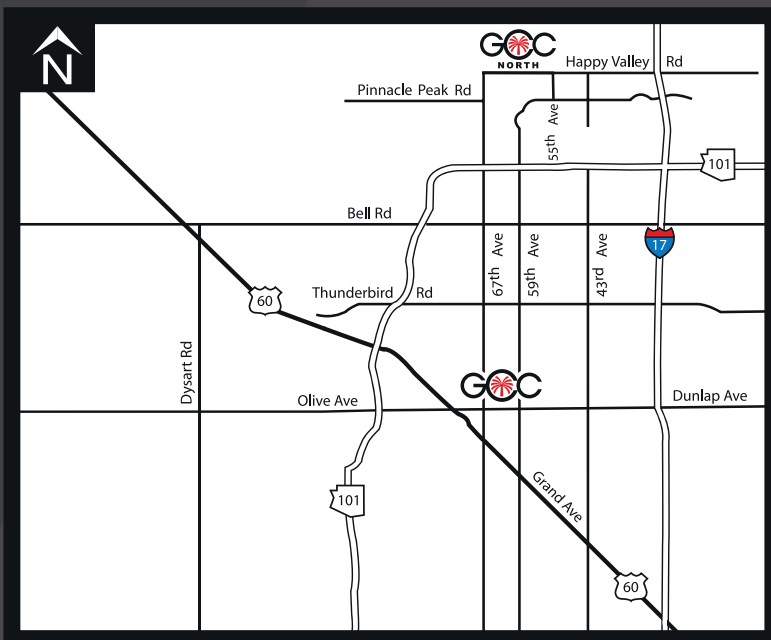
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GLENDALE COMMUNITY COLLEGE

A MARICOPA COMMUNITY COLLEGE



Convenient Locations

GCC main

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MARICOPA
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